## FREE PRODUCT RECOVERY REPORT

### DATE OF EVENT:

09/08/93

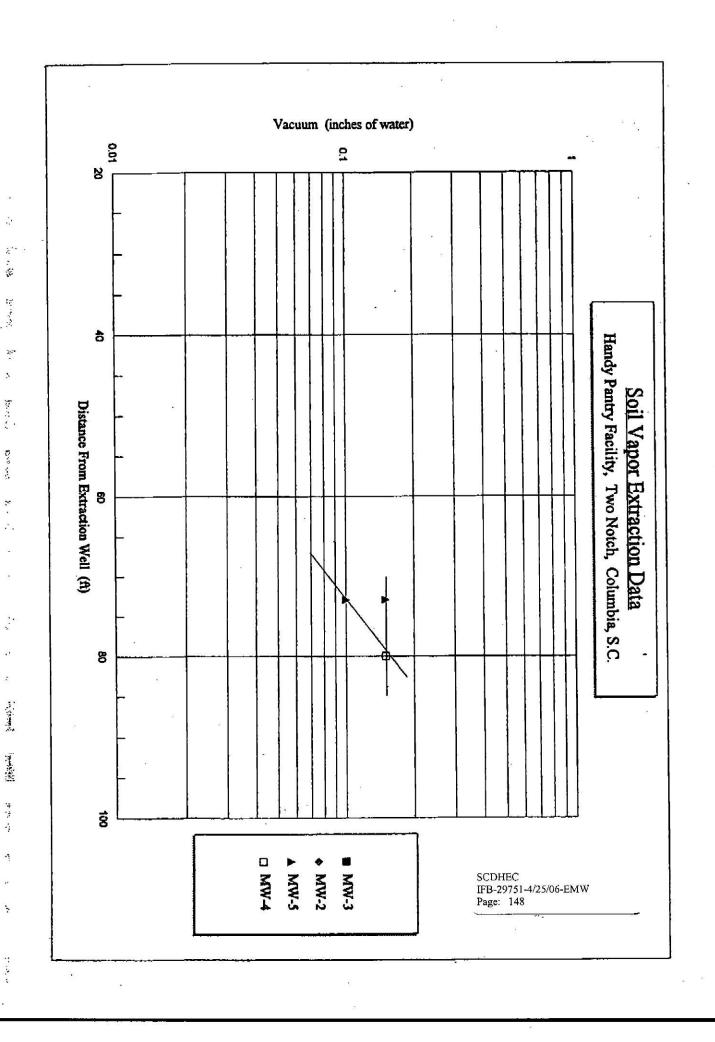
FACILITY:	umbia, SC	<u></u>				
GWPD SITE ID# / COUNTY:	12352 / Richland					
GWPD PROJECT MANAGER:	Oliver Jones					
Date free product released (if know	wn):		N/A			
Type of free product (if known) re	ine):	diesel, gas	oline, kerosene			
Estimated quantity of free product	N/A					
Number of monitoring wells at site		5 shallow + 1 deep				
Number of monitoring wells conta		1	2000 Sc - Tu			
Total number of recovery events to	o date:		10			
Gallons of total fluids recovered (p	uct):	0.004	(this event)			
	-		6.25	(cumulative)		
Method of removal (e.g. bailer, va	acuum pump):	bailer		in the second se		
Frequency of removal (e.g. weekl	monthly					
Method of containment (e.g. drum	drum					
Are purgewater and free product of	no					
If no, total number of drums/tanks	1					
Total # of drums/tanks containing	1					
Status of FP/water mixture (e.g. st	stored on-site	-				
Monitoring Wells containing free product (measurements in feet):						
MW-3 / 0.26						
Miscellaneous information not dire	ctly requested;			٠		
	CDHEC B-29751-4/25/06-EMW age: 146					

## FREE PRODUCT RECOVERY REPORT

### DATE OF EVENT:

10/06/93

FACILITY:	Cloud's Chevron - Col	umbia, SC			
GWPD SITE ID# / COUNTY:	12352 / Richland				
GWPD PROJECT MANAGER:	Oliver Jones				
Date free product released (if know		•	N/A		
Type of free product (if known) re	eleased (e.g. diesel, gasol	ine):	diesel, gasoline, kerosene		
Estimated quantity of free product	released (if known):		N/A		
Number of monitoring wells at site	<b>)</b> ;	•	9 shallow + 1 deep		
Number of monitoring wells conta	ining free product:		1		
Total number of recovery events to		11			
Gallons of total fluids recovered (purgewater and free product):			0.00 (sheen) (this event)		
¥			6.25 (cumulative)		
Method of removal (e.g. bailer, va	icuum pump):	bailer	950		
Frequency of removal (e.g. weekly		monthly			
Method of containment (e.g. drum	, tank):	drum			
Are purgewater and free product of	ontained separately?:	no	P		
If no, total number of drums/tanks	•	1			
Total # of drums/tanks containing	FP/water mixture:	1			
Status of FP/water mixture (e.g. si	tored on-site, removed):	stored on-site			
Monitoring Wells containing free product (measurements in feet):					
MW-3 / 0.09		/			
Miscellaneous information not dire	ectly requested:				
n	CDHEC FB-29751-4/25/06-EMW age: 147				



{adjusted from API Pub. No. 4410, Sept 1985}

 $Vr \{lb/hr\} = (Vc \{mg/m\}) (2.2x10 lb/mg) (Q\{cfm\}) (28.3x10 m /cfm) (60 m/hr)$ 

Where: Vr = Volatile Organics Removal Rate in pounds per hour

Vc = Total Volatile Petroleum Hydrocarbons in mg per cubic meter

Q = Air Flow Rate in cubic feet per min

 $Q = ((F{ft/min}) (r{ft})(r{ft})(3.1416)) (60{min})$ 

Where: F = Air Velocity in feet per minute

R = Radius of Vacuum Extraction Equipment Pipe

Air Velocity = F = 500 Diameter of SVE Pipe = 0.17

R = 0.08333

Q = <u>654.50</u>

Vc = 0.2

Calculated Removal Rate

Vr = 0.0005 lb/hr

Vr = 0.01 lb/day

SCDHEC IFB-29751-4/25/06-EMW

{adjusted from API Pub. No. 4410, Sept 1985}

 $Vr \{lb/hr\} = (Vc \{mg/m\}) (2.2x10 lb/mg) (Q\{cfm\}) (28.3x10 m/cfm) (60 m/hr)$ 

Where: Vr = Volatile Organics Removal Rate in pounds per hour

Vc = Total Volatile Petroleum Hydrocarbons in mg per cubic meter

Q = Air Flow Rate in cubic feet per min

 $Q = ((F{fi/min}) (r{fi})(r{fi})(3.1416)) (60{min})$ 

のはとば

Where: F = Air Velocity in feet per minute

R = Radius of Vacuum Extraction Equipment Pipe

Air Velocity = F = 700 Diameter of SVE Pipe = 0.17

R = 0.08333

Q = 916.30

Vc = 1.7

Calculated Removal Rate

Vr = 0.0058 lb/hr

Vr = 0.14 lb/day

SCDHEC IFB-29751-4/25/06-EMW

{adjusted from API Pub. No. 4410, Sept 1985}

 $Vr \{lb/hr\} = (Vc \{mg/m\}) (2.2x10 lb/mg) (Q\{cfm\}) (28.3x10 m /cfm) (60 m/hr)$ 

Where: Vr = Volatile Organics Removal Rate in pounds per hour

Vc = Total Volatile Petroleum Hydrocarbons in mg per cubic meter

Q = Air Flow Rate in cubic feet per min

 $Q = ((F{fi/min}) (r{fi})(r{fi})(3.1416)) (60{min})$ 

Where: F =Air Velocity in feet per minute

Radius of Vacuum Extraction Equipment Pipe

Air Velocity = F =900

Diameter of SVE Pipe = 0.17 0.08333

1178.10

Vc = 1.6

Calculated Removal Rate

Vr =0.007 lb/hr

Vr =0.17 lb/day

SCDHEC IFB-29751-4/25/06-EMW

{adjusted from API Pub. No. 4410, Sept 1985}

 $Vr \{lb/hr\} = (Vc \{mg/m\}) (2.2x10 lb/mg) (Q\{cfin\}) (28.3x10 m /cfin) (60 m/hr)$ 

Where: Vr = Volatile Organics Removal Rate in pounds per hour

Vc = Total Volatile Petroleum Hydrocarbons in mg per cubic meter

Q = Air Flow Rate in cubic feet per min

 $Q = ((F\{ft/min\}) (r\{ft\})(r\{ft\})(3.1416)) (60\{min\})$ 

Where: F = Air Velocity in feet per minute

R = Radius of Vacuum Extraction Equipment Pipe

Air Velocity = F = 1300Diameter of SVE Pipe = 0.17

R = 0.08333

Q = 1701.70

Vc = 8.1

Calculated Removal Rate

Vr = 0.0515 lb/hr

Vr = 1.24 lb/day

SCDHEC IFB-29751-4/25/06-EMW



South Carolina Department of Health

and Environmental Control

RECEIVED

MAY 0 9 2006

UNDERGROUND STORAGE
TANK PROGRAM

44 tech

**VENDOR:** 

PALMETTO ENVIRONMENTAL GROUP INC

BY ACCEPTANCE OF THIS PURCHASE ORDER, YOU AGREE TO THE TERMS AND CONDITIONS LOCATED ON THE REVERSE PAGE.

Purchase Order

PO BOX 427

ELGIN, SC 29045

THIS PURCHASE ORDER NO. REVISION PAGE

632356 Ø 1 of 2

THIS PURCHASE ORDER NO. MUST APPEAR ON ALL INVOICES, PACKING
UISTS, CARTONS AND CORRESPONDENCE RELATED TO THIS ORDER.

SHIP TO:

UST MANAGEMENT SC DHEC 2600 BULL STREET COLUMBIA, SC 29201-1708 United States

BILL TO:

UST MANAGEMENT SC DHEC 2600 BULL STREET COLUMBIA, SC 29201-1708

Continued

United States

ola

	30296	DATE OF ORDER/BUYER Ø8-MAY-Ø6 WINSLOW, E	REVISED DATE / BUYER
NET 30		SHIP VIA	FOB. Destination
FREIGHTTERMS Prepaid		REQUESTOR/DELIVER TO PACE, Ms. LAURA J	CONFIRM TO / TELEPHONE
ITEM PART NUMBER / D	ESCRIPTION	DELIVERY DATE A QUANTITY UNIT	UNIT PRICE EXTENSION
Buyer: E.	Madison Wins	ow, (8 <b>03</b> ) 898-3487	
DHEC Proje	ect Manager: S	Gusan E. Block, (803) 89	6-6676
Contractor	· Contact: Jam	es L. Cooper, (803) 438	1331
Price per	IFB-29751-4/25	706-EMW, signed by Jame	s L. Cooper on 4/24/06.
ALL TERMS	AND CONDITIONS	OF THE SOLICITATION DO	APPLY.
SEE REVERS	SE SIDE OF PURC	HASE ORDER FOR ADDITION	AL TERMS AND CONDITIONS THAT
IRREVOCABL	TE THAT PER SPE LE LETTER OF CF HE DATE OF AWAF	EDIT MUST BE SUBMITTED	ORIGINAL PERFORMANCE BOND OR TO THE UST PROGRAM WITHIN 30
Planned Purcha Effective	ase Order From: Ø8-MAY-0	6 To:	
1 918.43 Corrective site #1235	e action at	********* US	D 1 154,875.00 N
release fr	hrough cost prom underground ws (SUPERB Act	storage tanks as provi	es incurred in remediation of ded under Section 44-2-130 SC
Contract t	otal cost: \$30	9,750.00	



South Carolina Department of Health and Environmental Control



MAY 0 9 2006

ADERGROUND STORAGE TANK PROGRAM

**VENDOR:** 

PALMETTO ENVIRONMENTAL GROUP INC

PO BOX 427

ELGIN, SC 29045

632356 IS PURCHASE ORDER NO. MUST APPEAR ON ALL INVOICES, PACKIN

UST MANAGEMENT SC DHEC 2600 BULL STREET COLUMBIA, SC 29201-1708 United States

BILL TO: UST MANAGEMENT SC DHEC 2600 BULL STREET COLUMBIA, SC 29201-1708 United States

CUSTOMER ACCOUNT NO. VENDOR NO. 30296	DATE OF ORDER/BUYER 28-MAY-06 WINSLOW, E	1
PAYMENT TERMS NET 30 FREIGHT TERMS	REQUESTOR/DELIVER TO	F.O.B.  Destination  CONFIRM TO/TELEPHONE
Prepaid ITEM PART NUMBER / DESCRIPTION 4.2000	PACE, Ms. LAURA J  DELIVERY DATE QUANTITY U	NIT UNIT PRICE EXTENSION
THIS CONTRACT WILL CONT DESCRIBED IN THE SOLICI COMMITTED FUNDS FOR THE REVERT TO UNCOMMITTED S AWARD IF NO INVOICE FOR RECEIVED BY THE DEPARTM AMENDED. IF THE FUNDS R	INUE UNTIL THE SITE REP TATION HAS BEEN COMPLET SITE REHABILITATION AC TATUS AFTER FOUR MONTHS THE SITE REHABILITATION ENT, PURSUANT TO SC COM EVERT TO UNCOMMITTED ST OR PAYMENT UNTIL ALL OT	HABILITATION ACTIVITY AS FED; PROVIDED, HOWEVER, THAT CTIVITY UNDER THIS CONTRACT OF THE DATE OF THE CONTRACT ON ACTIVITIES HAVE BEEN DE 44-2-40(B)(1976), AS TATUS, ANY SUBSEQUENT INVOICE THER COMMITTED FUNDS ARE PAID
BY ACCEPTANCE OF THIS PURCHASE	ORDER, YOU AGREE TO THE TERM	AS Total (154, 875. 00

Purchase Order



and Environmental Control

#### UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT

2600 Bull Street Columbia, SC 29201 Telephone (803) 896-6240

#### MEMORANDUM

Date:

May 3, 2006

To:

Matt Winslow

Bureau of Business Management

From:

Laura Jean Pace, CGFO, CPM, Manager Ju

**Financial Section** 

Subject:

Bid Award, IFB-29751-4/25/06-EMW

UST Permit # 07584, University Mart, Release 1; PO # R-29751 UST Permit # 07584, University Mart, Release 2; PO # R-29751

UST Permit # 07777, Clouds Chevron; PO # R-29752 UST Permit # 12352, Clouds Chevron; PO # R-29753

This Program has reviewed the submittals received April 26, 2006 for the referenced bid. As the proposed corrective action methodology can be permitted in South Carolina and the estimated time frame is protective of human health, the low bid submitted by Palmetto Environmental Group, Inc. is acceptable. The UST Program recommends immediate award to Palmetto Environmental Group, Inc.

Purchase order PO # R-29751 should be generated for one half of the accepted bid award amount, \$309,750.00. Please note, the full amount of the bid award (\$619,500.00) should be noted in the body of the generated purchase order.

Purchase order PO # R-29752 should be generated for one half of the accepted bid award amount, \$154,875.00. Please note, the full amount of the bid award (\$309,750.00) should be noted in the body of the generated purchase order.

Purchase order PO # R-29753 should be generated for one half of the accepted bid award amount, \$154,875.00. Please note, the full amount of the bid award (\$309,750.00) should be noted in the body of the generated purchase order.

The purchase orders should reference the corresponding facility indicated above. Please provide me a copy of the purchase orders.

cc:

Christopher S. Doll, P.G., Manager, NESCCA Section

Susan Block, NESCCA Section

Technical File



## **BUSINESS MANAGEMENT DIVISION OF PROCUREMENT SERVICES** 2600 Bull Street Columbia, SC 29201-1708

Telephone (803) 898-3501 Fax (803) 898-3505 April 25, 2006

TO:

Laura Pace

FROM:

Matt Winslow

**Division of Procurement Services** 

SC Department of Health and Environmental Control

SUBJECT:

IFB-29751-4/25/06-EMW

The bidding has been completed on this solicitation. I am enclosing copies of the bids for your review. The anticipated date for posting the award is May 3, 2006. Please call or e-mail me with any questions or comments. Thanks!

DECEIVED

UNDERGROUND STORAGE TANK PROGRAM

#### **UST BID SHEET**

SOUTH CAROLINA

UNDERGREEN DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL

TANK PROGRAM

OPENING/CLOSING DATE: 4-25-06  TIME: 2:30 Pm			WARD WILL B	Brazele E POSTED:	5/3/06
COMPANY NAME					
Dick Environmental Palmetto Environmental WPC	1,659,442				
Palmetto Environmental	1,239,000				
WPC	1,499,900				
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Revised 02/11/00 JSS

SOLICITATION NUMBER: ZFB-29751



## South Carolina Department of Health and Environmental Control

#### **Division of Procurement Services**

#### Invitation for Bid

Solicitation No.: IFB-29751-4/25/06-EMW

Date Issued: 3/14/06

Procurement Officer: E. Madison Winslow

Eght ESIS

Phone No.: (803) 898-3487

E-mail Address: winsloem@dhec.sc.gov

DESCRIPTION: Corrective action for petroleum release - Multiple permits, Columbia, SC						
The Term "Offer" Means	Your "Bid" or "Pr	oposal"				
SUBMIT OFFER BY (Opening Date/Time): April 25, 2006/2	:30 pm E.T. See pr	rovision entitled "Deadline for Submission of Offer"				
NUMBER OF COPIES TO BE SUBMITTED: One (1) origin						
QUESTIONS MUST BE RECEIVED BY: April 17, 2006/5:0	<b>0 p.m. E.T.</b> s	See provision entitled "Questions from Offerors"				
	SUBMIT YOUR SEALED OFFER TO EITHER OF THE FOLLOWING ADDRESSES:					
MAILING ADDRESS:	PHYSICAL	ADDRESS:				
SC DHEC	SC DHEC					
Division of Procurement Services		rocurement Services				
Bureau of Business Management		siness Management				
2600 Bull Street		eet, Room 1200 - Aycock Bldg.				
Columbia, S.C. 29201	Columbia, S.	C. 29201				
Offers Must Be Sealed: See provis						
AWARD & Award will be posted on May 1, 2006. The	ne award, this solicit	ation, and any amendments will be posted at				
AMENDMENTS the following web address: http://www.sc	dhec.net/procuremer	nt.				
	- anhanitting a hid	or proposal you some to be bound by the				
You must submit a signed copy of this form with your offer. B terms of the solicitation. You agree to hold your offer open for	y submiding a Did a minimum of t	histo (20) calendar days after the opening				
date.	or a minimum or c	mily (50) calcinal days				
	ing the offer)	OFFEROR'S TYPE OF ENTITY:				
NAME OF OFFEROR (Full legal name of business submitting the offer)  OFFEROR'S TYPE OF ENTITY:  (Check one)						
Palmello Enveronmental Soup, Trec - Sole Proprietorship						
AUTHORIZED SIGNATURE		□ Partnership				
James & Bloom		☐ Corporation (tax-exempt)				
Person signing reast to authorized to scaling infing offer to enter contract on behalf of O	tteror named 800Ve.)	☑ Corporate entity (not tax-exempt)				
President		☐ Government entity (federal, state, or local)				
PRINTED NAME (Frinted name of person signing above)	DATE	□ Other				
MARE / CONDER	4/24/2006	(See provision entitled "Signing Your Offer")				
Instructions regarding offeror's name: Any award issued will be issued to, and the contract will be formed with, the entity						
identified as the offeror above. An offer may be submitted by or	ily one legal entity.	The entity named as the offeror must be a				
single and distinct legal entity. Do not use the name of a branch of	office or a division	of a larger entity if the branch or division is				
not a separate legal entity, i.e., a separate corporation, partnership, sole proprietorship, etc.						
OFFEROR'S HOME OFFICE ADDRESS (Address for the offeror's principal place of business)						
P.O. Box 427						
CITE Chin	<u> </u>	ZIP CODE				
PHONE (803) 439-133) FACSIMILE (803) 438-133		loto by a be Osouth in				
STATE OF INCORPORATION	(If offeror	is a corporation, identify the state of Incorporation)				
TAXPAYER IDENTIFICATION NO.		e provision entitled Taxpayer Identification Number)				

COVER PAGE MMO (AUG. 2004)

APR. 2 6 2006

## SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

BID NUMBER: IFB-29751-4/25/06-EMW

IV	RI	D	Α	W	۸	R	n

A.	ACCEPTANCE and DELIVERY STATEMENT In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within days from date of opening, to complete the corrective action as specified at the prices set forth for all sites as stated below.
	For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the releases and the geologic conditions at these sites as documented in the technical files and this solicitation. Any quantities listed in the corrective action method(s) below are estimates and changes to those quantities or to the listed method(s) will not affect the bid price. Additionally, I certify that this company understands that acceptance is based on total cost to treat the areas of concern.
	PALMETTO ELLY, GROUP, Inc. Certification No. 260  Contractor (Print)  JAMES L. CODSER James Reg.  Signature
	Authorized Representative (Print)  Signature
B.	CORRECTIVE ACTION SOLICITATION RESPONSE  Please respond to the following questions.:
S	Cloud's Chevron, (UST Permit #07584), 2367 Taylor St., Columbia, South Carolina.  Cloud's Chevron, (UST Permit #07777 & 12352), 1600 Two Notch Rd., Columbia, South Carolina.  1. The corrective action method(s) or technology(ies) that will be proposed in the CAP will be:  Ausganzing, vacuum intraction, of churcal and attention.
	2. The Corrective Action Completion Time, in months, to complete the corrective action from the date of corrective action system startup until corrective action goals are met is months.
	3. The Corrective Action Cost, in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment A, Figure # 8-11) such that the thickness of free-phase product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in Contract Item II.A.9.C at any point, complete all associated monitoring and post-remediation verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is: \$ 1.239.000.

APR 2 6 2006



### BUSINESS MANAGEMENT

04-25-6P02:12 RCVD

South Carolina Dept. of Health & Environmental Control Division of Procurement Services 2600 Bull St. Columbia, SC 29201-1708

Attention: Bid Clerk Solicitation No.: IFB-29751-4/25/06-EMW



AWARD &

## South Carolina Department of Health and Environmental Control

#### **Division of Procurement Services**

Invitation for Bid

Solicitation No.: IFB-29751-4/25/06-EMW

Date Issued: 3/14/06

Procurement Officer: E. Madison Winslow

1 The Stand Estable

Phone No.: (803) 898-3487

E-mail Address: winsloem@dhec.sc.gov

DESCRIPTION: Corrective action for petroleum release - Multiple permits, Columbia, S	DESCRIPTION:	Corrective action for	r petroleum release -	- Multiple permits,	Columbia, S
--	--------------	-----------------------	-----------------------	---------------------	-------------

The Term "Offer" Means Your "Bid" or "Proposal"

SUBMIT OFFER BY (Opening Date/Time): April 25, 2006/2:30 pm E.T. See provision entitled "Deadline for Submission of Offer"

NUMBER OF COPIES TO BE SUBMITTED: One (1) original

QUESTIONS MUST BE RECEIVED BY: April 17, 2006/5:00 p.m. E.T.

See provision entitled "Questions from Offerors"

SUBMIT YOUR SEALED OFFER TO EITHER OF THE FOLLOWING ADDRESSES:

YOUR SEALED OFFER TO EITHER OF THE FOLLOWING ADDRESSES.			
MAILING ADDRESS:	PHYSICAL ADDRESS:		
SC DHEC	SC DHEC		
Division of Procurement Services	Division of Procurement Services		
Bureau of Business Management	Bureau of Business Management		
2600 Bull Street	2600 Bull Street, Room 1200 - Aycock Bldg.		
Columbia, S.C. 29201	Columbia, S. C. 29201		

Offers Must Be Sealed: See provision entitled "Submitting Your Offer"

Award will be posted on May 1, 2006. The award, this solicitation, and any amendments will be posted at

AMENDMENTS	the following web address: http://www.scdhec.net/procurement.			
terms of the solicitation	ed copy of this form with your offer.  You agree to hold your offer open	By submitting a bi for a minimum of	d or proposal, you agree to be bound by the thirty (30) calendar days after the opening	
NAME OF OFFEROR	(Full legal name of business subr	mitting the offer)	OFFEROR'S TYPE OF ENTITY: (Check one)	
WHC	xc.		☐ Sole Proprietorship	
AUTHORIZED SIGNATURE			☐ Partnership	
(Person signing russ) be authorized to submit binding other to enter contract on behalf of Offeror named above.)			□ Corporation (tax-exempt)	
TITLE Branch Mar Myrte Beach  DATE			Corporate entity (not tax-exempt)	
Branch Ma	v. Myrtle Beach		☐ Government entity (federal, state, or local)	
PRINTED NAME	(Printed name of person signing above)	DATE	☐ Other	
Thomas	o sou DE	4/24/06		
1 .	1 /	1/4//	(See provision entitled "Signing Your Offer")	
Instructions regarding o	fferor's name: Any award issued will	be issued to, and	the contract will be formed with, the entity	

Instructions regarding offeror's name: Any award issued will be issued to, and the contract will be formed with, the entity identified as the offeror above. An offer may be submitted by only one legal entity. The entity named as the offeror must be a single and distinct legal entity. Do not use the name of a branch office or a division of a larger entity if the branch or division is not a separate legal entity, i.e., a separate corporation, partnership, sole proprietorship, etc.

OFFEROR'S HOME OFFICE ADDRESS 1017 Chuck Dawle	(Address for the offeror's principal place of business)
CITYLT Plans -	STATE CODE 29464
PHONE FACSIMILE 543-236-1288 236	-1291 Frasey @ wacey, com
STATE OF INCORPORATION (	(If offeror is a corporation, identify the state of Incorporation)
TAXPAYER IDENTIFICATION NO.	(See provision entitled Taxpayer Identification Number)
57-0972424	·

COVER PAGE MMO (AUG. 2004)

## SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL BID NUMBER: IFB-29751-4/25/06-EMW

### IV.BID AWARD

<b>A.</b>	ACCEPTANCE and DELIVERY STATEMENT In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within days from date of opening, to complete the corrective action as specified at the prices set forth for all sites as stated below.
	For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the releases and the geologic conditions at these sites as documented in the technical files and this solicitation. Any quantities listed in the corrective action method(s) below are estimates and changes to those quantities or to the listed method(s) will not affect the bid price. Additionally, I certify that this company understands that acceptance is based on total cost to treat the areas of concern.
	WPC Inc, Certification No. 349  Contractor (Print)  Thomas Casay PE  Certification No. 349
В.	Authorized Representative (Print)  CORRECTIVE ACTION SOLICITATION RESPONSE  Please respond to the following questions.:
8	SITE A –Handy Pantry # 65, (UST Permit #07584), 2367 Taylor St., Columbia, South Carolina. Cloud's Chevron, (UST Permit #07777 & 12352), 1600 Two Notch Rd., Columbia, South Carolina.
	1. The corrective action method(s) or technology(ies) that will be proposed in the GAP will be:  Install 200 Vacuum injection wells in to the water table. Install air sharpe wells in the area of the cireek (down tradient). A FUR & nutrice in ject up per areas, sparge Wewer area.  2. The Corrective Action Completion Time, in months, to complete the corrective action from the date of corrective action system startup until corrective action goals are met is
	3. The Corrective Action Cost, in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment A, Figure # 8-11) such that the thickness of free-phase product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in Contract Item II.A.9.C at any point, complete all associated monitoring and post-remediation verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is: \$ 4999000000000000000000000000000000000

Next Day Air services, there	is no weig	tht limit for				: 	Do.n	ot use this env	elope for:
es containing corresponden ctronic media. When a UPSI ted, UPS Express Envelopes use listed above are subject	4D	UDS UPS Ne	xt Day Air® rldwide Express™	4 J. L.	WEIGHT	DIMENSIONAL WEIGHT	LARGE AIR PACKAGE	SHIPPER RELEASE	1
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Worldwide Express, the UP: only for documents of no c	:						DOCUMENTS ONLY	ferwarding agent for export control of customs purposes. The shipper custifies that these commodities, becoming or software were experted from the United State accordance with the Export	i h
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Shipping Notice — Carriage hereunder may be subject to the rules relating to Bability and either terms and/or conditions established by the Convention for the Unification of Certain Rules Relating to International Carriage by Air (the "Warsaw Convention") and/or the Convention on the he International Carriage of Goods by Road (the "CMR Convention"). These commodities, technology or software were exported from the U.S. in accordance with the Export Administration Regulations. Diversion contrary to U.S. law prohibited.

010195101 11/03 BL United Parcel Service, Louisville, KY



## South Carolina Department of Health and Environmental Control

#### **Division of Procurement Services**

#### Invitation for Bid

Solicitation No.: IFB-29751-4/25/06-EMW

Date Issued: 3/14/06

Procurement Officer: E. Madison Winslow

f. The day a Single

Phone No.: (803) 898-3487

E-mail Address: winsloem@dhec.sc.gov

DESCRIPTION:	Corrective action for	petroleum release -	<u>– Multiple permits,</u>	<u>Columbia, SC</u>

The Term "Offer" Means Your "Bid" or "Proposal"

SUBMIT OFFER BY (Opening Date/Time): April 25, 2006/2:30 pm E.T. See provision entitled "Deadline for Submission of Offer"

NUMBER OF COPIES TO BE SUBMITTED: One (1) original

QUESTIONS MUST BE RECEIVED BY: April 17, 2006/5:00 p.m. E.T.

See provision entitled "Questions from Offerors"

#### SUBMIT YOUR SEALED OFFER TO EITHER OF THE FOLLOWING ADDRESSES:

TOUR DELICATION OF THE PROPERTY OF THE PROPERT	
MAILING ADDRESS:	PHYSICAL ADDRESS:
SC DHEC	SC DHEC
Division of Procurement Services	Division of Procurement Services
Bureau of Business Management	Bureau of Business Management
2600 Bull Street	2600 Bull Street, Room 1200 - Aycock Bldg.
Columbia, S.C. 29201	Columbia, S. C. 29201

Offers Must Be Sealed: See provision entitled "Submitting Your Offer"

AWARD & AMENDMENTS	Award will be posted on May 1, 2006. The award, this solicitation, and any amendments will be posted at the following web address: <a href="http://www.scdhec.net/procurement">http://www.scdhec.net/procurement</a> .
You must submit a signe	ed copy of this form with your offer. By submitting a bid or proposal, you agree to be bound by the

terms of the solicitation. Yo	u agree to hold your offer open	for a minimum of	thirty (30) calendar days after the opening		
NAME OF OFFEROR	(Full legal name of business subm	nitting the offer)	OFFEROR'S TYPE OF ENTITY: (Check one)		
Dick Environmental Services			☐ Sole Proprietorship		
AUTHORIZED SIGNATULE		•	☐ Partnership		
(Person signing wast be authorized to see	by interinding offer to enter contract on behalf of	f Offeror named above.)	☐ Corporation (tax-exempt)		
TITLE	(Business title of per		☐ Corporate entity (not tax-exempt)		
Vice President	•		☐ Government entity (federal, state, or local)		
PRINTED NAME	(Printed name of person signing above)	DATE	☑ Other		
			LLC		
Franklin (Trip) Snelson, III		4/24/06	(See provision entitled "Signing Your Offer")		

Instructions regarding offeror's name: Any award issued will be issued to, and the contract will be formed with, the entity identified as the offeror above. An offer may be submitted by only one legal entity. The entity named as the offeror must be a single and distinct legal entity. Do not use the name of a branch office or a division of a larger entity if the branch or division is not a separate legal entity, *i.e.*, a separate corporation, partnership, sole proprietorship, etc.

		<del></del>	<u> </u>	
OFFEROR'S HOME OFFICE ADDRES	(Address for the offeror's principal place of business)			
8936 Western Way, Suite 10				
CITY Jacksonville		STATE FL		ZIP CODE 32256
PHONE 904-363-0911	FACSIMILE 904-363-1421		E-MAIL ffsnelson@dickcorp.c	
STATE OF INCORPORATION Delaware			·	ation, identify the state of Incorporation)
TAXPAYER IDENTIFICATION NO. 20-0695691			(See provision	entitled Taxpayer Identification Number)

COVER PAGE MMO (AUG. 2004)

# SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL BID NUMBER: IFB-29751-4/25/06-EMW

#### **IV.BID AWARD**

A.	ACCEPTANCE and DELIVERY STATEMENT In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within 60 days from date of opening, to complete the corrective action as specified at the prices set forth for all sites as stated below.				
	For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the releases and the geologic conditions at these sites as documented in the technical files and this solicitation. Any quantities listed in the corrective action method(s) below are estimates and changes to those quantities or to the listed method(s) will not affect the bid price. Additionally, I certify that this company understands that acceptance is based on total cost to treat the areas of concern.				
	Dick Environmental Services, LLC Certification, No. Class I No. 316				
	Contractor (Print)				
	Franklin (Trip) Snelson, III				
	Authorized Representative (Print) Signature				
\$	SITE A -Handy Pantry # 65, (UST Permit #07584), 2367 Taylor St., Columbia, South Carolina.  Cloud's Chevron, (UST Permit #07777 & 12352), 1600 Two Notch Rd., Columbia, South Carolina.  1. The corrective action method(s) or technology(ies) that will be proposed in the CAP will be: Air Sparge / Vapor Extraction				
	AFVR (Aggressive Fluid Vapor Recovery)				
	2. The Corrective Action Completion Time, in months, to complete the corrective action from the date of corrective action system startup until corrective action goals are met is36				
	3. The Corrective Action Cost, in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment A, Figure # 8-11) such that the thickness of free-phase product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in Contract Item II.A.9.C at any point,				

From: Origin ID: (904)363-0911 Julie DuPuis

Dick Environmental Services, L

8936 Western Way Suite 10

**3** 

23 0=

Jacksonville, FL 32256

BILL SENDER

SHIP TO: (803)896-6391 SC Dept of Health & Env Control ATTENTION BID CLERK 2600 Bull Street

Columbia, SC 29201



Ship Date: 24APR06 ActWgt: 1 LB System#: 9020046/INET2400 Account#: S \*\*\*\*\*\*

**REF: 2701-SC BID** 



Delivery Address Bar Code

PRIORITY OVERNIGHT

FORM 7920 7831 2190 TRK#

TUE Deliver By: 25APR06

**A1** CAE

29201

-SC-US

pping Label: Your shipment is complete

Use the 'Print' feature from your browser to send this page to your laser or inkjet printer.

2. Fold the printed page along the horizontal line.

3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, Incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.





FEB 2 6 2007

## Palmetto Environmental Group, Inc.

UNDERGROUND STORAGE TANK PROGRAM

February 21, 2007

Susan Block Corrective Action Section Underground Storage Tank Program SCDHEC 2600 Bull St. Columbia, SC 29201

45tech

RE:

Closure Report of Tank Removal, Cloud's Chevron/Handy Pantry #65, UST

Permits #07777/12352, Columbia, SC

Dear Ms. Block:

Enclosed are copies of scrap tickets documenting disposal of the two fuel tanks removed from the above site. The tanks were transported to Camden Steel & Metal Co., Inc. where they will be cut into small segments and recycled into other steel products.

I have completed a request for review and submitted it to the financial section rather than submit another invoice. Please let me know if this is unacceptable.

Sincerely,

James L. Cooper

Project Manager

P. O. Box 427, Elgin, SC 29045 (803) 438-1331 Voice/Fax E-Mail Slotsky@BellSouth.Net

# CAMDEN STEEL & METAL CO., INC SCRAP IRON...METALS 101 KING STREET • P.O. BOX 1015 • CAMDEN, SOUTH CAROLINA 29020 (803) 432-6595 • 1-800-298-8879

NAME JTMMY (00 ADDRESS	per		
Driver On Off 1 2 T M	10:47 AM 02/20/07	GROSS	10:55 A
REMARKS: Just tank from	23500 LB	39820	32/20/67 13040 + #
Providence Hospital sasky	10:49 AM 02/20/07		10:56 AM
fot Clouds Chevron	16320 LB	TARE	-02/20/07 -22280 1.8
NOT RESPONSIBLE FOR		35340	
DAMAGE TO VEHICLES.		NET 4	480
he undersigned represents to and covenants and grees with the Buyer that he is the lawfull owner of			430
ne above described merchandise; that the same is ee from incumbrances that the undersigned will		PRICE	<u> </u>
arrant and defend the title of the said property.		AMT 2	24.00
CAMDEN STEEL & SCRAP IRON	METALS	;	
	METALS CAMDEN, SOU 1-800-298-8879	TH CAROLINA 29	020
CAMDEN STEEL & SCRAP IRON 101 KING STREET • P.O. BOX 1015 • (803) 432-6595 •	METALS CAMDEN, SOU 1-800-298-8879	TH CAROLINA 29	020
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CAMDEN STEEL & SCRAP IRON  101 KING STREET • P.O. BOX 1015 • (803) 432-6595 •  NAME ADDRESS  Driver ON OFF 1 2 T M  REMARKS: Fueltank from Fundince Hospital parking Lift Combs Observed  NOT RESPONSIBLE FOR DAMAGE TO VEHICLES.	12:17 PM 02/20/07 16560 LB 12:18 PM 02/20/07	GROSS 40260 TARE	12924 F 02/20/0 21720 L 12:35 F 02/20/0 12900 L

141 111



C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

## JAN 09 2007

MR JAMES L COOPER
PALMETTO ENVIRONMENTAL GROUP
PO BOX 427
ELGIN SC 29045

46tech

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998 UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 31, 1991 UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 30, 1991 IBF-29751-4/25/06-EMW Corrective Action System Installation Report received December 29, 2006

Dear Mr. Cooper:

**Richland County** 

The Underground Storage Tank Program has reviewed the referenced document. The following corrections are needed to the air sparge and recover well logs.

- DHEC 1903 Water Well Record Forms must be signed by the certified well driller who
  installed the wells.
- The latitude and longitude is listed as 34°00.77 and 81°00.97, respectively, on all logs. The latitude and longitude should be recorded for each individual well.
- Formation descriptions were omitted from the recovery well logs.
- Recovery well logs state that the wells are 35 feet deep but also indicate that an artificial filter
  was installed from 44 to 45 feet. Please correct.

On all correspondence regarding this site, please reference UST Permit # 07584, 07777, and 12352. If you have questions concerning this correspondence, feel free to contact me by telephone at (803) 896-6676, by fax at (803) 896-6245, or blockse@dhec.sc.gov.

Sincerely,

Susan Block, P.G., Hydrogeologist Northeastern SC Corrective Action Section Assessment and Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

cc: Technical Files

SCDHEC/UST/SEB/010307



#### C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

MR JAMES L COOPER PALMETTO ENVIRONMENTAL GROUP PO BOX 427

Re:

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991 USTs discovered November 8, 2006

**Richland County** 

Dear Mr. Cooper:

**ELGIN SC 29045** 

On November 8, 2006, you notified the Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control that UST piping was encountered at the former Cloud's Chevron facility during the installation of the remediation system. Two USTs were subsequently discovered. The Department requested that Palmetto Environmental Group properly uncover, remove, and dispose of the piping and USTs, and the Department agreed to utilize SUPERB funds to pay for this work.

The encountered tanks have been entered into the UST Program's database—under UST Permit # 12352. Costs for the excavation, removal, and disposal have been approved under cost agreement # 28628. Please submit documentation of the excavation and disposal to the Department on or before March 1, 2007.

If you have any questions or need additional information, please contact me by telephone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, P.G., Hydrogeologist Northeastern SC Corrective Action Section Assessment and Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

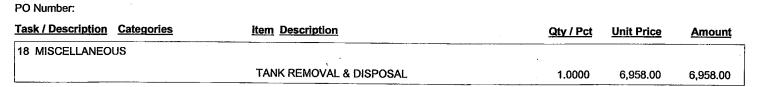
Enc: Approved Cost Agreement

Cc: Technical File (w/o enc)

SCDHEC/UST/12.27.06/SEB

Approved Cost Agreement 28628

Facility: 12352 CLOUDS CHEVRON BLOCKSE



**Total Amount** 

6,958.00



#### 2600 Bull Street, Columbia, South Carolina 29201 Telephone (803) 898-4350

**UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT** 

#### MEMORANDUM

and Environmental Control

DATE:

November 30, 2006

47tech

TO:

Bob Hutchinson, Director

**Regulatory Compliance Division** 

FROM:

Susan Block, Hydrogeologist

Northeastern Corrective Action Section

**SUBJECT:** 

Notification of Discovered USTs

Former Cloud's Chevron, 1600 Two Notch Rd., Columbia SC

UST Permits # 07777 & # 12352

**Richland County** 

On November 8, 2006, the Underground Storage Tank (UST) Program was notified by Jimmy Cooper of Palmetto Environmental Group that he had encountered UST piping during the installation of a remediation system at the former Cloud's Chevron facility (UST Permits # 07777 and # 12352). On November 9, 2006, Chris Doll, John Kneece, and Susan Block met with Mr. Cooper onsite to examine the discovered piping. The piping appeared to lead to two or three USTs. Mr. Cooper was directed to properly uncover, remove, and dispose of the piping and USTs. The Department agreed to utilize SUPERB funds to pay for this work.

A total of two 3000-gallon USTs were excavated by Palmetto Environmental Group. According to Mr. Cooper, the newly discovered tanks were competent. The size and location of these USTs do not correspond to the sizes and locations of the previously reported and removed USTs at either UST Permit # 07777 or # 12352. A total of four USTs (two 8000-gallon and two 5000-gallon) were removed from UST Permit # 07777 on May 28, 1992. A total of two USTs (one 500 gallon and one 300 gallon) were removed from UST Permit # 12352 on October 20, 1993.

Contamination on the former Cloud's Chevron property has been documented. (A release was reported under UST Permit # 07777 on December 31, 1991, and a release was reported under UST Permit # 12352 on December 30, 1991.) These releases along with the releases from an adjacent facility are currently in the initial phase of active corrective action.

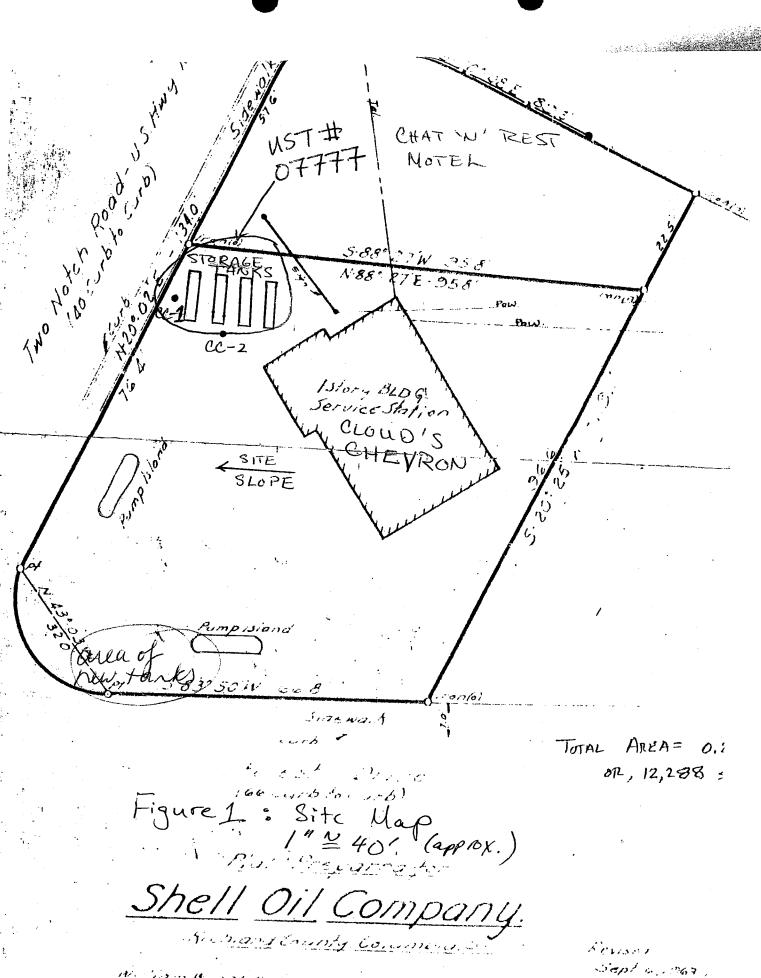
The owner of the newly discovered tanks is unknown. The tank owner for UST Permit # 07777, Mr. Wallace Scott, is deceased. All correspondence recently sent from the Department to the tank owner for UST Permit # 12352, Jack Lee, has been returned undeliverable.

Enc:

Site maps showing locations of USTs

Cc:

**Technical Files** 



Reg Surveyor

Source 20 Northern Lot

## JACK LEE PROPERTY COLUMBIA, S.C. D IRECT ION OF GROUND WATER FLOW WI-4 ⊕ ⊕<sup>MI-1</sup> LOT 14 LOT 13 M-3 0 TWO NOTCH ROAD CONCRETE UST# 8-14M (E) 12352 **&** (DD) /附-6 **№**-5 FOREST DRIVE chew tanks MY-2 **⊕** ⊕ SITE SLOPE LEGEND Dispenser Monitor Well Island 0 Area of Former **Property Boundary** UST Bas in Scale: 1 Inch = 30 Feet

Figure 2. Site Map Showing Former UST Basin





#### C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

SEP 2 0 2006

MR JAMES L COOPER
PALMETTO ENVIRONMENTAL GROUP
PO BOX 427
ELGIN SC 29045

48tech

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC
Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998
UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 31, 1991
UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 30, 1991
IBF-29751-4/25/06-EMW
Corrective Action Plan received July 21, 2006
Public Notice Completed August 17, 2006
Initial Monitoring Report received September 7, 2006
CAP Recovery Well Information received September 18, 2006

#### Dear Mr. Cooper:

**Richland County** 

The Underground Storage Tank Program has reviewed the referenced documents. As required by Section 280.67 of the South Carolina Underground Storage Tank Regulations R.61-92, the Bureau has provided a public notice period including notice of the pending corrective actions to the surrounding landowners. No objections to the proposed actions were expressed; therefore, the Corrective Action Plan (CAP) is approved. All work must be completed in accordance with the referenced bid specifications. The Department recognizes that modifications to the CAP are usually necessary as site conditions change during implementation. If changes to the CAP are later deemed necessary to achieve the Site-Specific Target Levels in a timely manner, please notify the Department. Any changes or modifications to the CAP will not result in a change order. The required Underground Injection Control Permit has been sent to you by the Bureau of Water. The recovery well installation permits are enclosed.

As stated in Section III.B.4, the Corrective Action Plan is to be implemented within 30 days from receipt of this letter. As stated in Section II.B.3, the Site Incentive Period will commence on the Corrective Action System Startup Date. As stated in Section III.B.7, monitoring reports are to be submitted on a quarterly basis. The first Corrective Action Status (CASE) Report will be due 3 months from the date of the system startup. The details of the system installation, including injection well logs, should be documented in the first CASE Report unless a separate System Installation Report will be submitted.

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received

Mr. Cooper Page 2

must be included as an appendix to the report. If the COC concentrations, based on laboratory analysis, are below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

All future invoices and/or other rehabilitation activities must comply with current SUPERB criteria per Section 44-2-20(2) and the referenced bid special conditions. Please reference Cost Agreements 26503 (UST 07584 release 1), 26504 (UST 07584 release 2), 26505 (UST 07777), and 26506 (UST 12352) on all pay-for-performance invoices. The first pay-for-performance invoices in the total amount of \$495,600.00 (40%) may be submitted (on the invoice form available online at http://www.scdhec.gov/eqc/admin/html/eqforms.html#land) once the treatment system has been placed into operation.

On all correspondence regarding this site, please reference UST Permit # 07584, 07777, and 12352. On the invoices, please reference the UST Permit Number and Cost Agreement Number. If you have questions concerning this correspondence, feel free to contact me by telephone at (803) 896-6676, by fax at (803) 896-6245, or blockse@dhec.sc.gov.

Sincerely,

Stream Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment and Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

enc:

**Recovery Well Permits** 

**Cost Agreements** 

CC:

Mr. Richard E. Fay, 2020 Charlotte Plaza, 201 South College St., Charlotte NC 28244-2020 (w/o enc)

Mr. Pete Overton, Acme Petroleum and Fuel Company, 543 Cox Rd. Ste. C, Gastonia SC 28054 (w/o enc)

Mr. Mahesh Patel, Fast Point Food Stores, 2811 Reidville Rd. Ste. 11, Spartanburg SC 29301-3227 (w/o enc)

Mrs. Wallace Scott, 76 Whiteford Way, Lexington SC 29072 (w/o enc)

Mr. Andrew Diggins, Providence Hospital, 2345 Forest Dr., Columbia SC 29204 (w/o enc) Technical File (w/ enc)

SCDHEC/UST/SEB/091906

## Approved Cost Agreement

**9**506

Facility: 12352 CLOUDS CHEVRON

BLOCKSE

PO Number: 632356

Task / Description Categories	Item Description	Qty / Pct	<u>Unit Price</u>	<u>Amount</u>
22 CORRECTIVE ACTION				<del></del>
	1C CAP	1.0000	309.750.00	123,900.00
1	2C FREE PRODUCT	1.0000	309,750.00	30.975.00
	3C 60% REDUCTION IN COC	1.0000	309,750.00	30,975.00
	4C 90% REDUCTION IN COC	1.0000	309,750.00	30,975.00
	5C 100% REDUCTION IN COC	1.0000	309,750.00	30,975.00
	6C VERIFICATION	1.0000	309,750.00	61,950.00
	·	Total Amo	unt	309,750.00

September 20, 2006

Page 1 of 1

suprcait.rdf

Rev: 1.11



#### C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

SEP 18 2006

49tech

WL BOYD III **455 ALEXANDER CIR** COLUMBIA SC 29206

Re: UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Initial Monitoring Report Received September 7, 2006

**Richland County** 

Dear Mr. Boyd:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facilities. To prevent the release from becoming an unacceptable risk, Palmetto Environmental Group, Inc. (PEG) has been retained to initiate corrective action of the impacted soil and groundwater using vacuum extraction, air sparging and soil vapor extraction, and chemical oxidation followed by natural attenuation. A copy of the Initial Monitoring Report has been sent to you by PEG. Please contact me if you do not receive the report. The next quarterly report will be submitted in

If you have any questions, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or

Sincerely,

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

Mr. Pope D. Johnson III, McCutchen, Blanton, Johnson & Barnette LLP, PO Drawer 11209, cc: Technical File



C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

POPE DAVIS 2368 TAYLOR ST COLUMBIA SC 29204 JUL 3 1 2006

50 tech

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Tax Map # R11411-01-02

Corrective Action Plan Received July 21, 2006

**Richland County** 

#### Dear Sir or Madam:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facilities. To prevent the release from becoming an unacceptable risk, Palmetto Environmental Group, Inc. (PEG) has been retained to initiate corrective action of the impacted soil and groundwater using vacuum extraction, air sparging and soil vapor extraction, and chemical oxidation followed by natural attenuation. A copy of the Corrective Action Plan (CAP) has been sent to you by PEG. Please contact me if you do not receive the CAP.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. The installation of extraction and injection wells on your property may be necessary as part of the corrective action. PEG is required to coordinate any activity on the property with you. Your continued cooperation is appreciated.

If you have any questions or comments regarding the proposed corrective action, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov. All comments should be submitted on or before August 17, 2006.

Sincerely,

Susari Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

enc:

Public Notice (copy) Citizens Guides (3)

Citizens duides (3)

cc: Technical File (without enclosure)



and Environmental Control

# UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

MEMORANDUM

5/tech

DATE:

September 27, 2006

TO:

File

FROM:

Susan Block

Northeastern SC Corrective Action Section Assessment and Corrective Action Division

SUBJECT:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

UST Permit # 07777, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC UST Permit # 12352, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC

**Richland County** 

On September 27, 2006, Bob Faller (UST Program), James Davis (Waste Assessment Section), and I conducted a site visit to investigate a complaint (from Jimmy Cooper of Palmetto Environmental Group) of vapors in the storm drain on the east side of the Church's Fried Chicken across from the referenced facilities. The following FID and PID readings were recorded.

Location	FID	PID	Time
Storm Drain East side Church's	18 ppm	24 ppm	11:45 AM
Eastern Injection Well near MW-10	143 ppm	93 ppm	11:50 AM
Western Injection Well near MW-10	1083 ppm	125 ppm	11:55 AM
Creek	13 ppm	1.6 ppm	12:00 PM
Injection well near creek (along Lyon Street)	161 ppm	22 ppm	12:10 PM
Storm Drain West side Church's	<i>7</i> ppm	0 ppm	12:17 PM
Storm Drain Forest across China Kitchen	<i>7</i> ppm	0 ppm	12:20 PM
Storm Drain West side Church's near Forest	7 ppm	0 ppm	12:25 PM

The LEL for gasoline is 1.4% (14,000 ppm). Therefore, no explosion hazard existed at the time of the site visit.

cc: Technical File

BOARD: Elizabeth M. Hagood Chairman Edwin H. Cooper, III Vice Chairman Steven G. Kisner

Secretary



BOARD: Henry C. Scott

Paul C. Aughtry, III

Glenn A. McCall

Coleman F. Buckhouse, MD

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment

July 28, 2006

(BOW-GWMGMT-CAW) Mr. James L. Cooper Palmetto Environmental Group, Inc. 2193 Hwy 1 S. P.O. Box 427 Elgin, SC 29045

5 Ztech

RECEIVED

Re:

Underground Injection Control Permit #877

Cloud's Chevron Site 07777, 12352, 07584

**Richland County** 

AUG 0 2 2006

UNDERGROUND STORAGE TANK PROGRAM

Dear Mr. Cooper:

Enclosed is a Permit to Construct for sixty (60) Class V.A.-I injection wells at the Cloud's Chevron Site, Richland County as requested in the permit application received July 28, 2006.

#### **Notice of Appeal Procedure**

This decision may be appealed to the Administrative Law Court (ALC) by complying with the following requirements of the ALC:

1. File a request for a contested case hearing with the Clerk of the Administrative Law Court at the following address within 30 days after notice of this decision:

Clerk's Office South Carolina Administrative Law Court 1205 Pendleton Street, Suite 224 Columbia, SC 29211-1667 803-734-0550

The ALC has a Notice of Request for Contested Case Hearing form that may be used, but is not required. The form and the Rules of the ALC can be found at the ALC's website: <a href="http://www.scalc.net">http://www.scalc.net</a>.

A request for a contested case hearing must contain the following information pursuant to ALC Rule 11:

- 1. The name of the party requesting the hearing and the issue(s) for which the hearing is requested;
- 2. The caption or other information sufficient to identify the decision, order, letter, determination, action, or inaction which is subject to the hearing;
- 3. A copy of the written agency decision, order, letter or determination, if any, which gave rise to the request;
- 4. The relief requested.
- 2. Submit a filing fee to the Administrative Law Court in the amount of \$250. ALC Rule 71 requires the filing fee.
- 3. Serve a copy of the request for a contested case hearing on DHEC and any other parties at the same time the request is filed with the ALC. A copy of the request for a contested case hearing must be delivered or mailed to DHEC at the following address:

Clerk of the Board SC DHEC 2600 Bull Street Columbia, SC 29201

The above information is provided as a courtesy; parties before the Administrative Law Court are responsible for complying with all applicable requirements of the Court.

Please submit all of the well logs for the installed wells to schedule a well inspection. An inspection of the UIC System must be conducted prior to issuance of the Permit to Operate. If you have any questions, please call Christopher Wargo at (803) 898-3799.

Sincerely,

Christopher Wargo, Hydrogeologist Ground Water Management Section

Bureau of Water

cc: Susan Block - SCDHEC, BLWM-USTP

BOARD: Elizabeth M. Hagood Chairman Edwin H. Cooper, Ill Vice Chairman

Steven G. Kisner

Secretary

DHE C

C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment

BOARD: Henry C. Scott Paul C. Aughtry, III Glenn A. McCall

Coleman F. Buckhouse, MD

#### WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Construction Permit for Class II, III, and V.A. Injection Well(s)

Permit #877

Date Issued: July 28, 2006 Date Expired: July 28, 2007

For (Operator): Cloud's Chevron

In accordance with provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, permission is granted for construction of sixty (60) Class V.A.-I injection wells with a true diameter of one (1) inches, and a total depth of approximately fifty (50) feet located at Cloud's Chevron, Richland County, SC with the following provisions:

- 1) The operator shall submit completed SCDHEC well record forms to the Departments Water Monitoring, Assessment & Protection Division after completion of the injection wells.
- 2) Upon completion of construction, injection activities <u>shall not commence prior</u> to receiving approval from the Department to operate the injection wells.
- When the injection wells are no longer in use, or upon request by the Department, within sixty (60) days all injection wells must be permanently abandoned in accordance with the South Carolina Well Standards and Regulations (R.61-71).

Rob Devlin, Manager

GroundWater Management Section

**Bureau of Water** 

#### STATEMENT OF BASIS - UIC DRAFT PERMIT #877

In accordance with the South Carolina Underground Injection Control Regulations, Section R61-87.12,J., this Statement of Basis has been prepared for the Cloud's Chevron Site Underground Injection Control permit application received July 28, 2006.

Ownership of the proposed injection wells is Palmetto Environmental Group, Inc., 2193 Hwy 1 S. P.O. Box 427, Elgin, SC 29045. The permit (UIC 877) is for the construction of sixty (60) injection wells for a corrective action system at the Cloud's Chevron Site. The intent of the injection wells is to inject ambient air through an air sparging system to remediate CoC in groundwater as described in the cleanup plan dated July 17, 2006. The final permit for the underground injection proposal has been prepared based on staff review and the application of the Pollution Control Act of South Carolina and the Underground Injection Control Regulations of South Carolina.

Conditions of the permit issuance include the submittal of well records for all injection wells installed and the inspection of well construction by the Department prior to injection.

#### **Notice of Appeal Procedure**

The following procedures are in effect beginning July 1, 2006, pursuant to 2006 Act No. 387:

- 1. This decision of the S.C. Department of Health and Environmental Control (Department) becomes the final agency decision 15 days after notice of the Department decision has been mailed to the applicant or respondent, unless a written request for final review is filed with the Department by the applicant, permittee, licensee, or affected person.
- 2. An applicant, permittee, licensee, or affected person who wishes to appeal this decision must file a written request for final review with the Clerk of the Board at the following address:

Clerk of the Board SC DHEC 2600 Bull Street Columbia, SC 29201

- 3. Parties filing a request for final review are asked to include a statement of the grounds on which they challenge the Department's decision and the specific changes they are seeking in the decision.
- 4. In order to be timely, a request for final review must be received by the Clerk of the Board within 15 days after notice of the Department decision has been mailed to the applicant or respondent. If the 15th day occurs on a weekend or State holiday, the request is due to be received by the Clerk of the Board on the next working day.
- 5. If a timely request for final review is filed with the Clerk of the Board, the Clerk will provide additional information regarding procedures.
- 6. The Board of Health and Environmental Control has 60 days from the date of receipt of a request for final review to conduct a final review conference. The conference may be conducted by the Board, its designee, or a committee of three members of the Board appointed by the chair.
- 7. If a final review conference is not conducted within 60 days, the Department decision becomes the final agency decision, and a party may request a contested case hearing before the Administrative Law Court within 30 days after the deadline for the final review conference.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.



South Carolina Department of Health and Environmental Control

# UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT

2600 Bull Street, Columbia, SC Phone (803) 896-6240 Fax (803) 896-6245

#### MEMORANDUM

DATE:

July 27, 2006

TO:

Chris Wargo

Water Monitoring, Assessment & Protection Division

**Bureau of Water** 

53 tech

FROM:

Susan Block

Assessment & Corrective Action Division Underground Storage Tank Program

**SUBJECT:** 

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

UST Permit # 07777, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC UST Permit # 12352, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC Corrective Action Plan/ UIC Permit Application received July 25, 2006

**Richland County** 

Attached for your review and approval is an Underground Injection Control Permit Application for the above referenced sites submitted by Palmetto Environmental Group, Inc. Initial review by this Department indicates the Corrective Action Plan is approvable. Please return the completed Permit to Install to my attention once your review and approval is completed. I will forward it to the contractor when all other permits have been received and technical and financial approval from this Program has been issued, as required by law.

Questions may be referred to my attention at (803) 896-6676.

Enc: CAP/ UIC Permit Application



# South Carolina Department of Health and Environmental Control

# UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

#### MEMORANDUM

DATE:

July 24, 2006

TO:

Robin Mack

**Compliance Section** 

Regulatory Compliance Division

FROM:

Susan Block

Northeastern SC Corrective Action Section Assessment and Corrective Action Division

**SUBJECT:** 

Public Notice # 07584-02, 07777-02, & 12352-02

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

UST Permit # 07777, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC UST Permit # 12352, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC

**Richland County** 

Per section 280.67 of the South Carolina Underground Storage Tank Control Regulations R. 61-91, the South Carolina Department of Health and Environmental Control (SCDHEC) is required to provide public notice of proposed corrective actions at underground storage tank facilities.

The Assessment & Corrective Action Division requests your assistance in posting the enclosed notice at public offices (e.g. post offices, court houses, etc.) located in close proximity to the referenced facility.

If possible, the notice should be posted for 15 days. The attached notice has been postdated to August 2, 2006 to allow your office time to have it posted prior to its beginning date. Your assistance is greatly appreciated.

Questions may be referred to my attention at (803) 896-6676.

enc:

Public Notice (4 copies)

cc:



C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

# **NOTICE**

State of South Carolina
Department of Health and Environmental Control
Columbia, South Carolina

Public Notice # 07584-02, 07777-02, & 12352-02

Date: August 2, 2006

## NOTICE OF PROPOSED CORRECTIVE ACTION

Section 280.67 of the S.C. Underground Storage Tank Control Regulations (R.61-92) requires that any Corrective Action Plan prepared to meet the requirements of 280.66 must be placed on notice for public comment. The following applicants have submitted a Corrective Action Plan for the rehabilitation of ground water contaminated by petroleum constituents released from underground storage tanks (USTs).

## **Applicants:**

ACME Petroleum & Fuel Company, 543 Cox Rd., Ste. C, Gastonia, NC 28054 UST Permit # 07584, Former Handy Pantry #65 Three USTs used for storage of petroleum products were removed from the former Handy Pantry #65 (currently University Mart) in 1998 & 1999.

The facility is located at 2367 Taylor St., Columbia in Richland County, SC.

Wallace M. Scott, 76 Whiteford Way, Lexington, SC 29072

**UST Permit # 07777, Former Clouds Chevron** 

Four USTs used for the storage of petroleum products were removed from the former Cloud's Chevron in 1992.

The former facility is located at 1600 Two Notch Rd., Columbia in Richland County, SC.

Jack & Alexandra Lee, 1600 Two Notch Rd., Columbia, SC 29204

**UST Permit # 12352, Former Clouds Chevron** 

Two USTs used for the storage of petroleum products were removed from the former Cloud's Chevron in 1993.

The former facility is located at 1600 Two Notch Rd., Columbia in Richland County, SC.



C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

# **NOTICE**

State of South Carolina
Department of Health and Environmental Control
Columbia, South Carolina

Public Notice # 07584-02, 07777-02, & 12352-02

Date: August 2, 2006

## NOTICE OF PROPOSED CORRECTIVE ACTION

Corrective action will consist of vacuum extraction, air sparging and soil vapor extraction, and chemical oxidation followed by monitored natural attenuation.

A copy of the Corrective Action Plan is available for review at the Department's Freedom of Information Office, 2600 Bull Street in Columbia, SC. Please call (803) 898-3882 to schedule an appointment.

Persons wishing to comment upon or object to Corrective Action approval are invited to submit same in writing on or before August 17, 2006 to South Carolina Department of Health and Environmental Control, Underground Storage Tank Program, 2600 Bull Street, Columbia, S.C. 29201 or call Susan Block at (803) 896-6676. The public notice # 07584-02, 07777-02, and 12352-02 should be placed at the top of the first page of comments. Where there is a significant degree of public interest, the Department will hold a public hearing.

Please bring the foregoing to the attention of persons who you know will be interested in this matter.

Page 2 of 2



South Carolina Department of Health and Environmental Control

### UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT

2600 Bull Street Columbia, SC 29201 Telephone (803) 896-6240

#### MEMORANDUM

54 tech

Date:

May 3, 2006

To:

Matt Winslow

Bureau of Business Management

From:

Laura Jean Pace, CGFO, CPM, Manager  $\mathcal L$ 

**Financial Section** 

Subject:

Bid Award, IFB-29751-4/25/06-EMW

UST Permit # 07584, University Mart, Release 1; PO # R-29751 UST Permit # 07584, University Mart, Release 2; PO # R-29751

UST Permit # 07777, Clouds Chevron; PO # R-29752 UST Permit # 12352, Clouds Chevron; PO # R-29753

This Program has reviewed the submittals received April 26, 2006 for the referenced bid. As the proposed corrective action methodology can be permitted in South Carolina and the estimated time frame is protective of human health, the low bid submitted by Palmetto Environmental Group, Inc. is acceptable. The UST Program recommends immediate award to Palmetto Environmental Group, Inc.

Purchase order PO # R-29751 should be generated for one half of the accepted bid award amount, \$309,750.00. Please note, the full amount of the bid award (\$619,500.00) should be noted in the body of the generated purchase order.

Purchase order PO # R-29752 should be generated for one half of the accepted bid award amount, \$154,875.00. Please note, the full amount of the bid award (\$309,750.00) should be noted in the body of the generated purchase order.

Purchase order PO # R-29753 should be generated for one half of the accepted bid award amount, \$154,875.00. Please note, the full amount of the bid award (\$309,750.00) should be noted in the body of the generated purchase order.

The purchase orders should reference the corresponding facility indicated above. Please provide me a copy of the purchase orders.

cc:

Christopher S. Doll, P.G., Manager, NESCCA Section

Susan Block, NESCCA Section



## UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT

2600 Bull Street Columbia, SC 29201 Telephone (803) 896-6240

#### MEMORANDUM

and Environmental Control

DATE:

March 8, 2006

55 tech

TO:

Matt Winslow, Procurement Officer

Bureau of Business Management

FROM:

Laura Jean Pace, CGFO, CPM, Manager Jp

**Financial Section** 

**SUBJECT:** 

**Bid Request** 

Attached is a hard copy of the bid specifications for corrective action at UST Permit # 07584, # 07777, and # 12352. This bid package should be sent out in SCBO. The information is also on the enclosed disk under file name 07584 & 07777 & 12352 bid.doc. This corrective action is funded by the SUPERB Fund.

Purchase Requisition #29751 for UST Permit # 07584, Purchase Requisition #29752 for UST Permit # 07777, and Purchase Requisition #29753 for UST Permit # 12352 have been created on the AIMS System.

Please send a copy of the final bid package to me so that it can be placed in the technical file in the Freedom of Information Office as outlined in the bid specifications. If you have any questions, contact Susan Block at 896-6676.

cc:

Chris Doll, P.G., Manager, NESCCA

Susan Block, NESCCA

Technical File

**DHEC/UST/3.8.06** 



Promoting and protecting the health of the public and the environment.

SYLVAN FOOD SYSTEMS INC 1245 BOSTON AVE WEST COLUMBIA SC 29170 MAR 07 2006

56tech

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit #12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

**Richland County** 

#### Dear Sir or Madam:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely.

Susan Block, G.I.T., Hydrogeologist

Northeastern SC Corrective Action Section

Assessment & Corrective Action Division

Underground Storage Tank Program

Bureau of Land and Waste Management

cc: Kentucky Fried Chicken, 2349 Taylors St., Columbia, SC 29204



Promoting and protecting the health of the public and the environment.

MAR 0 7 2006

MR RICHARD FAY 2020 CHARLOTTE PLAZA 201 S COLLEGE ST **CHARLOTTE NC 28244-2020** 

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

**Richland County** 

Dear Mr. Fay:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely.

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division **Underground Storage Tank Program** 

Bureau of Land and Waste Management

cc:

Mr. Pete Overton, Acme Petroleum & Fuel Company, 543 Cox Rd., Ste C., Gastonia, SC 28054



Promoting and protecting the health of the public and the environment.

MR ANDREW DIGGINS PROVIDENCE HOSPITAL 2345 FOREST DR COLUMBIA SC 29204 MAR 07 2006

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

**Richland County** 

Dear Mr. Diggins:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

cc:

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

Tom Pollard, Esq., Nixon, Privit Law Firm, PO Drawer 2426, Columbia, SC 29202



Promoting and protecting the health of the public and the environment.

MAR 07 2006

MRS WALLACE SCOTT 76 WHITEFORD WAY LEXINGTON SC 29072

Re: UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

Richland County

Dear Mrs. Scott:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Stream Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management



Promoting and protecting the health of the public and the environment.

MAR 07 2006

DR DAVID H SWINTON BENEDICT COLLEGE 1600 HARDEN STREET COLUMBIA SC 29204

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

Richland County

Dear Dr. Swinton:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

cc:



Promoting and protecting the health of the public and the environment.

## MAR 07 2006

MR MAHESH PATEL
FAST POINT FOOD STORES
2811 REIDVILLE RD STE 11
SPARTANBURG SC 29301-3227

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

Richland County

Dear Mr. Patel:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

cc:



Promoting and protecting the health of the public and the environment.

MS BETTE GORDON BATEMAN C/O JESSE REESE PO BOX 1026 COLUMBIA SC 29201

Re: UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

**Richland County** 

#### Dear Ms. Bateman:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management



Promoting and protecting the health of the public and the environment.

MAR 07 2006

MR JAMES MORRISON JR 1014 LAURENS ST COLUMBIA SC 29201

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

Richland County

Dear Mr. Morrison:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely.

Shear Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

cc:



Promoting and protecting the health of the public and the environment.

MAR 07 2006

ALLEN UNIVERSITY 1530 HARDEN STREET COLUMBIA SC 29024

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

**Richland County** 

Dear Sir or Madam:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

cc:



C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

JAMES & MARILYN BUNDRICK 217 PALMER DR LEXINGTON SC 29072 MAR 0 ? 2006

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

Richland County

Dear Mr. and Mrs. Bundrick:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely.

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program

Bureau of Land and Waste Management



Promoting and protecting the health of the public and the environment.

WL BOYD III 455 ALEXANDER CIR COLUMBIA SC 29206 MAR 07 2006

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

**Richland County** 

Dear Mr. Boyd:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist
Northeastern SC Corrective Action Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management



Promoting and protecting the health of the public and the environment.

MAR 07 2006

MS LINDA WARREN 1527 LYON ST COLUMBIA SC 29204

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

Richland County

Dear Ms. Warren:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program

Bureau of Land and Waste Management



Promoting and protecting the health of the public and the environment.

MAR 07 2006

MR JOE SUDDETH 302 BIDDLE RD COLUMBIA SC 29212

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

**Richland County** 

Dear Mr. Suddeth:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

cc:



Promoting and protecting the health of the public and the environment.

MAR 07 2006

CHANG MOON SUENG 2358 TAYLOR ST COLUMBIA SC 29204

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

**Richland County** 

Dear Mr. Sueng:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely.

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment & Corrective Action Division Underground Storage Tank Program

Bureau of Land and Waste Management

cc: T



Promoting and protecting the health of the public and the environment.  $MAR \ 0 \ 7 \ 2006$ 

GILBERT WALKER
COLUMBIA HOUSING AUTHORITY
PO BOX 4307
COLUMBIA SC29204

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

Richland County

Dear Mr. Walker:

You were previously notified by the South Carolina Department of Health and Environmental Control of the pending corrective action of the referenced releases by Consultech Environmental, Inc. The Department recently received notification from Consultech that they will be unable to fulfill the requirements of the remediation contract. As such, the proposed corrective action plan will not be approved. The Department plans to resolicit bids for remediation of the petroleum releases. When the contract has been awarded to a new contractor, you will be sent a new Corrective Action Plan (CAP).

If you have any questions or comments, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist

Northeastern SC Corrective Action Section

Assessment & Corrective Action Division

Underground Storage Tank Program

Bureau of Land and Waste Management

cc:



Promoting and protecting the health of the public and the environment.

## **JAN 19 2006**

POPE D JOHNSON III MCCUTCHEN BLANTON JOHNSON & BARNETTE LLP **PO DRAWER 11209** COLUMBIA SC 29211-1209



Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Cblumbia, SC

Release reported December 30, 1991

Corrective Action Plan Received December 6, 2005

Email Correspondence received January 17, 2006

Richland County

Dear Mr. Johnson:

In response to your correspondence, the following information is provided.

Three monitoring wells have been installed on the property belonging to Mr. William L. Boyd, III (see enclosed site map). The wells were last sampled on November 16, 2005 for benzene, toluene, ethylbenzene, xylene, naphthalene, MtBE, EDB, and the 8-oxygenates (ETBE, TAME, TBA, Ethanol, TAA, TBF, ETBA, and DIPE). The following table lists the concentrations detected and the South Carolina Risk Based Screening Levels (RSBLs) for each constituent.

Chemical of Concern	SC RBSL	MW-13	MW-54	DW-7
Benzene	5	<1	970	40
Toluene	1000	<1	2900	<2
Ethylbenzene	700	<1	460	<2
Xylene	10,000	<1	2200	<2
Naphthalene	25	<5	1100	<10
MtBE	40	<1	1500	20
EDB	0.05	<0.02	2.70	0.14
ETBE	None*	<5	<50	<10
TAME	None*	<5	<50	<10
TBA	None*	<25	<250	<50
Ethanol	None*	<100	<1000	<200
TAA	None*	<25	650	300
TBF	None*	<25	<250	<50
ETBA	None*	<25	<250	<50
DIPE	None*	<5	<50	16

Concentrations are listing in µg/L. \*Please note there are no established RBSLs for the 8-Oxygenates.

The Corrective Action Plan (CAP) submitted by Consultech Environmental, Inc. proposes the installation of air sparge wells and associated trenching on Mr. Boyd's property in order to reduce the concentrations of chemicals of concern detected in the groundwater. The direction of groundwater flow below Mr. Boyd's property and in the surrounding area is towards the nearby creek. Therefore, active remediation is necessary to prevent petroleum- contaminated groundwater from further impacting the creek.
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL Air sparging is a common remediation technique in which air is injected into the subsurface in order to reduce chemicals of concern to remediation goals. The injected air helps transform dissolved chemicals of concern into a vapor phase and also encourages the growth of microbes (tiny organisms). Microbes use the chemicals of concern as a food source and convert the chemicals to water and carbon dioxide. An EPA Citizen's Guide on air sparging and a guide on bioremediation are enclosed to provide you with additional information.

Consultech Environmental, Inc. has estimated 3 years to achieving the remediation goals for the above referenced releases. Please note that Consultech is required to obtain property access from Mr. Boyd before implementation of the proposed CAP, and Consultech is required to keep you or your client informed of the progress of the remediation through quarterly monitoring reports. Please let me or Mr. Kenneth Brooke at Consultech Environmental, Inc. know if you would prefer the monitoring reports be sent to you or to Mr. Boyd.

If you have any questions or would like any additional information concerning the proposed corrective action, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist

Northeastern SC Corrective Action Section

Assessment and Corrective Action Division Underground Storage Tank Program

Bureau of Land and Waste Management

enc:

Site map

Citizen's Guide (2)

cc:

Mr. Kenneth Brooke, P.E., Consultech Environmental Inc., 1800 MacLeod Drive, Suite F,

Lawrenceville, GA 30043 (w/o enc)

Technical File (w/o enc)



Promoting and protecting the health of the public and the environment.

JAN 10 2006

1 1 10000ET

GARY M LOCKMAN SCDOT PO BOX 191 COLUMBIA SC 29202-0191

Re: UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC
Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998
UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 31, 1991
UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 30, 1991
Initial Monitoring Report received January 3, 2006
Richland County

#### Dear Mr. Lockman:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control is currently working with Consultech Environmental, Inc. on the remediation of petroleum releases from the referenced facilities. On November 16, 2005, Consultech conducted a comprehensive sampling event of the monitoring wells associated with the releases and noted that monitoring wells MW-24 and DW-4 had been paved over and MW-27 was covered with gravel. The Department understands that recent road construction has occurred in the area at Two Notch Road and Taylor Street and believes this activity by the South Carolina Department of Transportation has covered and/or destroyed these wells.

As additional remediation and monitoring activity is necessary, it is the responsibility of the SCDOT to either uncover or replace these wells if damaged. Funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account originally paid for these wells; therefore, replacement costs cannot be paid from the Account.

The necessary activities should be completed immediately, and a report documenting the repair/reinstallation of the monitoring wells and including DHEC 1903 forms should be submitted to the UST Program within 60 days of the date of this letter. Monitoring well installation must be completed in accordance with South Carolina Well Standards and Regulations. A monitoring well installation approval, site map, and well logs are enclosed.

On all correspondence or inquiries regarding this project, please reference the above UST Permits. If you have any questions, please feel free to contact me at (803) 896-6676 or blockse@dhec.sc.gov.

Sincerely,

Susan Block, G.I.T., Hydrogeologist Northeastern SC Corrective Action Section Assessment and Corrective Action Division Underground Storage Tank Program Bureau of Land and Waste Management

enc:

Monitoring Well Approval Form (MWA)

Site Map Well logs

Cc:

Mr. Kenneth Brooke, P.E., Consultech, 1800 MacLeod Dr., Ste. F, Lawrenceville, GA

30043-5376 (w/o enc)

Mr. Mahesh Patel, Fast Point Food Stores, 2811 Reidville Rd. Ste. 11, Spartanburg SC

29301-3227 (w/o enc)

UST Permit # 07584 Technical File (w/ copy of MWA)

SCDHEC/UST/010606

From:

raj shah <rbshah@agraenvironmental.com>

To: Date: <dollcs@dhec.sc.gov> 12/19/2005 3:27:40 PM

Subject:

POs 608616, 608620 and 608622

Chris,

In reference to the above purchase orders, Consultech Environmental (CEI) would like to request an extension of the bond submittal deadline to January 3, 2006. As we discussed this afternoon, the extension will allow us to complete a potential merger/acquisition transaction of CEI withing next few days. Thank you in advance.

Raj B. Shah, P.E
President
Consultech Environmental/Agra Environmental, Inc.
(919) 858-5350, Ext. 101
Fax: (919) 858-5351
rbshah@agraenvironmental.com <mailto:rbshah@agraenvironmental.com>

59 tech

HANDY PANTRY CLOUP'S CHEVRON

JUSAN AK



# Consultech Environmental, Inc

December 6, 2005

Mr. Chris Doll
South Carolina Department of Health and Environmental Control
NE SC Corrective Action Section
2600 Bull Street
Columbia, SC 29201-1708

60 tech

Re: Former Handy Pantry #65 UST Permit #07584
Former Cloud's Chevron UST Permit #07777 &

Former Cloud's Chevron UST Permit # 07777 & 12352

Columbia, SC

Consultech Project C-05-11-201

Dear Mr. Doll:

This letter refers to the telephone discussion last week Consultech Environmental, Inc. (Consultech) had with you regarding getting extension for submitting the Performance Bond for the above-referenced project for the reasons stated below. Based upon your advice, Consultech submits this performance bond extension request to SC DHEC for review:

Consultech has started this project in a diligent manner and is proceeding "full speed" to accomplish all project requirements including submitting our Corrective Action Plan on December 6, 2005 (Tuesday). We also have visited the site and completed our initial sampling event so that the Initial Monitoring Report can be submitted on time as required per project schedule.

Our principal Owner of the company was out of the Country and just returned last weekend. We have approached our bond company and as a part of their procedure we are required to submit considerable financial information with the bond application. Consultech is currently complying with their requirements; however, we expect approximately 10 to 14 days delay in getting the bond approved. Consultech therefore, would like to request the SC DHEC to extend the bond submittal date to December 19, 2005.

Thank you for your consideration in this matter. Should you have any questions regarding this report or the project in general, please do not hesitate to contact me at (678) 377-0400, extension 218.

Sincerely,

CC:

CONSULTECH ENVIRONMENTAL, INC.

Kenneth L. Brooke

Project Manager · '

Matt Winslow - SCDHEC (Procurement)

Susan Block - SCDHEC (UST Management):

File C-05-11-201

RECEIVED

DEC 0 8 2005

UNDERGROUND STORAGE TANK PROGRAM



C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.



# **NOTICE**

# State of South Carolina Department of Health and Environmental Control Columbia, South Carolina

Public Notice # 07584-01, 07777-01, & 12352-01

Date: December 16, 2005

## NOTICE OF PROPOSED CORRECTIVE ACTION

Section 280.67 of the S.C. Underground Storage Tank Control Regulations (R.61-92) requires that any Corrective Action Plan prepared to meet the requirements of 280.66 must be placed on notice for public comment. The following applicants have submitted a Corrective Action Plan for the rehabilitation of ground water contaminated by petroleum constituents released from underground storage tanks (USTs).

### **Applicants:**

ACME Petroleum & Fuel Company, 543 Cox Rd., Ste. C, Gastonia, NC 28054 UST Permit # 07584, Former Handy Pantry #65

Three USTs used for storage of petroleum products were removed from the former Handy Pantry #65 (currently University Mart) in 1998 & 1999.

The facility is located at 2367 Taylor St., Columbia in Richland County, SC.

Wallace M. Scott, 76 Whiteford Way, Lexington, SC 29072

**UST Permit # 07777, Former Clouds Chevron** 

Four USTs used for the storage of petroleum products were removed from the former Cloud's Chevron in 1992.

The former facility is located at 1600 Two Notch Rd., Columbia in Richland County, SC.

Jack & Alexander Lee, 1608 Two Notch Rd., Columbia, SC 29204

**UST Permit # 12352, Former Clouds Chevron** 

Two USTs used for the storage of petroleum products were removed from the former Cloud's Chevron in 1993.

The former facility is located at 1600 Two Notch Rd., Columbia in Richland County, SC.



C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

# **NOTICE**

# State of South Carolina Department of Health and Environmental Control Columbia, South Carolina

Public Notice # 07584-01, 07777-01, & 12352-01

Date: December 16, 2005

## NOTICE OF PROPOSED CORRECTIVE ACTION

Corrective action will consist of total fluids removal and in-situ air sparging followed by monitored natural attenuation.

A copy of the Corrective Action Plan is available for review at the Department's Freedom of Information Office, 2600 Bull Street in Columbia, SC. Please call (803) 898-3882 to schedule an appointment.

Persons wishing to comment upon or object to Corrective Action approval are invited to submit same in writing on or before January 16, 2006 to South Carolina Department of Health and Environmental Control, Underground Storage Tank Program, 2600 Bull Street, Columbia, S.C. 29201 or call Susan Block at (803) 896-6676. The public notice # 07584-01, 07777-01, and 12352-01 should be placed at the top of the first page of comments. Where there is a significant degree of public interest, the Department will hold a public hearing.

Please bring the foregoing to the attention of persons who you know will be interested in this matter.

Page 2 of 2



# South Carolina Department of Health and Environmental Control

#### UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT

2600 Bull Street, Columbia, SC Phone (803) 896-6240 Fax (803) 896-6245

#### MEMORANDUM

DATE:

December 9, 2005

TO:

Norman Dodson

Water Monitoring, Assessment & Protection Division

Bureau of Water

FROM:

Susan Block

Assessment & Corrective Action Division Underground Storage Tank Program

SUBJECT:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

UST Permit # 07777, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC UST Permit # 12352, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC

Corrective Action Plan received December 6, 2005 UIC Permit Application received December 6, 2005

**Richland County** 

Attached for your review and approval is an Underground Injection Control Permit Application for the above referenced sites submitted by Consultech Environmental, Inc. Initial review by this Department indicates the Corrective Action Plan is approvable. Please return the completed Permit to Install to my attention once your review and approval is completed. I will forward it to the contractor when all other permits have been received and technical and financial approval from this Program has been issued, as required by law.

Questions may be referred to my attention at (803) 896-6676.

Enc: UIC Permit Application

Cc: Technical File

DHEC/UST/120705



Promoting and protecting the health of the public and the environment.



SYLVAN FOOD SYSTEMS INC 1245 BOSTON AVE WEST COLUMBIA SC 292170

DEC 1 2 2005

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Tax Map # R11408-10-32

Corrective Action Plan Received December 6, 2005

Richland County

#### Dear Sir or Madam:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facilities. To prevent the release from becoming an unacceptable risk, Consultech Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using active total fluid removal and in-situ air sparging to be followed by natural attenuation. A copy of the Corrective Action Plan (CAP) has been sent to you by Consultech. Please contact me if you do not receive the CAP.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. The installation of air injection wells on your property may be necessary as part of the corrective action. Consultech is required to coordinate any activity on your property with you. Your continued cooperation is appreciated.

If you have any questions or comments regarding the proposed corrective action, please contact me by phone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov. All comments should be submitted on or before January 16, 2006.

Sincerely,

Susan Block, G.I.T., Hydrogeologist

Northeastern SC Corrective Action Section

Assessment & Corrective Action Division

Underground Storage Tank Program

Bureau of Land and Waste Management

enc:

Public Notice (copy)

Citizens Guide

cc:

Kentucky Fried Chicken, 2349 Taylors St., Columbia, SC 29204 (w/enc)

Technical File (without enclosure)



C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

ust docket

6Hech

## NOV 09 2005

MR KENNETH BROOKE CONSULTECH ENVIRONMENTAL 1800 MACLEOD DR STE F LAWRENCEVILLE GA 30043

**Richland County** 

Re:

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC
Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998
UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 31, 1991
UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 30, 1991
Corrective Action Award

Dear Mr. Brooke:

As you are aware, the Underground Storage Tank Program has determined that active corrective action is necessary at the referenced facilities. On November 1, 2005, you were awarded the corrective action contract in the amount of \$1,098,000.00 (\$274,500.00 per release), which will be funded by the SUPERB Account. Per contract requirements, the corrective action plan and performance bond or letter must be submitted within 30 days of the award date (December 1, 2005) and the Initial Monitoring Report must be submitted within 45 days of the award date (December 16, 2005). Signed copies of the Right-of-Entry for the referenced facilities are enclosed. Please coordinate with each landowner for access and keep any inconveniences to the affected landowners to a minimum. Please also note that in accordance with the bid specifications, copies of all plans and reports should be sent to all affected property owners listed in the bid appendix.

If you have any questions or need additional information, please contact me by telephone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely

Susan Block, G.I.T., Hydrogeologist

Northeastern SC Corrective Action Section Assessment and Corrective Action Division

Underground Storage Tank Program

Bureau of Land and Waste Management

Enc: Right of Entries

**Approved Cost Agreements** 

Cc: Pope D. Johnson III, McCutchen Blanton Johnson & Barnette LLP, PO Drawer 11209, Columbia SC 29211-1209 (w/o enc)

Mr. Mahesh Patel, Fast Point Food Stores, 2811 Reidville Rd. Ste. 11, Spartanburg SC 29301-3227 (w/o enc)

Richard E. Fay, 2020 Charlotte Plaza, 201 South College St., Charlotte NC 28244-2020 (w/o enc)

Mr. Pete Overton, Acme Petroleum and Fuel Company, 543 Cox Rd. Ste. C, Gastonia SC 28054 (w/o enc)

Alexander & Jack Lee, 3733 Greenbriar Dr., Columbia, SC 29206 (w/o enc) Technical File

SCDHEC/UST/11.7.05/SEB



C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

### NOV 0 9 2005

MR KENNETH BROOKE CONSULTECH ENVIRONMENTAL 1800 MACLEOD DR STE F LAWRENCEVILLE GA 30043

Re: UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC
Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998
UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 31, 1991
UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991 Corrective Action Award Richland County

Dear Mr. Brooke:

As you are aware, the Underground Storage Tank Program has determined that active corrective action is necessary at the referenced facilities. On November 1, 2005, you were awarded the corrective action contract in the amount of \$1,098,000.00 (\$274,500.00 per release), which will be funded by the SUPERB Account. Per contract requirements, the corrective action plan and performance bond or letter must be submitted within 30 days of the award date (December 1, 2005) and the Initial Monitoring Report must be submitted within 45 days of the award date (December 16, 2005). Signed copies of the Right-of-Entry for the referenced facilities are enclosed. Please coordinate with each landowner for access and keep any inconveniences to the affected landowners to a minimum. Please also note that in accordance with the bid specifications, copies of all plans and reports should be sent to all affected property owners listed in the bid appendix.

If you have any questions or need additional information, please contact me by telephone at (803) 896-6676, by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely

Susan Block, G.I.T., Hydrogeologist
Northeastern SC Corrective Action Section

Assessment and Corrective Action Division

Underground Storage Tank Program

Bureau of Land and Waste Management

Enc: Right of Entries

Approved Cost Agreements

Cc: Pope D. Johnson III, McCutchen Blanton Johnson & Barnette LLP, PO Drawer 11209, Columbia SC 29211-1209 (w/o enc)

Mr. Mahesh Patel, Fast Point Food Stores, 2811 Reidville Rd. Ste. 11, Spartanburg SC 29301-3227 (w/o enc)

Richard E. Fay, 2020 Charlotte Plaza, 201 South College St., Charlotte NC 28244-2020 (w/o enc)

Mr. Pete Overton, Acme Petroleum and Fuel Company, 543 Cox Rd. Ste. C, Gastonia SC 28054 (w/o enc)

Alexander & Jack Lee, 3733 Greenbriar Dr., Columbia, SC 29206 (w/o enc) Technical File

SCDHEC/UST/11.7.05/SEB

### **Approved Cost Agreement**

Facility: 12352 CLOUDS CHEVRON

BLOCKSE

PO Number: 608622

Task / Description Categories	Item Description	Qty / Pct	Unit Price	<u>Amount</u>
22 CORRECTIVE ACTION	•		<del></del>	
	1 CAM/TI AND/OR OPERATE	1.0000	274,500.00	109,800.00
1	2 25% REDUCTION IN COC	1.0000	274,500.00	27,450.00
	3 50% REDUCTION IN COC	1.0000	274,500.00	27,450.00
	4 75% REDUCTION IN COC	1.0000	274,500.00	41.175.00
	5 100% REDUCTION IN COC	1.0000	274,500.00	68,625.00
		Total Amo	umt	274 500 00



### UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT

2600 Bull Street Columbia, SC 29201 Telephone (803) 896-6240

### MEMORANDUM

UST UOGKET 6Stech

Date:

October 26, 2005

To:

Matt Winslow

Bureau of Business Management

From:

Laura Jean Pace, CGFO, CPM, Manager

Financial Section

Underground Storage Tank Program

Subject:

Bid Award, IFB-29012-10/18/05-EMW

UST Permit # 07584, University Mart, Release 1, Requisition 29012 UST Permit # 07584, University Mart, Release 2, Requisition 29012

UST Permit # 07777, Clouds Chevron, Requisition 29013 UST Permit # 12352, Clouds Chevron, Requisition 29014

This Program has reviewed the submittals received October 19, 2005 for the referenced bid. As the proposed corrective action methodology can be permitted in South Carolina and the estimated time frame is protective of human health, the low bid submitted by Consultech Environmental, Inc. is acceptable. The UST Program recommends immediate award to Consultech Environmental, Inc.

The purchase order should be generated for one half of the accepted bid award amount, \$549,000.00. Please note, the full amount of the bid award (\$1,098,000.00) should be noted in the body of the generated purchase order. The purchase order should reference it is for the facilities indicated above. Please provide me a copy of the purchase order.

cc:

Christopher S. Doll, P.G., Manager, NESCCA Section

Susan Block, NESCCA Section

Technical File



### UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT

2600 Bull Street Columbia, SC 29201 Telephone (803) 896-6240

### MEMORANDUM

DATE:

September 7, 2005

UST POCKET

66tech

TO:

Matt Winslow, Procurement Officer

Bureau of Business Management

FROM:

Laura Jean Pace, CGFO, CPM, Manager &

**Financial Section** 

Underground Storage Tank Program

SUBJECT:

**Bid Request** 

Attached is a hard copy of the bid specifications for corrective action at UST Permit # 07584, # 07777, and # 12352. This bid package should be sent out in SCBO. The information is also on the enclosed disk under file name 07584 & 07777 bid.doc. This corrective action is funded by the SUPERB Fund.

Purchase Requisition #29012 for UST Permit #07584, purchase requisition #29013 for UST Permit # 07777, and purchase requisition #29014 for UST Permit #12352 have been created in the AIMS System.

Please send a copy of the final bid package to Laura Pace so that it can be placed in the technical file in the Freedom of Information Office as outlined in the bid specifications. If you have any questions, contact Susan Block at 896-6676.

cc:

Chris Doll, P.G., Manager, NESCCA

Susan Block, NESCCA

Technical File

DHEC/UST/9.7.05



### TET Environmental Services, Inc.

67-Tech

TANK CLOSURE REPORT LOT 13 OF FORMER CLOUD'S CHEVRON COLUMBIA, S.C., GWPD ID # 1232

12352

November 4, 1993

Prepared by:

TET Environmental Services, Inc.

Baron Jordan

Project Manager

RECEIVE D

Groundwater Division November 3, 1993

Mr. Jack Lee 3733 Greenbriar Road Columbia, SC 29206

Re: Tank Closure Report - Jack Lee Property
Lot 13 of former Cloud's Chevron
Columbia, S.C., GWPD ID # 12352

Dear Mr. Lee:

On October 20, 1993, TET Environmental Services, Inc. removed two 500 gallon underground storage tanks (USTs) from lot 13 at the former Cloud's Chevron site. This report documents the removal and disposal of the two USTs.

On October 15, 1993, personnel from Safety Kleen of Lexington, S.C. reportedly removed 300 gallons of liquid from the two USTs. It was further reported that one tank had contained kerosene and one formerly contained waste oil. Upon arrival of TET personnel on-site, it was discovered that the waste oil tank contained approximately 5 inches of sludge that was not removed during the Safety Kleen visit. An Explosive meter, previously calibrated to a pentane atmosphere, was used to measure the atmosphere within the tank. The reading from the waste oil tank was 0.0 % LEL (lower explosive limit), a non-explosive atmosphere. The waste oil UST was then removed from the basin and the contents of the tank were drained into a 55 gallon drum and stored on-site. The waste oil tank was then stored safely aside.

Prior to excavation of the kerosene tank, approximately 15 pounds of dry ice were placed into the tank per American Petroleum Industry Standards (Publication 1604-1987). The dry ice was used in order to purge the flammable vapors. Explosive meter readings were obtained from within the kerosene tank prior to removal. The reading was 0.0 % LEL (lower explosive limit).

Following devaporization, the kerosene tank was excavated and stored with the waste oil tank. A visual inspection of the tanks revealed the kerosene tank to be in fair condition with little evidence of galvanic corrosion and pitting of the tank walls and exterior seams. The waste oil tank also appeared to be in fair condition, however, one hole was observed at the base of the tank. At the suggestion of Mr. Oliver Jones of the South Carolina Department of Health and Environmental Control (SCDHEC) the soils accumulated during the tank removals were backfilled into the excavation.

As the tanks were being removed, soil samples were collected from the base and walls of the excavation and stored in airtight containers for head space analysis using an organic vapor meter (OVM) calibrated to a known standard gas. The organic vapor meter detects and quantifies organic vapor concentrations in the sample which are indicative of hydrocarbon presence. The results of the vapor screenings are presented in Table I.

	TABLE I Tank Basin OVM Results (Results in parts per million)	
SAMPLE ID	LOCATION	RESULTS
OVM - 1	Northeast Side of Basin, 8' Below Grade	2.0
OVM - 2	Southwest Side of Basin, 8' Below Grade	76.0
OVM - 3	Northeast Side of Basin, 8' Below Grade	2.5
OVM - 4	North End of Basin, 10' Below Grade	1.0
OVM - 5	North End of Basin, 10' Below Grade	1.0

The OVM analyses indicate the presence of organic vapors within the former UST basin.

Groundwater impact was documented at the site during a preliminary subsurface assessment (submitted August 3, 1993) and therefore the tank closure assessment was abbreviated and no samples were collected for laboratory analysis. A statement of TET's intention to omit the site assessment was contained in a letter to Ms. Jerri Hagle of the SCDHEC dated October 1, 1993.

The USTs were removed from the site and transported to G&K Tank Services, Inc. of Sumter, South Carolina. G&K Tank Services is a SCDHEC approved facility for the disposal of underground storage tanks. A copy of the certificate of tank disposal for each tank is included with this report. The tanks were disposed of in accordance with SCDHEC regulations.

The SCDHEC generally requires full assessments and remedial activities whenever the subsurface, and in particular ground water, has been impacted. It is therefore TET's suggestion that the ground-water investigation at the site be continued. It is also suggested that a copy of this report be submitted to the Ground-Water Protection Division of the SCDHEC.

Copies of site maps, permission for UST removal, and disposal manifests follow this report. If you have any questions or need additional information, please contact me at 754-3688.

Sincerely,

Baron Jordan Project Manager

# CLOUD'S CHEVRON COLUMBIA, S.C.



COLUMBIA NORTH QUADRANGLE 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1. Site Map



## JACK LEE PROPERTY COLUMBIA, S.C. DIRECTION OF GROUND WATER FLOW ₩-4 Đ ⊕<sup>M||-1</sup> 41 O7777 LOT 14 LOT 13 MH-3 0 TWO NOTCH ROAD Mr. Lee CONCRETE 8-1M (E) ⊕ (D) MY-6 ₩-5 FOREST DRIVE MY-2 ⊕ ⊕ P₩-1 SITE SLOPE LEGEND Dispenser Island Monitor Well 0 Area of Former UST Basin Property Boundary Scale: 1 Inch = 30 Feet

Figure 2. Site Map Showing Former UST Basin





Commissioner: Douglas E. Bryant

Board: Richard E. Jabbour, DDS, Chairman Robert J. Stripling, Jr., Vice Chairman Sandra J. Molander, Secretary

Promoting Health, Protecting the Environment

William E. Applegate, Ill, John H. Burriss Tony Graham, Jr., MD John B. Pate, MD

October 6, 1993

Mr. Baron Jordan, Staff Scientist TET Environmental Services, Inc. 1700 Alta Vista Dr., Suite 110 Columbia, SC 29223

RECEIVED OCT 0 7 1993

Re:

Underground Storage Tank (UST) Closure

GWPD Site ID#: N-40-NO-12352

Cloud's Chevron - Lot 13, Intsec. Forest Dr & Two Notch, Cola (Richland)

Dear Mr. Jordan:

The South Carolina Department of Health and Environmental Control (SCDHEC) received the 30-day permanent closure notification for the UST system referenced above. Please coordinate this activity with the local Environmental Quality Control District Office by calling them at 803/935-7015 during normal business hours:

- 1) at least 10 days prior to closure to alert the District Office of the INTENDED closure date; and,
- 2) at least 48 hours prior to closure in inform the District Office of the ACTUAL closure date.

Other local agencies (fire marshal, building inspector, sewer inspector) may also need to coordinate on this activity. Contact the local governing agency.

The UST regulations require an assessment before the closure is complete (Section 280.71(a)). Please use the enclosed assessment guidelines in preparing the closure assessment report.

Also enclosed is a print-out of the registered UST(s) at this facility. Please correct any errors and return this sheet to me.

On correspondence concerning this site, please reference the GWPD Site ID# listed above. If you have questions, call the Underground Storage Tank Regulatory Section at 803/734-5331.

Sincerely,

Jet Hagell, Environmental Technician Underground Storage Tank Section Ground-Water Protection Division Bureau of Drinking Water Protection

Enc: Closure Guidelines

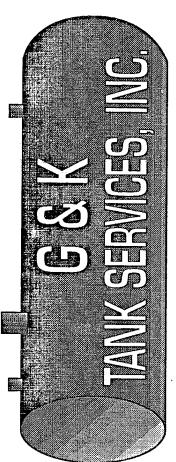
cc: Central Midlands EQC District

Mr. Jack Lee, 3733 Greenbriar Rd, Columbia, SC 29206

# PERMIT Columbia Fire Department

Fire Prevention Bureau 1001 Senate Street Columbia, S.C. 29201 Phone: (803) 733-8350

Number: D	ate Issued: 10/19/9	Expiration Date:	per rement
Business Name: TET Envi	ronmental ServicAddress	S: 1700 Alta Vista	Drive
A permit is issued in accordance with the conduct the following operations within co	•		permission to
The record of 1	- 100 call 100 cal	'on tadas un terroris from t	in transport
		del Esse, Columbia Se	TO COURSE
is accordance within.		,	
Issuance of this permit does not take the pa any change in the use or occupancy of the	•	•	transferable and
Fire Mars	hal (	Date	
The Mas	IICI	Date	
MUST BE POS	STED IN A CONSPI	CUOUS LOCATION	
Original: Fire Department	Yellow Copy: Applicant	Pink Copy: Deputy Fire Marsha	1



Broad St. Extension • PO Box 1384 • Sumter, SC 29151 (803) 494-2694 • 1 (800) 922-7835 • FAX: (803) 494-8598

# Certificate of Disposal

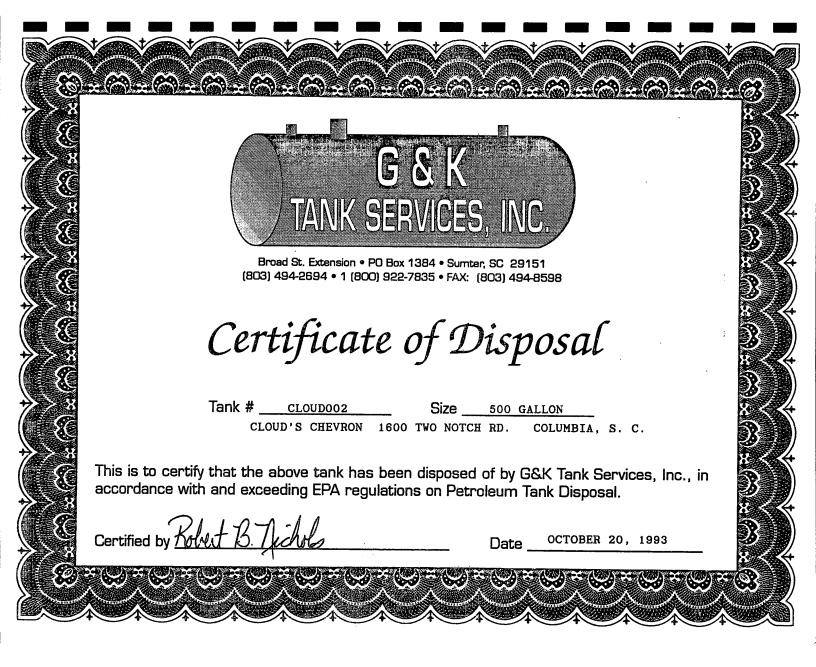
Tank # CLOUD001 Size 500 GALLON CLOUD'S CHEVRON 1600 TWO NOTCH RD. COLUMBIA,

S.C.

This is to certify that the above tank has been disposed of by G&K Tank Services, Inc., in accordance with and exceeding EPA regulations on Petroleum Tank Disposal.

Certified by Advit D. Jahol

Date OCTOBER 20, 1993



# NEXSEN PRUET JACOBS & POLLARD, LLP

1.5

W. THOMAS LAVENDER, JR. PARTNER

DIRECT DIAL 803-253-8233 wtl@npjp.com

September 10, 1996

Reply to Columbia

UST PROGRAM 68 TECH

Kimberly A. Wilson, P.G., Hydrogeologist South Carolina Department of Health and Environmental Control 2600 Bull Street Columbia, South Carolina 29201

RE: Cloud's Chevron Site ID#12352

Richland County

Dear Kim:

We are in receipt of a copy of your letter of September 4, 1996 concerning the status of SUPERB Program funding for the above site. You have confirmed that provided the eligibility requirements of S.C. Code Ann. § 44-2-80(C) are met, a purchaser of the site would not be responsible for site rehabilitation. We would, however, like to receive further confirmation that the substances previously detected at the site are all considered petroleum constituents and will be addressed through the SUPERB Program.

Please advise if this is not correct.

Sincerely,

W. Thomas Lavender, Jr.

WTLjr:tbp

191073.1-LT (WTL) 005800-631

### NEXSEN PRUET JACOBS & POLLARD, LLP ATTORNEYS AND COUNSELORS AT LAW

W. THOMAS LAVENDER, JR. PARTNER

DIRECT DIAL 803-253-8233 wti@npjp.com

August 30, 1996

Reply to Columbia

Kimberly A. Wilson, P.G., Hydrogeologist South Carolina Department of Health and Environmental Control 2600 Bull Street Columbia, South Carolina 29201

Cloud's Chevron

Site ID#12352

UST PROGRAM 69 Jech

Dear Kim:

This will confirm our telephone conversation last week concerning our client's contracts to purchase a portion of the former Cloud's Chevron site from Mr. and Mrs. Jack Lee. indicated to you, we are in the process of completing due diligence relative to the purchase of this site and have confirmed that the former Cloud's Chevron consist of two separate parcels constituting distinct sites for Superb eligibility (ID # 12352 and ID # 07777). Although there may be some future interest in the remaining parcel, the lead property is currently under contract.

In light of the fact that the underground storage tanks have been removed and the site is eligible for the Superb Program, we are seeking confirmation from the Department that contaminants

Sincerely,

W. Thomas (Layender, Jr.

WTLjr:tbp

RECEIVE D Bureau of Underground Storage Tank Wanagement

190037.1-LT (WTL) 005800-631

### DUNCAN ENVIRONMENTAL ASSOCIATES, INC. 1674 MALLARD POINT LANE RIDGEWAY, S.C. 29130

(803-438-1619)

August 23, 1996

Mr. Jack Lee 3733 Green Briar Drive Columbia, S.C. 29206

Re:

Cloud's Chevron Lot 13

Site ID #12352 Richland County

Dear Mr. Lee:

Enclosed, please find the latest analytical results from the wells located on lot 13 of the Cloud's Chevron site. A copy of this information is being forwarded to Ms. Kimberly Wilson of the SCDHEC as required. If we can be of further service to you, please don't hesitate to call me at (803)438-1619.

Sincerely,

Jan Reynolds, P.G. Project Hydrogeologist

an Reynolds

CC:

Ms. Kimberly Wilson

**SCDHEC** 

UST PROGRAM 10 JOCK DOCKETING#

RECEIVED

Bureau of Underground Storage Tank Management

If you are the owner of the former or existing underground storage tanks and the property owner, please complete this form.

### PERMISSION FORM - SITE ID #12352

I, Jack  , certify that I am the legal owner of the underground storage tanks and property located at the facility identified below or serve as the authorized representative for the owner. I grant permission to the South Carolina Department of Health and Environmental Control (SCDHEC) to secure on my behalf services of a contractor for only the activities outlined in the August 1996 letter and authorize SCDHEC, or a contractor selected by SCDHEC, to enter this property at reasonable times only to accomplish these tasks. The contractor will be designated as my contractor for only the site rehabilitation activities outlined therein. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that SCDHEC shall be responsible for notifying me of all activities that are necessary prior to their initiation and shall promptly provide to me a summary of the data upon request.
Name of Facility Cloud Chevron Sewere Hetipe Phone#
Street Address of Facility FOREST DRIVE
Town, City, District, Suburb <u>COCUM</u> 多iA
Name of nearest intersecting street, road, highway, alley  Tiso Notch Road
Is this facility within the city limits? (yes or no)
Is this facility serviced by a public water or sewer utility? (yes or no) $\underline{\sim}$ , if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines, phone number $\underline{(803)787-7525}$
Were underground storage tanks previously removed from the ground at this facility? (yes or no)    Yea   , if yes, please provide the name of a person we can contact that can assist in the location of the former underground storage tank excavation   Jack Lee     Phone number (8031 787-752)
Is the property currently leased or rented to someone? (yes or no), if yes, please provide their name and phone number and let them know about the pending assessment activities. If vehicles or other mobile structures are parked over the former or existing underground storage tanks, they should be moved before SCDHEC's contractor gets to the site.
NAME of UST/property owner (Please Print): JACK LEC
PhoneNumber(home) (3c3/787-7525 (work)
PhoneNumber(home) (303) 787-7525 (work)  Signature of UST/property Owner: Yexellee
Witness: John Line 1 Tech
Date: 8 Month 9 Day 96 Year DOCKETING#

3733 Green was Not it was a 2000



Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman William M. Hull, Jr., MD, Vice Chairman Roger Leaks, Jr., Secretary

Promoting Health, Protecting the Environment

Richard E. Jabbour, DDS Cyndi C. Mosteller Brian K. Smith Rodney L. Grandy

ROE ruid 8/9/96

UST PROGRAM 72 TOCK
DOCKETING #

Mr. Jack Lee 3733 Green Briar Drive Columbia, South Carolina 29206

Re:

Clouds Chevron

Site ID #12352

Availability of SUPERB Funding

Richland County

Dear Mr. Lee:

enc:

Currently, the release reported December 30, 1991 at the referenced site has a priority classification of 3B. Therefore, SUPERB funds are available, or will soon be available, to implement the next necessary scope of work. The scope of work to be implemented is as outlined on the attached DRAFT Assessment Component Cost Proposal.

As the Owner or Operator of the Underground Storage Tanks (USTs) for this site, you have chosen to have the SCDHEC act on your behalf for proceeding with implementation of the scope of work indicated above. You have indicated this by completing and signing a Permission Form on August 9, 1996.

On all correspondence regarding this site, please reference site ID #12352. Please call Kimberly A. Wilson at (803) 734-0726 if you have questions or need additional information.

Sincerely,

Technical Section

Bureau of Underground Storage Tank Management

Kimberly A. Wilson, P.G., Hydrogeologist

David G. Baize, Director

DRAFT Assessment Component Cost Proposal Form

### ASSESSMENT COMPONENT COST PROPOSAL

SOUTH CAROLINA
Department of Health and Environmental Control
Bureau of Underground Storage Tank Management
State Underground Petroleum Environmental Response Bank

	etroleum Enviror	menen vest	Wife balk	
Site Name Cloud's Chevron Site ID # *0777 / 12352	CP#	DRAFT		_
ITEM	QUANTITY	' UNIT	UNIT PRICE	TOTAL
1. Plan Preparation*		x	\$100.00	\$0.00
2. Receptor Survey*	1	x	\$500.00	\$500.00
3. Comprehensive Survey		×	\$1,000.00	\$0.00
4. Mob/Demob (List component #)				
A. Equipment  B. Personnel 2,5,10,13	<u> </u>	x x	\$500.00 \$250.00	\$0.00 \$500.00
5. Soil Borings (hand auger)*	20	feet x	\$11.00	\$220.00
6. Soil Borings (drilled)			quantification)	
and Field Screening*		feet x	\$17.00	\$0.00
7. Soil Leachability Model	1	x	\$200.00	\$200.00
8. Abandonment* (separate from #5 and #6)		fact v	\$4.00	\$0.00 \$0.00
9. Well Installation*	(includes	feet x drilling costs)	\$4.00	\$0.00
A. Water Table (hand auger)	(iiiciuues	drilling costs) feet x	\$17.00	\$0.00
B. Water Table		feet x	\$35.00 \$55.00	\$0.00 \$0.00
C. Telescoping D. Rock Drilling		feet x feet x	\$55.00 \$55.00	\$0.00 \$0.00
10. Ground-water sample collection		IJOI A	+30.00	
A. Initial event		samples x		\$0.00
B. Subsequent event*	10	samples x		\$500.00
11. Analyses-Groundwater A. BTEX+Napth.+MTBE	(See RA G	uidance for s samples x	ite specific analy: \$100.00	ses) \$1,000.00
B. PAH's	10	samples x		\$1,000.00 \$1,200.00
C. Lead		samples x	\$20.00	\$0.00
D. EDB		samples x	•	\$0.00
E. 8 RCRA Metals F. TPH (9070)	l ——	samples x	•	\$0.00 \$0.00
G. pH `´		samples x	\$10.00	\$0.00
H. BOD		samples x	\$40.00	\$0.00
Analyses-Soil			<b>_</b>	
I. BTEX + Napth. J. PAH's		samples x samples x		\$0.00 \$0.00
K. 8 RCRA Metals		samples x		\$0.00
L. TPH (9071)	1	samples x		\$60.00
M. TPH (3550) N. Grain size / hydrometer	- 1	samples x samples x		\$65.00 \$63.00
O. Total Organic Carbon	1	samples x		\$35.00
12. Aquifer Characterization*		**		
A. Pumping Test		hours x	\$120.00	\$0.00
B. Slug test	<del></del>	tests x	\$150.00	\$0.00
13. Free Product Recovery Rate Test*  14. Fate/Transport Modeling	2	tests x	\$120.00	\$240.00
A. Mathematical Model		models x	\$300.00	\$0.00
B. Computer Model	1	models x	\$500.00	\$500.00
15. Risk Evaluation				
A. Tier I		x	\$300.00	\$0.00
B. Tier II	1	<u> </u>	\$500.00	\$500.00
16. Subsequent Survey*  17. Disposal		X	\$260.00	\$0.00
17. Disposal A. Wastewater				
1. Purging/Sampling	4	drums x	\$90.00	\$360.00
2. Pumping test		gallons x	\$0.60 \$110.00	\$0.00
B. Free Product C. Soil (Treatment/Disposal)*	2	drums x tons x	\$110.00 \$50.00	\$220.00 \$0.00
	1	drums x	\$50.00	\$50.00
8. Miscellaneous				
		x		
		x x		
		x		
9. Report/Project Management			(SUBTOTAL)	
and Coordination	0.15	x	\$6,213.00	\$931.95
0. Total				\$7,144.95



Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman

William M. Hull, Jr., MD, Vice Chairman

Roger Leaks, Jr., Secretary

Promoting Health, Protecting the Environment

Richard E. Jabbour, DDS Cyndi C. Mosteller Brian K. Smith Rodney L. Grandy

SEP - A 1996

Mr. Andrew Diggins Providence Hospital 2435 Forest Drive Columbia, South Carolina 29204

> Re: Cloud's Chevron (Lee Property), 1600 Two Notch Road

Site ID #12352 Richland County

UST PROGRAM 73 Tech

Dear Mr. Diggins:

As requested, the status of the release at the referenced site and an explanation of the applicable regulations is provided in response to a telephone call from Mr. Tommy Lavender.

### **Statutory Information**

According to the State Underground Petroleum Environmental Response Bank (SUPERB) Act, the "owner" means: (a) in the case of an underground storage tank (UST) system in use on November 8, 1984, or brought into use after that date, any person who owns an UST system used for storage, use, or dispensing of regulated substances: (b) in the case of any UST system in use before November 8, 1984, but no longer in use on that date, any person who owned such a UST immediately before the discontinuation of its use; or (c) any person who has assumed legal ownership of the UST through the provisions of a contract of sale or other legally binding transfer of ownership.

Section 44-2-80 (B) of the SUPERB Act states "The requirement to conduct site rehabilitation actions other than necessary abatement actions to eliminate any imminent threat to human health, safety, or the environment a release may pose, does not apply to a person who, without participating in the management of an underground storage tank and is otherwise not engaged in petroleum production, refining, and marketing, hold indicia of ownership primarily to protect that person's security interest in the tank. The indicia of ownership do not include persons who acquire title to the property through foreclosure or other means necessary to enforce the security interests and who, without participating in the management, are otherwise not engaged in petroleum production, refining, and marketing."

Section 44-2-80 (C) of the SUPERB Act states "A person who acquires title to any property on which an underground storage tank has been removed shall not be responsible for site rehabilitation actions other than necessary abatement actions to eliminate any imminent threat to human health, safety or the environment. This exemption applies to the extent the release is eligible for compensation from the SUPERB Account if both of the following conditions are met:

(1) Such person does not have or has not had any familial, financial, or related interests with the person who owned or operated the USTs that were previously in use at that property. The person must not be an affiliate of the owner or operator.

(2) The person shall allow for the reasonable access by the UST owner or operator or the Department to perform site rehabilitation activities."

You should be aware that there are currently no laws or regulations that prohibit the use or development of properties where a petroleum release has occurred.

### Qualification for SUPERB monies

The referenced release was qualified to participate in the State Underground Petroleum Environmental Response Bank (SUPERB) Account in December 1993. This means that this release is qualified to receive up to \$1,000,000 for costs associated with the investigation and cleanup of reported releases of petroleum from the underground storage tanks.

Currently this site has petroleum constituents in both ground water and soil documented by laboratory analysis from site assessment activities conducted during November 1994. The latest report indicates that the release has a priority classification of 3B; therefore, SUPERB monies are available at this time and additional assessment work is scheduled.

Please reference site identification number 12352 on all correspondence. If you have any further questions, call Kimberly A. Wilson at (803) 734-0726.

Sincerely,

**Technical Section** 

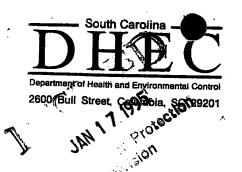
Bureau of Underground Storage Tank Management

Kimberly A. Wilson, P.G., Hydrologist

David G. Baize, Director

cc: Mr. Tommy Lavender, PO Drawer 2426, Columbia, SC 29202

Mr. Jack Lee, 3733 Greenbriar Dr., Columbia, SC 29206



Commissioner: Douglas E. Bryant

Board: Richard E. Jabbour, DDS, Chairman Robert J. Stripling, Jr., Vice Chairman Sandra J. Molander, Secretary

Promoting Health, Protecting the Environment

John H. Burriss William M. Hull, Jr., MD Roger Leaks, Jr. Burnet R. Maybank, III

January Control of the State of

January 16, 1995

Nexaen, Pruet, Jacobs & Pollard P.O. Drawer 2426 Columbia, SC 29202

UST PROGRAM TYTECH DOCKETING #

Re: Cloud's Chevron - GWPD #12352 and #07777

Dear Mr. Pollard:

In response to your inquiry concerning the possible liability of owners of property contaminated by underground storage tank (UST) releases, I have provided a discussion of how the agency has historically addressed similar situations below.

According to the State Underground Petroleum Response Bank Act (SUPERB), S.C. Code Ann. 44-2-10 ct.seq., and the South Carolina Underground Storage Tank Control Regulations (R.61-92), the UST owner and/or operator is the party primarily responsible for the investigation and cleanup of any known contamination due to a UST release. According to our data base, the USTs in question have been removed from this site. These tanks were owned by two different parties. The owner of the USTs that were in existence at site #07777 is Mr. Wallace Scott. The owner of the USTs that were in existence at site #12352 is Mr. Jack Lee.

It is common for the landowner where USTs were located not to be the owner of the USTs. This would be the situation at this site, should title transfer. However, in the event the <u>UST owner</u> is unable or unwilling to address the contamination, the <u>property owner</u> can assume project oversight and proceed with site rehabilitation using SUPERB funds. The SUPERB Act provides funds for the rehabilitation of sites contaminated with petroleum or petroleum products released from an UST (a maximum of \$1,000,000 can be distributed from the SUPERB Account per release). Should there be no reliable party to address the contamination, the Department has expended Federal LUST Trust funds to address the contamination.

A potential source of landowner liability may be the Pollution Control Act. Landowners have been held primarily liable for any contamination existing on their property. See Carolina Chemicals, Inc. v. DHEC, 290 S. C. 498, 351 S.E.2d 575 (Ct. App. 1986). This liability could extend to adjacent landowners as well; however, that adjacent landowner would have a legitimate claim against the Superb Financial Responsibility Fund. This is an issue at this site as contamination has probably migrated off-site. Monitoring wells MW-2 and MW-5, located at the corner of the property between Forest Drive and Two Notch Road, contain levels of dissolved

Mr. Pollard January 16, 1995 Page 2

petroleum constituents significantly in excess of their respective maximum contaminant levels.

Simply put, if the Hospital purchased the property it would be in line as a responsible party (as the property owners). The SUPERB fund will pay for any necessary cleanup, when funds become available for this site, not to exceed one million dollars. The current average site cleanup costs is approximately \$200,000. Given the data available and the current cleanup cost, it appears reasonable that costs would not exceed the SUPERB liability level. An exact date for cleanup of the site, if necessary, has not been established due to the number of sites awaiting cleanup. It is my understanding that the hospital does not intend to place a structure on the property in the foreseeable future. The property will be used as a garden or green area. Given these uses, no major disruption should occur if cleanup is determined to be necessary.

As we discussed, the Department would be pleased to work with you to insure minimal cost and disruption as you develop the site.

Sincerely,

Douglas E Bryant

Commissioner

dgb/cloud.ltr



November 11, 1993

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

RE:

Cloud's Chevron Columbia, SC

GWPD ID #12352

CP #0202 - Final TET Invoice #1161

Dear Mr. White:

Please find enclosed two copies of the Expanded Assessment Report for the above referenced site. Also enclosed is the final invoice against the approved cost proposal. This will close out cost proposal #0202.

If you have any questions please call at 754-3688.

Sincerely,

ChushySmith

Christy Smith Accounts Receivable Manager RECEIVED

NOV 1 2 1993

Groundwe

n

Divis.

UST PROGRAM 75 TECH



### TET Environmental Services, Inc.

November 5, 1993

Mr. Oliver Jones Underground Storage Tank Section SCDHEC 2600 Bull Street Columbia, S.C. 29201

Re:

Tank Closure Report Lot 13 of Cloud's Chevron Columbia, S.C.

GWPD ID # 12352

RECEIVED

NOV 0 8 1993

Groundwater Protection
Division

Dear Mr. Jones:

Please find enclosed a copy of the UST Closure Report for the referenced site. The abbreviated format of the report is due to on going ground-water investigation at the site.

If you have any questions or require any additional information, please contact me at (803) 754-3688.

Sincerely,

Baron Jordan Staff Scientist

cc: Mr. Jack Lee

UST PROGRAM 76 TECH DOCKETING#



Commissioner: Douglas E. Bryant

Board: Richard E. Jabbour, DDS, Chairman Robert J. Stripling, Jr., Vice Chairman Sandra J. Molander, Secretary

Promoting Health, Protecting the Environment

William E. Applecate, M. John H. Burres Tony Graham, Jr., MD John B. Pate, MD

Date: 00T 0 1 1993

JACK & ALEXANDRA LEE 1608 TWO NOTCH ROAD COLUMBIA, SC 29204

m S

Re:

GWPD Site # N-40-NO-12352 CLOUD'S CHEVRON

Cost Proposal # 0202, 307

Underground Storage Tank Release

Priority Ranking

Dear Underground Storage Tank Owner:

All releases from regulated underground storage tanks that have been reported to this Department have been prioritized using a ranking system that evaluates environmental and health related factors. The ranking system identifies those sites that represent the most serious threats where the Department should be allocating available SUPERB monies. Currently, the referenced site ranks below many hundreds of other sites.

Please note that site rehabilitation activities have been previously approved via the direct billing method (per the referenced cost proposal number) for this site. Due to the relative ranking of this site, continued obligation of financial resources under direct billing is not possible at this time and approval for direct billing is hereby suspended. This letter, and a copy of this letter sent to your site rehabilitation contractor, serve as formal notice to complete any ongoing site rehabilitation activity, submit a report of findings to date, and submit the associated invoices to the Department within 30 days of receipt of this letter. SCDHEC will inform you when the status of your site warrants direct billing to be resumed.

However, you may proceed at your own expense with implementing the approved technical plan of action and seek reimbursement from the SUPERB Account. Please note that reimbursement typically takes a much longer period of time to process and that SUPERB funds are dispersed for reimbursement only as long as funds are available. Reimbursement requests are processed by SCDHEC in chronological order of receipt.

If you have any further questions, please contact Mr. David Baize or Mr. Chris Doll at 734-5331.

Sincerely,

Stanley L. Clark, P.G., Director Ground-Water Protection Division

Bureau of Drinking Water Protection

UST PROGRAM 77 TOCK
DOCKETING#

slc/odi

cc:

TET

Central Midland District EQC



### Tank & Environmental Testing, Inc.

June 25, 1993

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

RE:

Cloud's Chevron

Columbia, SC

**GWPD ID #12352** 

CP #0202 - Interim TET Invoice #831

Dear Mr. White:

Groundwater Projection red it Please find enclosed a copy of the monthly interim status report and associated invoice for the above referenced site.

If you have any questions or comments, please do not hesitate to give me a call at 754-3688.

Sincerely,

**Christy Smith** 

Church Smith

Accounts Receivable Manager

SCANNEL

# EXPANDED ASSESSMENT UPDATE (Must be submitted with Invoice)

DATE 06   23   93   CP# 0202   INVOICE# 831
SITE ID#/PCAS#_12352 / SITE NAME Clouds Cherron
Percentage of EAP completed: 75 %  Date work initiated: 08 / 12 / 92 Established submittal date for AR: 03 / 15 / 93  Update prepared by: Jan Reypolds
Significant EAP accomplishments performed since previous update  1. Coordinated installation of temporary wells  on Jack Lee's property.
2. Installed TW-le through TW-8 and  Sampled for BTEX, MTBE and Naphthalene  on 6/14/93
3. Requested survey for PW-1 and temporary well locations
4
5
6

# SO AND ENVIRONMENTAL CONTROL

J. MARION SIMS BUILDING • COLUMBIA, SOUTH CAROLINA 29201 PHONE 803-734-5000

UST PROGRAM TECH-

11:50

TO: FILE (CLOUDS CHEVRON \$2352)

FROM: JIM WHITE

RE: SUPERB QUALIFACTION BEFORE

DATE: <u>6/23/93</u>

CONCERNING WHAT HE LEE TANKS ON SITE. INFORMED HIM (BY AN ENVIRONMENTAL CONSULTANT) INVESTIGATION & AROUND HIS TANKS MOULD EITHER LEAK THAT WOULD HAVE ORIGINATED FROM THE EXISTENCE OF TANKS IN QUESTION "COVER HIS BLES" Tak THIS TASK WOULD IF THERE 25 K DEDUCTABLE HAD PASSED INFORMED HIM THAT THE DEADLINE (FOR THIS INVESTIGATION 25K DEDUCTIBLE TO HIM OR FUTURE OWNERS APPLICABILITY OF THE



Tank & Environmental Testing, Inc.

April 19, 1993

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

Groundwater Protection

RE: Cloud's Chevron-Columbia - Richland County

GWPD ID #12352

Offsite monitor well installation

Dear Mr. White:

Per our conversation on 04/19/93, please find enclosed a map for the necessary offsite locations on Mr. Jack Lee's property (Chat 'n' Rest and other half of Cloud's). As outlined in our phone conversation, the temporary well location on the Chat'n' Rest property (TW-7) will provide an upgradient location from the tank basin. As noted on the enclosed map, B-1 will be installed. If the contamination appears moderate to slight, the ground-water sample will be collected from B-1. If this location appears to be very contaminated, we will move off to the area denoted as MW-6.

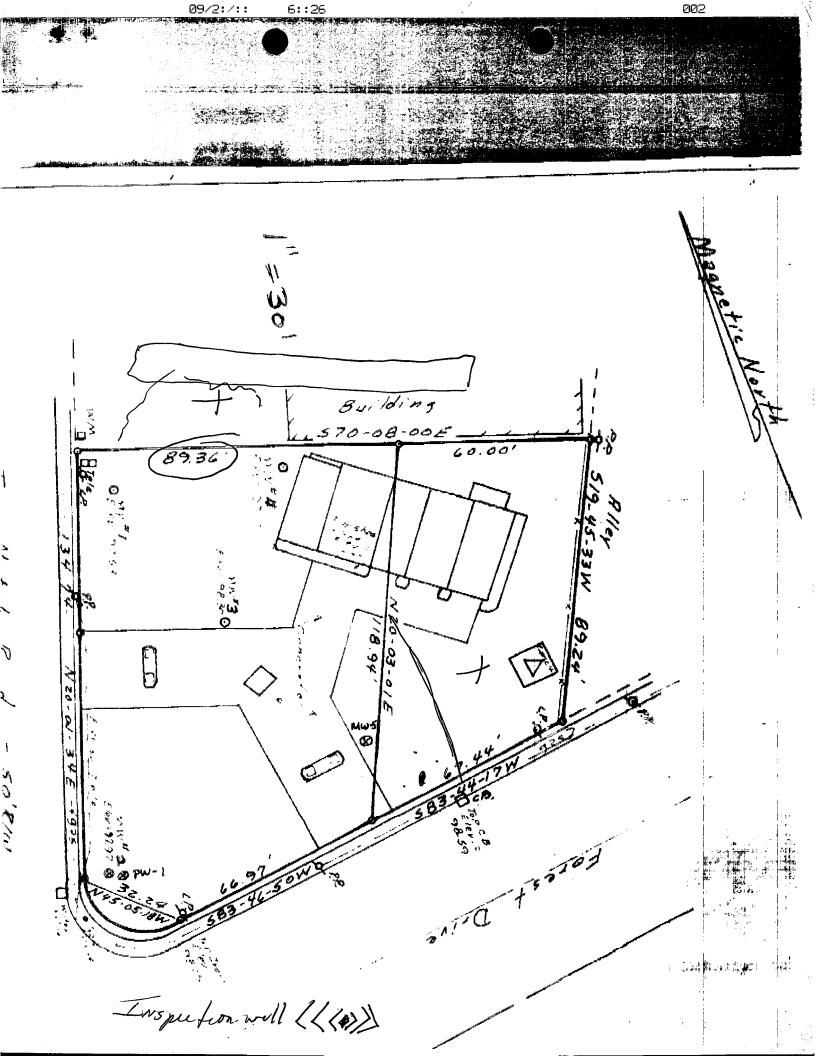
If you have any questions or comments regarding any of the above, please do not hesitate to give me a call at 754-3688.

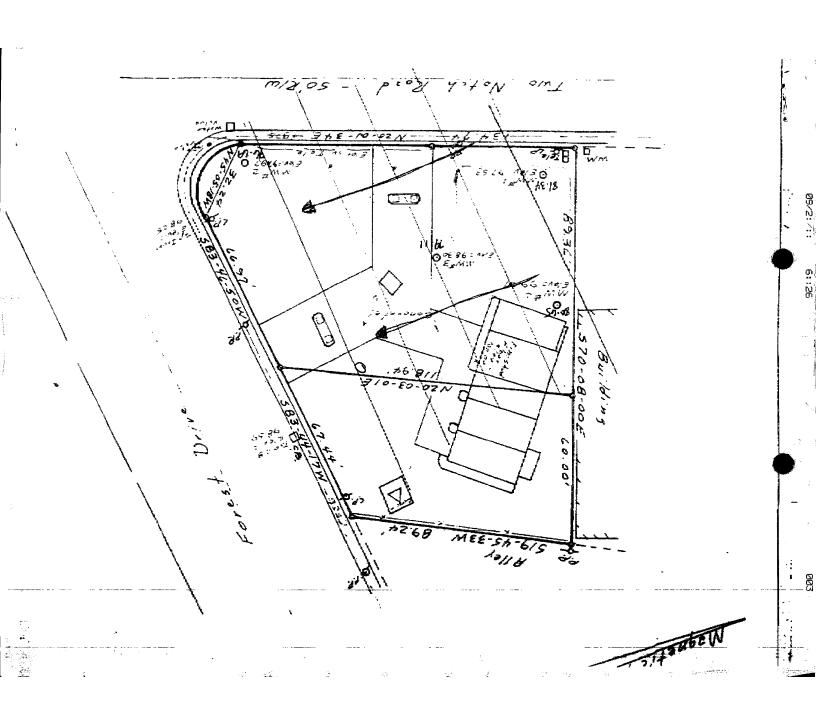
Sincerely,

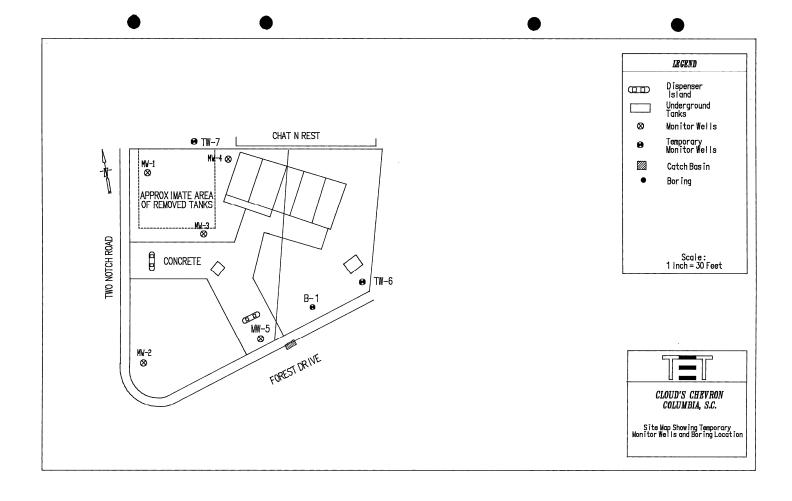
Jan Reynolds Project Manager

cc: Mr. Wallace M. Scott

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March 31, 1993

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

RE:

Cloud's Chevron Columbia, SC GWPD ID #12352

CP #0202 - Interim TET Invoice #663

Dear Mr. White:

Please find enclosed a copy of the monthly interim status report and associated invoice for the above referenced site.

If you have any questions or comments, please do not hesitate to give me a call at 754-3688.

Sincerely,

**Christy Smith** 

Chushy Smith

Accounts Receivable Manager

RECENTATION

MAR 3 1 1993

Groundwater Pro...

Division

UST PROGRAM #87 TECK

# EXPANDED ASSESSMENT UPDATE (Must be submitted with Invoice)

DATE 3 / 31 / 43 CP# 6202 INVOICE# 663
SITE ID#/PCAS# 12352 / SITE NAME Cloud's chevron
Percentage of EAP completed: 50 %  Date work initiated: 08 / 12 / 92 Established submittal date for AR: 63 / 15 / 93  Update prepared by: Jan Reynlos
Significant EAP accomplishments performed since previous update  1. Completed deep well PW-1 on 3/25/93
2. <u>Sampled PW-1</u> on 3/26/93
3
4
5. Groundwater Protection Division  6



March 26, 1993

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

MAR 2 9 1993

Groundwater Francisco

RE: Cloud's Chevron-Columbia - Richland County GWPD ID #12352

Division

CP #0202

UST PROGRAM

Dear Mr. White:

Per our conversation about the need to proceed with work at Cloud's in acquiring offsite access, the following narrative is a chronology of events that have taken place to obtain permission.

September 12, 1992. Comprehensive survey was attempted by Kyle McLamb. Mr. Jack Lee, the adjacent property owner, threatened the surveyor, therefore, the survey could not be completed. Drilling that had been scheduled for September 23 and 24, 1992 could not be performed until the property boundaries could be established.

September 21, 1992. Spoke with Mr. Wallace Scott about property boundaries and he informed me of the property dispute between himself and Mr. Lee.

September 24, 1992. Spoke with Mr. Scott's attorney, Gwendolyn Geidel and she sent TET paperwork showing that the dispute had been settled in court and the documentation about where the property lines were.

November 18, 1992. Installed monitor wells with police protection because Mr. Lee still disputed the boundary and would not allow TET access to our client's property. The wells were installed with the police present.

December 16, 1992. Requested permission from Mr. Lee in writing to install wells on his property.

December 22, 1992. Mr. Lee contacted TET and requested that we come on site to show him positions of wells. Jan Reynolds went to site and Mr. Lee signed the paperwork allowing TET to install the wells.

January 21, 1993. TET wrote a letter informing Mr. Lee that we would be onsite to install monitor wells on his property.

January 22, 1993. Mr. Lee called TET and told us he had changed his mind and that we could not come on his property. TET notified Mr. Jim White of SCDHEC.

January 26, 1993. Mr. White of SCDHEC wrote a letter and spoke to Mr. Lee requesting Mr. Lee allow TET to come on site.

January 27, 1993. TET arrived on site to install additional wells and again Mr. Lee refused us permission to come onto his property saying he had changed his mind. We again required police protection to install wells on our client's property.

February 18, 1993. Spoke with Jim White of SCDHEC and requested help from SCDHEC in obtaining offsite permission and he told us that per a conversation with Mr. Stan Clark our client was responsible for obtaining the offsite permission.

February 19, 1993. Spoke with attorney Tommy Lavender and explained situation and he told us that our client cannot obtain permission if the other owner refuses access. Mr. Lee still had not responded to SCDHEC letter.

March 9, 1993. TET contacted Stan Clark about offsite access and explained the situation. He requested that we document the fact that our client was unable to obtain offsite access.

March 10, 1993. TET wrote SCDHEC again requesting help obtaining offsite access giving them the information necessary to obtain the access. SCDHEC requested a chronology of events.

As you know from our conversation, no further work can be completed without permission to install wells on Mr. Lee's property. All analytical results indicate that there is significant contamination on Mr. Lee's portion of Cloud's Chevron and plume delineation cannot be completed without the access. If you have any questions or comments regarding any of the above, please do not hesitate to give me a call at 754-3688.

Sincerely,

Jan Reynolds
Project Manager

cc: Mr. Wallace M. Scott



Board: William E. Applegate, III, Chairman John H. Burriss, Vice Chairman Richard E. Jabbour, DDS, Secretary

Promoting Health, Protecting the Environment

Toney Graham, Jr., MD Sandra J. Molander John B. Pate, MD Robert J. Stripling, Jr.

May 20, 1992

Rank 1

Mr. Britt Ransom
Environmental Scientist
Tank & Environmental Testing, Inc.
1700 Ala Vista Drive, Suite 10
Columbia, SC 29223

Re: Underground Storage Tank (UST) Abandonment

**GWPD Site ID#:** N-40-NO-12352

Cloud's Chevron

1600 Two Notch Rd., Columbia

Dear Mr. Ransom:

The South Carolina Department of Health and Environmental Control has received the thirty day permanent abandonment notification for the UST system at the above referenced facility. The UST system may be abandoned at any time after receipt of this letter. The Department, however, <u>MUST</u> be notified during normal business hours by calling the Underground Storage Tank Section, telephone number listed below) no later than 48 hours prior to the abandonment.

Please refer to the enclosed assessment guidelines to assure a complete and proper assessment report is submitted to the Department. An extra copy of this letter is provided for you to include with your assessment.

On <u>all correspondence</u> concerning this site, please reference the Permit ID number listed above. If you have any questions regarding these requirements, please do not hesitate to contact the Underground Storage Tank Section at (803) 734-5331.

Sincerely,

Jeri Hagell, Environmental Technician

Underground Storage Tank Section
Ground-Water Protection Division

Ground-Water Protection Division
Rureau of Drinking Water Protection

Bureau of Drinking Water Protection

UST PROGRAM LOOTECK

/jh

Enc: Abandonment Guidelines

cc: Central Midlands EQC District (803/935-7015)



Rank 1 Pd 1-40-NO-12352

May 12, 1992

Mr. James L. White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201 Joseph See 2 Noteth rutel 29284

Re: Tank Removal Assessment Waiver Cloud's Chevron, Columbia, S.C. Site 1D # 12352 1600 2 notch w

Dear Mr. White

On December 18, 1991, Tank and Environmental Testing (TET) conducted a preliminary subsurface assessment in order to document the subsurface conditions at the referenced facility. The report was submitted to the Department on December 31, 1991. Laboratory analyses of groundwater samples collected from three SCDHEC approved temporary wells revealed substantial impact to groundwater quality. A copy of the laboratory analyses and the site map detailing the three temporary well locations is included in this letter. Currently an Expanded Assessment Plan is being prepared for this site.

On behalf of Mr. Wallace Scott, the owner of the USTs, TET requests permission to excavate and remove the tanks and by way of this letter furnishes the Department with the required thirty day prior notice. Due to the documented groundwater contamination and the preparation of a groundwater investigation plan, it is also requested that the normally required environmental closure assessment be waived when the underground storage tanks are removed.

If you have any questions or require any additional information, please call (803) 754-3688.

Sincerely,

Britt Ransom Environmental Scientist

cc. Mr. Wallace Scott

Gwen Giedel Woodward, Leventis, Unger, Herndon & Cothran



May 12, 1992

Mr. James L. White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

Re: Tank Removal Assessment Waiver Cloud's Chevron, Columbia, S.C. Site (D) 12352

Dear Mr. White Children

On December 18, 1991, Tank and Environmental Testing (TET) conducted a preliminary subsurface assessment in order to document the subsurface conditions at the referenced facility. The report was submitted to the Department on December 31, 1991. Laboratory analyses of groundwater samples collected from three SCDHEC approved temporary wells revealed substantial impact to groundwater quality. A copy of the laboratory analyses and the site map detailing the three temporary well locations is included in this letter. Currently an Expanded Assessment Plan is being prepared for this site.



On behalf of Mr. Wallace Scott, the owner of the USTs, TET requests permission to excavate and remove the tanks and by way of this letter furnishes the Department with the required thirty day prior notice. Due to the documented groundwater contamination and the preparation of a groundwater investigation plan, it is also requested that the normally required environmental closure assessment be waived when the underground storage tanks are removed.

If you have any questions or require any additional information, please call (803) 754-3688.

Sincerely,

Britt Ransom

for RANOM

Environmental Scientist

cc. Mr. Wallace Scott

Gwen Giedel Woodward, Leventis, Unger, Herndon & Cothran

## SAMPLE PROGRESS REPORT

Land and Lab Technology

Sample I.D. GG14865
Status: In validation queue
Purchase order number: SITECC4
Project account code:
Location code: TETCOL98
Sample collector: ROBERT MODZEL

Date collected: 12/18/91 Date submitted: 12/18/91

Due date: 01/26/92

Specification checking: off

Descript: TANK & ENVIRONMENTAL TESTING

Analysis	Result	Unit	Finished	Analy
make many reads a trans to being anythe anythe states being being being about the states being b				
BTEX IN WATER	completed	ppb	12/19/91	BC

Multicomponent analysis data for parameter \$GC-0005

Component name	Concentration	Component MDL
Benzene	5083	50
Toluene	7136	50
Ethylbenzene	1630	50
Total Xvlene	7050	50

Comments for sample GG14865

CLOUD CHEVRON

004

REC BY MARCI HENDERSON/MLH

End of progress report on sample: GG14865

### SAMPLE PROGRESS REPORT

Land and Lab Technology

Sample I.D. GG14863

Status: In validation queue

Purchase order number: SITECC1

Project account code:

Location code: TETCOL98

Sample collector: ROBERT MODZEL

Date collected: 12/18/91 Date submitted: 12/18/91

Due date: 01/26/92

Specification checking: off

Descript: TANK & ENVIRONMENTAL TESTING

Analysis	Result	Unit	Finished	Analy
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BTEX IN WATER	completed	biap	12/19/91	BC

Multicomponent analysis data for parameter \$60-0005

Component name	Concentration	Component MDL
SHEET SHEET A THE STATE SHEET COLD STATE SHEET COLD SHEET SH		agen grow units binns source quite report speed black before these agents apply
Benzene	14133	50
Toluene	33186	50
Ethylbenzene	5196	50
Total Xy <b>lene</b>	25196	50

Comments for sample GG14863

CLOUD CHEVRON

CC1

REC BY MARCI HENDERSON/MLH

End of progress report on sample: GG14863

## SAMPLE PROGRESS REPORT

Land and Lab Technology

Sample I.D. GG14864

Status: In validation queue Purchase order number: SITECC2

Project account code:

Location code: TETCOL98

Sample collector: ROBERT MODZEL

Date collected: 12/18/91 Date submitted: 12/18/91

Due date: 01/26/92

Specification checking: off

Descript: TANK & ENVIRONMENTAL TESTING

Analysis	Result	Unit	Finished	Anal
and the control of th				
BTEX IN WATER	completed	ppb	12/19/91	BC

Multicomponent analysis data for parameter \$GC-0005

Component name	Concentration	Component MDL
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Benzene	35436	100
Toluene	<b>5</b> 5252	100
Ethylbenzene	5845	100
Total Xylene	25860	100

Comments for sample GG14864

CLOUD CHEVRON

002

REC BY MARCI HENDERSON/MLH

End of progress report on sample: GG14864

# CLOUDS CHEVRON COLUMBIA, S.C. ROON ROOM ROOM CHAT N REST MOTEL TV-4 NOTEL Office TV-3 TW-1 $\otimes$ HANDY PANTRY <u>\_i</u> TAYLOR STREET LEGEND Diesel Dispenser Island Gasoline Dispenser Island $\times\times$ Fence Temporary Well $\otimes$

Figure 1. Site Map Showing Temporay Well Locations

Scale: 1 Inch = 50 Feet





Board: William E. Applegate, III, Chairman John H. Burriss, Vice Chairman Richard E. Jabbour, DDS, Secretary

Promoting Health, Protecting the Environment

Toney Graham, Jr., MD Sandra J. Molander John B. Pate, MD Robert J. Stripling, Jr.

March 18, 1992

Wallace M. Scott Cloud's Chevron 1600 Two Notch Rd. Columbia, SC 29204

Re: CLOUD'S CHEVRON
GWPD Site ID # 12352
Release Report dated December 30, 1991
RICHLAND County

DOCKETINGA OF TECK

Dear Mr. Wallace:

The Ground-Water Protection Division (GWPD) of the South Carolina Department of Health and Environmental Control (SCDHEC) has received the above referenced release report. Free product and/or ground-water contamination at this site has been confirmed at levels that require rehabilitation. This letter addresses the following topics: SUPERB Qualification, Initial Abatement, Free Product Recovery, Checklists, Expanded Assessment Plan, SUPERB Payment of the Expanded Assessment Plan, SUPERB Payment of Initial Abatement, and Enforcement.

## **SUPERB** Qualification

Provided none of the exclusions listed in Section 44-2-110 of the State Underground Petroleum Environmental Response Bank Act (SUPERB) apply to this site, reasonable costs for site assessment and/or rehabilitation can be paid, either by direct billing or reimbursement, from the SUPERB fund in accordance with the enclosed SUPERB guidance. Prior to release of SUPERB funds, this office must have written confirmation from you of the existence (or nonexistence) of an environmental insurance policy or financial responsibility mechanism for this site and a written request for SUPERB funding. Please note that reimbursement or direct billing from the SUPERB Account cannot occur until all applicable tank registration fees have been paid. If there are outstanding fees for the subject facility, please contact the Finance and Data Management Section of the Ground-Water Protection Division.

## **Initial Abatement**

It is imperative that the cause of the release be identified and corrected in accordance with Section 280.62 of the SCUSTCR. If the underground storage tank (UST)

DOCKETING#

March 18, 1992 Page 2

system is still in operation or still contains product, the immediate removal of the product from the UST system and/or immediate performance of a complete system test must be performed. Confirmation of product removal or current results of tightness tests which verify that all existing systems (i.e. USTs and associated lines) are not leaking, must be submitted on or before June 12, 1992, in accordance with Sections 280.52 and 280.62 of the SCUSTCR. SUPERB funding cannot be made available until the source of the release is stopped.

## Free Product Recovery

In accordance with Section 280.64 of the SCUSTCR, if free product has been indicated at the site, please begin free product removal to the maximum extent as practicable and in a manner that minimizes the spread of contamination.

### Checklist

Please complete the enclosed standardized checklist and submit with the above required documentation. These checklists will assist you in understanding your responsibilities as well as expediting the assessment of the sites' contamination.

## **Expanded Assessment Plan**

The extent and severity of soil and ground water-contamination at this site must be investigated pursuant to Section 280.65 of the SCUSTCR. In an effort to expedite activities, streamlining of the assessment phase is being promoted. If your response action contractor participates in the streamlining activities, the Expanded Assessment Plan (EAP) would include specifications for the complete assessment (e.g. a sufficient number of well locations, water quality evaluation, aquifer property evaluations) such that a complete Corrective Action Plan can be prepared. This expanded assessment initiative will be allowed only to Responsible Parties and/or Contractors who perform work associated with the UST Regulatory Section and/or the UST State Corrective Action Section. Please read the enclosed Assessment Guidance for a complete explanation of the streamlining option.

## **SUPERB** Payment of the EAP

The requested EAP (2 copies) must be submitted on or before June 12, 1992. If the Assessment Plan is to be implemented under a Cost Proposal from the Contractor, the Cost Proposal must be submitted with the EAP. If a Cost Proposal is not submitted with the plan, cost for EAP implementation can be recovered through reimbursement or Direct Contractor Payment. The cost associated with preparation and submittal of the EAP may be recovered through Direct Contractor Payment or reimbursement. Please note; Direct Contractor Payment Invoices for preparation and submittal of the EAP submitted with the EAP will be processed upon submittal to the SCDHEC.

March 18, 1992 Page 3

## **SUPERB Payment of Initial Abatement**

Cost associated with abatement actions (see Sections 280.61 through 280.63 of the SCUSTCR) may be recovered through reimbursement to the Responsible Party or Direct Contractor Payment to the Contractor. This office will not accept Cost Proposals for the work associated with compliance to Sections 280.61 through 280.63 of the SCUSTCR. Please read the enclosed SUPERB guidance for further elaboration on the financial aspects of payment.

## **Enforcement**

The SCDHEC expects all Responsible Parties to comply with the activities required in Sections 280.61 - .64 of the SCUSTCR and of the requests made in this correspondence. Failure to comply with these regulations and/or requests may result in initiation of enforcement action against the Responsible Party.

On all future correspondence related to this site, please reference the **GWPD Site ID Number.** Questions concerning the above should be addressed to the Ground-Water Protection Division at 734-5331.

Sincerely,

James R. Hess, P.G., Manager UST Corrective Action Section Ground-Water Protection Division Bureau of Drinking Water Protection

enclosures

cc:

Central Midlands District EQC Robertha Dorsey, GWPD

# Woodward, Leventis, Unger, Daves, Herndon & Cothran Attorneys at Law

JAMES C. LEVENTIS RICHARD M. UNGER GARY R. DAVES EDWARD M. WOODWARD, JR WARREN R. HERNDON, JR. DARRA W. COTHRAN

SOUTH CAROLINA FEDERAL SAVINGS BANK BUILDING 1500 HAMPTON STREET, SUITE 400 POST OFFICE BOX 12399 COLUMBIA, SOUTH CAROLINA 29211 TELEPHONE (803) 799-9772 FACSIMILE (803) 779-3256

JOHN E EDENS (1896-1963)

OF COUNSEL: EDWARD M WOODWARD, SR. GWENDELYN GEIDEL JAMES S. GUIGNARD

JOHN VON LEHE CHARLESTON, S.C. OFFICE (803) 849-1016

January 31, 1992

Mr. Stan Clark Ground Water Protection Division Underground Storage Tanks S. C. Department of Health and Environmental Control 2600 Bull Street 29201 Columbia, South Carolina

Cloud's Chevron

Permit ID: N-40-NO-12352

Dear Mr. Clark: Stan :

On December 30, 1991, Tank and Environmental Testing submitted a report of a release to Mr. Chris Doll on behalf of my client Mr. Wallace Scott. It had been Mr. Scott's understanding that ETE would submit their invoice directly to your office for reimbursement if the site were contaminated. I have learned from Mr. Scott today that an invoice was not submitted for the testing of the property. Therefore, I am enclosing a copy of the invoice as well as a copy of the release report cover page and would request that Mr. Scott be reimbursed for these expenses under the SUPERB fund.

If I can provide any additional information or be assistance, please contact me.

Yours very truly,

WOODWARD, LEVENTIS, UNGER, DAVES HERNDON & COTHRAN

Gwendelyn Geidel

enclosure

cc: Chris Doll

Wallace Scott

UST PROGRAM 103 Teck



January 3, 1991

Mr. W. M. Scott 6423 Monticello Road Columbia, S.C. 29203

Dear Mr. Scott:

Enclosed is an invoice and a copy of the report for the subsurface investigation conduted at Cloud's Chevron. The report for the site was personally delivered by TET to SCDHEC on or before December 31, 1991 which is the SUPERB "grace period" deadline.

The report indicates that contamination exists in the ground water at your location and SUPERB funds for any further investigation have been requested.

Thank you for the opportunity to perform these services for you. If you have questions concerning the invoice or report, please call 754-3688.

sincerely,

Dr. Richard Andrews Director of Operations

Dr. Rihard Andrews



## INVOICE

DATE	OF	INVOICE:	January	3.	1992	INVOICE	<b>#:</b>	921-008
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CLIENT: Wallace M. Scott

FACILIT: Clouds Chevron

DATE OF WORK: December, 1991

NET DUE 30 DAYS. THANK YOU.

SERVICES:

Performance of subsurface assessment to investigate site impact by petroleum products.



December 30,1991

DEC 30 1991

GROUND-WATER

Mr. Chris Doll, Hydrogeologist Underground Storage Tank Section SCDHEC 2600 Bull Street Columbia, S.C. 29201

Re: Cloud's Chevron Site 1D 12352

Columbia, S.C.

PRELIMINARY SUBSURFACE INVESTIGATION AND SUPERB FUND REQUEST

Dear Mr. Doll:

Enclosed is the following for the referenced location:

- Completed S.C. Underground Storage Tanks Report of 1. Suspected/Confirmed Release form
- 2. Report for the preliminary subsurface investigation to include request for SUPERB funds

If you have any questions, please call (803) 754-3688.

Sincerely,

Dr. Richard M. Andrews

Dr. Richard Andrews Director of Operations

DOCKETING# 10 Greek

PATORAM DOCKETING #



John B. Pate, MD, Chairman William E. Applegate, III, Vice Chairman

John H. Burriss, Secretary

Promoting Health, Protecting the Environment

Toney Graham, Jr., MD Richard E. Jabbour, DDS Henry S. Jordan, MD Currie B. Spivey, Jr.

# S.C. UNDERGROUND STORAGE TANKS REPORT OF SUSPECTED/CONFIRMED RELEASE

TODAY'S DATE: $\frac{\sqrt{2}\sqrt{30/91}}{}$
REPORTED BY: Tank and Environmental Testing PHONE: (803) 754-3688
ADDRESS: 1700 Alta Vista Drive, Suite 110
Columbia, S.C. 29223
OWNER NAME: Wallace M. Scott PHONE: 754-4132
FACILITY NAME: <u>Cloud's Cheuron</u>
ADDRESS: 1600 Two Notch Rd.
Columbia, S.C.
s.c. ust registration #: 12352
DATE DISCOVERED: 12/18/91
HOW DISCOVERED: Preliminary Subsurface Investigation
TYPE OF PRODUCT RELEASED: <u>Petroleum Products</u>
HOW RELEASE OCCURRED: Unknown RECEIVED
MFC Z A 4004

mer 20 1881

GROUND-WATER

RES TAKEN: Preliminary Subsurface Investigation INITIAL CLEAN-UP MEASURES TAKEN:

SIGNATURE OF PERSON COMPLETING FORM: Dr. Rubard M. Andrews

Be sure to notify all other relevant parties (i.e., Facility Owner, Adjacent Property Owners, EPA, Fire Department, Etc.) and to follow the directives of Subpart E of the S.C. Underground Storage Tank Control Regulations,



Board: William E. Applegate, III, Chairman John H. Burriss, Vice Chairman Richard E. Jabbour, DDS, Secretary Toney Graham, Jr., MD Sandra J. Molander John B. Pate, MD Robert J. Stripling, Jr.

Promoting Health, Protecting the Environment

December 13, 1991

Tank and Environmental Testing, Inc. ATTN: Richard Andrews
1700 Alta Vista Dr., Suite 110
Columbia, SC 29223

RE: Temporary Monitor Well Approval

Cloud's Chevron Site

GWPD Site ID# 07777 & 12352

Dear Mr Andrews;

The temporary monitor well approval form is enclosed. Please submit the report of findings upon completion. The report should include, but not be limited to, a scaled well location map with total well depths, sample analytical results with appropriate chain of custody forms, and well abandonment procedures.

Be advised, while temporary monitor wells are approvable, the total cost of the assessment may not be considered reimbursable under the Superb Act. Also, per the SC Board of Certification Rules and Regulations (51-8H), these wells must be installed by a SC certified well driller.

On all correspondence concerning this site, please reference the GWPD Site ID number given above. If you should have any questions or comments, please call me at (803) 734-5331.

Sincerely,

Leigh Ann Britton, Hydrologist Underground Storage Tank Section

Leigh Ann Britton

Ground Water Protection Division
Bureau of Drinking Water Protection

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LAB/cc-t

Enclosure: Temporary Monitor Well Approval Form

cc: Paul Bristol, Central Midlands EQC Wallace M. Scott, Cloud's Chevron

UST PROGRAM DOCKETING # 105 Teck

DEC 16 1991

? recycled paper



Board: William E. Applegate, III, Chairman John H. Burriss, Vice Chairman Richard E. Jabbour, DDS, Secretary Toney Graham, Jr., MD Sandra J. Molander John B. Pate, MD Robert J. Stripling, Jr.

Promoting Health, Protecting the Environment

## Temporary Monitor Well Approval

Approval is hereby granted to:

Tank and Environmental Testing,

1700 Alta Vista Drive, Suite 110

Columbia, SC 29223

RE: Cloud's Chevron

1600 Two Notch Rd.

Columbia, SC

GWPD Site ID # 07777 & 12352

for the construction of five temporary monitoring wells designated TW-1 to TW-5 in accordance with the construction plans and specifications submitted on December 11, 1991.

These wells will be constructed to the approximate depth of "x" feet below the surface and screened in the shallow aquifer for the purpose of monitoring ground-water quality.

#### Conditions:

That the actual construction details for each well and the analytical results of the water samples be submitted with the assessment report upon completion.

That the DHEC District Hydrogeologist (Paul Bristol, be notified at least 72 hours prior installation.

This approval is pursuant to the provisions of Section 44-55-40 and Section 48-1 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71.

Date of Issue: December 13, 1991

Christopher S. Doll, P.G.

Underground Storage Tank Section Ground-Water Protection Division

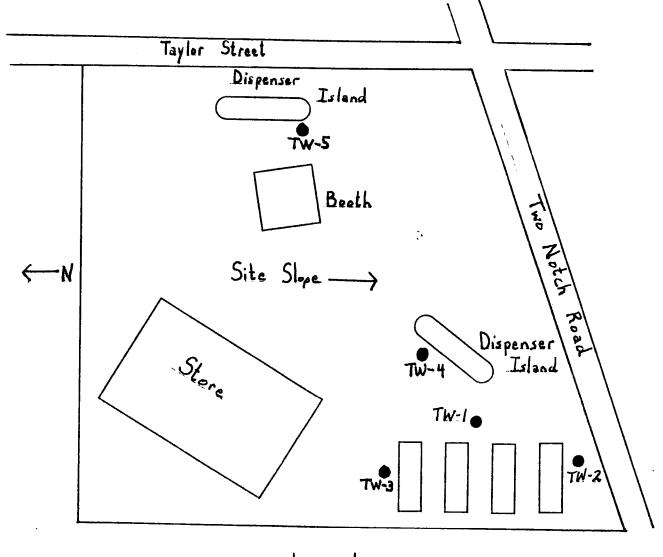
Bureau of Drinking Water Protection

LAB/cc-t TMW# 1213913040

cc: Paul Bristol, Central Midlands EQC

recycled paper

# CLOUD'S CHEVRON COLUMBIA, S.C.



Legend
Proposed Temporary Well

Proposed Temporary Well Location.



UST PROGRAM 106 Teck

December 11, 1991

Mr. Chris Doll Underground Storage Tank Section SCDHEC 2600 Bull Street Columbia, S.C. 29201 RECEIVED
DEC 1 2 1991

PROTECTION BUILTY

Re: Request for approval of temporary well installations at Cloud's Chevron located in Columbia, S.C.

Dear Mr. Doll:

On behalf of Wallace M. Scott of Columbia, S.C., Tank and Environmental Testing, Inc. requests approval to construct temporary wells and collect soil or ground-water samples for BTEX or TPH analysis at the following Wallace Scott location (Tank ID number included):

1. Cloud's Chevron 1600 Two Notch Road Columbia, S.C.

Tank ID# 12352

The proposed locations of the temporary wells in the areas of the tank basins, product piping, and dispensers are shown on the enclosed map. A detailed and scaled site map showing temporary well locations along with a report on the results of the investigation will be provided to SCDHEC after completion of the work.

The purpose of these subsurface investigations is to determine if the subsurface at these sites has been impacted by petroleum products and apply for SUPERB funds where appropriate before December 31, 1991. A previous subsurface investigation analyzing soil samples for BTEX and TPH had been submitted to the SCDHEC on December 27, 1989 previous to the ending of the initial SUPERB "grace period". On July 20, 1990, a letter based on the results of this assessment was written by Stan Clarke of the SCDHEC and sent to Wallace Scott stating no further investigation was required at the site (A copy of both the initial investigation and Mr. Clarke's letter is included with this request). Due to the conflicting low laboratory results with strong hydrocarbon odors noted during the fieldwork, we feel it necessary to collect and provide ground-water sample results in the report we will be submitting before the end of the current SUPERB "grace period" which is December 31, 1991. We feel approving this request will prevent the use of precious SUPERB money and SCDHEC time in the future for a phase of work which will be inevitable.

#### PROPOSED SCOPE OF WORK

The subsurface assessments at the site will include the installation of hand-auger borings in the areas of the underground storage tanks and the associated product lines and dispensers. borings will be advanced to auger refusal or to the water table, whichever comes first. Soil samples will be collected at three (3) foot intervals for analysis with an organic vapor analyzer (OVA) which has previously been calibrated to a known standard gas. A soil or ground-water sample will be collected at the deepest penetration of each boring for TPH or BTEX laboratory analysis. Ground-water samples will be collected after inserting two inch diameter, flush threaded, schedule 40 PVC casing and .01 inch slotted screen into the boring. The hand-augers and all extensions used in the investigations will be thoroughly decontaminated using an inorganic soap before initiation of the work and between each Subsequent to sample collection, borings will be properly abandoned by grouting to the surface.

The ground-water samples collected from each temporary well for laboratory analysis will be collected using proper well evacuation, sampling, and decontamination techniques and protocol. All ground-water quality samples will be kept at approximately 4 degrees Celsius throughout the operation and delivery to the laboratory. Dependent upon the type of fuel stored in the different tank systems, a BTEX or TPH laboratory analysis will be run on the soil or ground-water samples. Sample analyses will be completed by an analytical laboratory certified in the state of South Carolina.

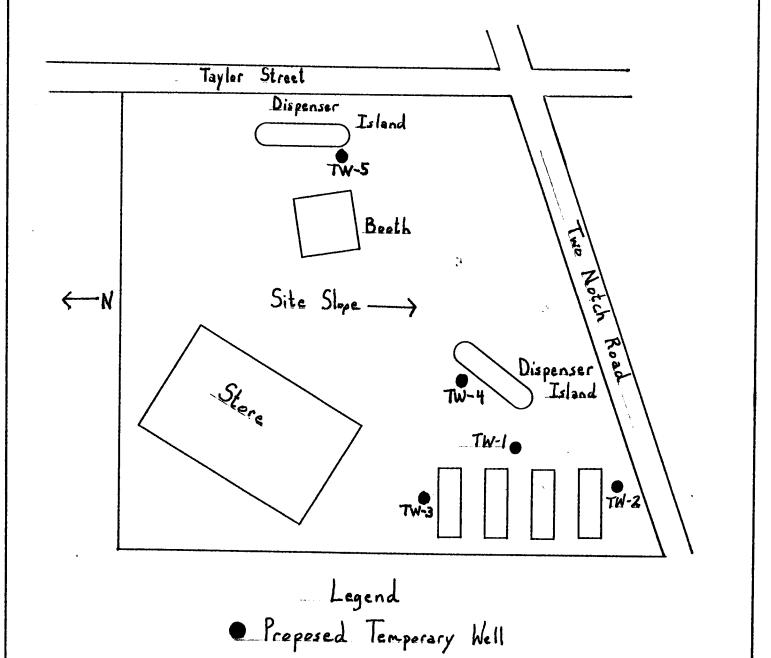
We hope the above information suffices in order to obtain the necessary approval. I know that in order for you to provide me with this temporary well construction approval in time to perform the necessary fieldwork, that it must be done immediately. I appologize for requesting this approval so late in December close to the deadline, but these services were just requested of TET today. If you have any questions or comments, please call 754-3688. Your assistance in this matter is appreciated.

Sincerely,

Dr. Richard Andrews Director of Operations

Dr. Richard Andrews

# CLOUD'S CHEVRON COLUMBIA, S.C.



Proposed Temporary Well Location

# James H. Carr & Associates, Inc. Office & Laboratories P.O. Box 90209 Columbia, SC 29290

12/29/89

Mr. William Wimberly Tank & Environmental Test 1700 Alta Vista Dr Columbia, SC 29223

Dear Mr. Wimberly:

The following are the results of the parameters you requested we check on your CLOUDS samples listed below.

Parameter	Analyst	Analysis Date	Analysis Time	Results	Lowest Detectable Level	Method #
12/23/89 In House # 12-9264-89	Source CC #1	Location				
Penzene - solid	FP	12/29/89	00:59	52.000 ug/kg	5.000 ug/kg	624
Toluene - solid	FP	12/29/89	00:57	370.000 ug/kg	5.000 ug/kg	624
Ethylbenzene - solid	FP	12/27/87	00:57	85.000 ug/kg	5.000 ug/kg	624
Xylene - solid	FP	12/29/89	00:59	185.000 ug/kg	5.000 ug/kg	624.
Coments:				- · · · · · · · · · · · · · · · · · · ·	,	
12/23/89 In House # 12-9265-89	Source CC #2	Location				
Hydrocarbon Scan (FID) - solid	FP	12/27/87	20:25	10.000 mg/kg	10.000 mg/kg	
Benzene - solid	FP	12/29/89	01:30	48.000 ug/kg	5.000 ug/kg	624
Toluene - solid	FP	12/29/89	01:30	95.000 ug/kg	5.000 ug/kg	624
Ethylbenzene - solid	FP	12/27/87	01:30 (		5.000 ug/kg	624
Xylene - solid	FP	12/29/89	01:30	20.000 ug/kg	5.000 ug/kg	624.
Coaments:						

Laboratory ID # 40111 Very trail yours,

James H. Carr, Jr.

Chemist

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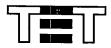
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March 26, 1993

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

RE: Cloud's Chevron-Columbia - Richland County

GWPD ID #12352

CP #0202

Dear Mr. White:

Per our conversation on 11/18/93 when you were onsite for the installation of MW-4, I requested that you open the cost proposal for the additional footage of this well (an additional 6'). This well was installed to 36' with a 20' length of screen because we were unsure of where the water would come to in the screen and the water was not rising in the well rapidly. Based on the information from this well, the additional wells were drilled to an appropriate depth with 15' screens. The interim was submitted and finance did not have the information I provided to you when you were onsite. I would appreciate it if this matter could be rectified.

If you have any questions or comments regarding any of the above, please do not hesitate to give me a call at 754-3688.

Sincerely,

Jan Reynolds Project Manager

cc: Mr. Wallace M. Scott

RECEIVED

Croundwater Protection
Division

UST PROGRAM #84
DOCKETING# Tech



March 10, 1993

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

RE: Cloud's Chevron-Columbia - Richland County GWPD ID #12352

CP #0202

Dear Mr. White:

Per our conversation of March 9, 1993, I spoke with Stan Clark yesterday and explained the problem of offsite access to him at Cloud's. He requested that I document the fact that our client has tried to obtain access and is not unwilling but unable to gain access from Mr. Lee. We spoke with Mr. Tommy Lavender and he said that our client cannot force Mr. Lee to allow us onto him property and under Section 44-2-80 of the SUPERB Legislation the Department can retain agents who shall operate under the discretion of the Department if a responsible party is unwilling or in this case unable to conduct the cleanup. I also told him that you had already sent a letter to Mr. Lee and he had not responded. He said that the Department can proceed further if I document the fact that we have tried. As I explained yesterday, I can proceed with no further assessment at this site without permission from Mr. Lee and also knowing what SPATCO has obtained from the Fast Point across the street.

If you have any questions or comments regarding any of the above, please do not hesitate to give me a call at 754-3688.

Sincerely,

Ju Reynolds

Jan Reynolds
Project Manager UST PROGRAM
DOCKETING#

cc: Mr. Wallace M. Scott

RECEIVET MAR 1 2 1993

Ground Patrick

(5) has violated any law of this State or has violated or exceeded the powers granted by its members;

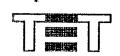
(6) has failed to pay any fees, taxes, or charges imposed in this State within sixty days after they are due and payable, or within sixty days after final disposition or any legal contest with respect to liability therefor; or

(7) has been found insolvent by a court of any other state, or by the Insurance Commissioner or other proper officer or agency of any other state, and has been prohibited from doing business in that state.

Section 44-2-80? Any person who releases a regulated substance from an underground storage immediately undertake to contain, tank shall release to the abate the remove, and However, the satisfaction of the department. undertaking to contain, remove, or abate a release must not be considered an admission of responsibility for the release by the person Notwithstanding action. requirement, the department may undertake the removal of the release and may contract and retain agents who shall operate under the discretion of the department if a responsible party is unwilling or unable to conduct the cleanup.

Section 44-2-90. (A) Any interest accruing on the Superb Account must be credited only to the Superb Account;

(B) The registration fee as described in Section 44-2-60(B) above must be paid by the owner of the underground petroleum tank to the department for a period of five years from the date of enactment of this chapter. Any funds remaining in the Superb Account after this five year period must be dedicated to a fund to be administered by the department for the purpose of cleaning up 'orphan' sites, defined as those sites which demand a cleanup but where liability has not been, or cannot be, clearly established.



February 1, 1993

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

DOCKLING 86 TECK

RE: Cloud's Chevron-Columbia - Richland County GWPD ID #12352

CP #0202

Dear Mr. White:

Per our conversations of January 26 and 27, 1993, I am requesting that the cost proposal be opened up for additional footage for the deep well and additional time for project coordination for the following reasons:

During the installation of the pit-cased well, split spoon samples revealed significant contamination at the 30 foot depth of the well it was paired with (MW-2). Therefore, stated methodology in the EAP, drilling continued to Therefore, following the approximately 50 feet in depth, when contaminant levels appeared to drop off significantly. A pilot hole using 7.5" augers was installed for the collection of split spoons and when the augers were removed, the borehole collapsed to approximately 25 feet due to a sand layer. I notified you of this event and requested that a 6" surface casing be installed through the center of the 10" augers and that the well be completed utilizing mud-rotary for the additional twenty feet. The cost proposal requested 50 feet for PW-1 and needs to be amended to 70 feet in total depth.

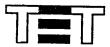
Additionally, ten more project coordination hours are being requested due to the difficulty in obtaining off-site access and obtaining police protection while on-site. More time than usual is spent due to the contentious nature of the adjoining property owner, Mr. Lee.

If you have any questions or comments regarding any of the above, please do not hesitate to give me a call at 754-3688.

Sincerely,

Project Manager

cc: Mr. Wallace M. Scott



# Tank & Environmental Testing, Inc.

February 1, 1993

Financie Depts.

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

RE: Cloud's Chevron-Columbia - Richland Cour

GWPD ID #12352

CP #0202

Dear Mr. White:

Per our conversations of January 26 and 27, 1993, I am requesting that the cost proposal be opened up for additional footage for the deep well and additional time for project coordination for the following reasons:

During the installation of the pit-cased well, split spoon samples revealed significant contamination at the 30 foot depth of the well it was paired with (MW-2). Therefore, following the stated methodology in the EAP, drilling continued to approximately 50 feet in depth, when contaminant levels appeared to drop off significantly. A pilot hole using 7.5" augers was installed for the collection of split spoons and when the augers were removed, the borehole collapsed to approximately 25 feet due to a sand layer. I notified you of this event and requested that a 6" surface casing be installed through the center of the 10" augers and that the well be completed utilizing mud-rotary for the additional twenty feet. The cost proposal requested 50 feet for PW-1 and needs to be amended to 70 feet in total depth.

Additionally, ten more project coordination hours are being requested due to the difficulty in obtaining off-site access and obtaining police protection while on-site. More time than usual is spent due to the contentious nature of the adjoining property owner, Mr. Lee.

If you have any questions or comments regarding any of the above, please do not hesitate to give me a call at 754-3688.

Sincerely,

Jan Reynolds

Project Manager

FEB 0 5 1993

Groundwater Proceedion

Division

cc: Mr. Wallace M. Scott



# Tank & Environmental Testing, Inc.

February 3, 1993

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

RE:

Cloud's Chevron Columbia, SC GWPD ID #12352 CP #0202 - Interim TET Invoice #563

Dear Mr. White:

Please find enclosed a copy of the monthly interim status report and associated invoice for the above referenced site.

If you have any questions or comments, please do not hesitate to give me a call at 754-3688.

Sincerely,

Chush, Smith

Christy Smith Accounts Receivable Manager

UST PROGRAM 87 TECH DOCKETING#

# EXPANDED ASSESSMENT UPDATE (Must be submitted with Invoice)

DATE 02   01   93 CP# 020 2 INVOICE# 563
SITE ID#/PCAS# 12352   SITE NAME CLOUD'S CHEURON
Percentage of EAP completed: 50 %
Date work initiated: 08 1 12 1 92 Established submittal date for AR: 03 1 15 1 93
Update prepared by: Jan Reynolds
Significant EAP accomplishments performed since previous update
1. Obtained permission from Mr. Jack Lee to install
1. Obtained permission from Mr. Jack Lee to install monitor wells on his property. This permission was
later rescinded.
2. Installed surface Casing of PW-1 + to 50 feet.
We return at a later date to finish well utilizing
mud rotary
3 Total Well Mars From Total 1903 Killman Heal
3. Installed MW-5 on Jan. 26, 1993. Submitted  Soil sample for analysis. Sampled MW-5
on January 29, 1993.
0
4
5
6.

# P 236 631 901



# Receipt for Certified Mail

No Insurance Coverage Provided Do not use for International Mail (See Reverse)

<u> </u>	
Mr. Jack Lee	.,,
Street and No. c/o Chat n' Rest	. Motel
P.O., State and ZIP Code 1608 Two Notch R	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

January 26, 1993 Jim White

Form 3800, June 1991

(S)

SC

# CERTIFIED MAIL FEE, AND CHARGES FOR ANY SELECTED OPTIONAL SERVICES (see front). STICK POSTAGE STAMPS TO ARTICLE TO COVER FIRST CLASS POSTAGE,

- 1. If you want this receipt postmarked, stick the gummed stub to the right of the return address leaving the receipt attached and present the article at a post office service window or hand it to your rural carrier (no extra charge).
- 2. If you do not want this receipt postmarked, stick the gummed stub to the right of the return address of the article, date, detach and retain the receipt, and mail the article.
- 3. If you want a return receipt, write the certified mail number and your name and address on a return receipt card, Form 3811, and attach it to the front of the article by means of the gummed ends if space permits. Otherwise, affix to back of article. Endorse front of article RETURN RECEIPT REQUESTED adjacent to the number.
- 4. If you want delivery restricted to the addressee, or to an authorized agent of the addressee, endorse RESTRICTED DELIVERY on the front of the article.

7

- 5. Enter fees for the services requested in the appropriate spaces on the front of this receipt. If return receipt is requested, check the applicable blocks in item 1 of Form 3811.
- 6. Save this receipt and present it if you make inquiry.

⇔ U.S. GPO: 1991—302-916

### **United States Postal Service**

**Official Business** 

Groundwater protection



Print your name, address and ZIP Code here

Mr. Jim White
Dept. of Health & Env. Control
Ground-Water Protection Div.
2600 Bull St.
Columbia, SC 29201

38	- Service Ser	C. J.
• Complete items 1 and/or 2 for • Complete items 3, and 4a & b. • Print your name and address of that we can return this card to you • Attach this form to the front of back if space does not permit. • Write "Return Receipt Request the article number.  3. Article Addressed to:  Mr. Jack Lee C/O Chat n' Rest Me 1608 Two Notch Rd. Columbia, SC 2922.	the reverse of this form so bu.  If the mailpiece, or on the sed" on the mailpiece next to  4a. Article P 2  4b. Ser Certicle Register Certicle Expression	I also wish to receive the following services (for an extra fee):  1.
5. Signature (Addressee)		ressee's Address (Only if requested fee is paid)
6. Signature (Agent)		
PS Form <b>3811</b> , October 1990	±U.S. GPO: 1990273-861 DC	OMESTIC RETURN RECEIPT



Interim Commissioner: Thomas E. Brown, Jr.

Board: John H. Burriss, Chairman Richard E. Jabbour, DDS, Vice Chairman Robert J. Stripling, Jr. Secretary William E. Applegate, III, Toney Graham, Jr., MD Sandra J. Molander John B. Pate, MD

Promoting Health, Protecting the Environment

January 26, 1993

### CERTIFIED MAIL

Mr. Jack Lee c/o Chat n' Rest Motel 1608 Two Notch Road Columbia, S.C. 29223

Re: Monitoring Well Installation GWPD Site ID #12352

Richland County

Dear Mr. Lee:

The South Carolina Department of Health and Environmental Control (SCDHEC) has determined that Mr. Wallace Scott is responsible for defining the extent and severity of ground-water contamination that originated from the underground storage tanks, associated piping, and/or spills at Cloud's Chevron. To achieve this goal, Tank & environmental Testing proposed that monitoring wells be located on your property adjacent to the property owned by Mr. Scott. The plan was reviewed and approved by this office. The consultant has since indicated to SCDHEC your resistance to allow assessment to proceed in a timely manner.

During these times of inactivity, contaminants are migrating unabated, and as a result, the areal extent of the contaminant plume is expanding. Consequently, the length of time recovery operations will run (if required) will be longer unless more recovery wells are installed and/or recovery is initiated quickly.

Pursuant to the Underground Storage Tank Regulations (R.61-92), Wallace Scott is the responsible party for addressing the existing contamination. In addition, SCDHEC has the authority under the South Carolina Pollution Control Act (44-1-90.B and 44-1-50.4) to require property owners to abate contamination problems on their property. The State Supreme Court, in a case similar to this, has held property owners liable as well. SCDHEC believes it would be in your best interest to allow Mr. Scott and his contractor (Tank & Environmental Testing) address contamination problem, as they, until now, have done.

It is my understanding that you are aware of the planned monitor well locations per a conversation with Jan Reynolds of Tank & Environmental Testing and from correspondence from her dated December 16, 1992. SCDHEC requests that you allow the installation of these wells to proceed in a timely manner. If not, a court order will be pursued by this office in order to gain access to the property.

UST PROGRAM 88 TEEK

Mr. Lee: January 26, 1993 page 2

On all correspondence concerning this site, please reference GWPD Site ID #14046. If you have any questions please feel free to call Jim White at (803) 734-5602.

Sincerely,

Christopher S. Doll, P.G. Manager
UST Corrective Action Section
Ground-Water Protection Division
Bureau of Drinking Water Protection

CHATNRES.193

CC: Paul Bristol, Central Midlands District EQC Jan Reynolds, TET, Inc. Jim White, GWPD

# SOUTH CAROLINA DEPARTMENT OF HEATH AND ENVIRONMENTAL CONTROL

J. MARION SIMS BUILDING • COLUMBIA, SOUTH CAROLINA 29201 PHONE 803-734-5000

TO: FILE  FROM: JAMES L. WHITE  RE: CLOUD'S CHEVRON *12352	UST PROGRAM 89 TECK DOCKETING# SOLETING # SO
THAT WE WERE NOT TO COM	N REYNOLDS OF TET WORLD SITE DRILLING MR. LEE STATED



Interim Commissioner: Thomas E. Brown, Jr.

Board: John H. Burriss, Chairman Richard E. Jabbour, DDS, Vice Chairman Robert J. Stripling, Jr. Secretary

Promoting Health, Protecting the Environment

January 18, 1993

William E. Applegate, III, Toney Graham, Jr., MD Sandra J. Molander John B. Pate, MD

Jim White

Ms. Mary Ryerse, Business Manager Tank & Environmental Testing, Inc. 1700 Alta Vista Drive, Suite 110 Columbia, S.C. 29233

Re: Cloud's Chevron
GWPD ID# 12352, PCAS 7611
Invoice Number 463, CP #0202
Richland County

Dear Ms. Ryerse;

The S.C. Department of Health and Environmental Control (SCDHEC) has reviewed Tank & Environmental Testing, Inc. invoice numbered 463 for the referenced facility.

The invoice submitted totaled \$7,627.87. That invoice has been approved for \$7,405.87; and, represents the second invoice against Cost Proposal #0202. A retainer of <\$740.59> along with any previously held retainer(s) will be withheld until the documentation/report of the related technical work has been reviewed and/or approved by the SCDHEC. A check for \$6,665.28 will be processed and sent to Tank & Environmental Testing, Inc. in approximately three to four weeks.

An amount totaling \$222.00 has been denied. This amount represents the following:

(1) \$222.00: "Well Drilling" - EAP IMPLEMENTATION.
Your submitted and approved Cost Proposal indicated drilling of MW-4 to a total of 30 feet, at \$37.00 per foot. Whereas, you invoiced MW-4 for a total of 6 feet in excess of your Cost Proposal.

You may seek payment/reimbursement for the item number listed above via the Direct Contractor Method, if that item can be properly documented and/or technically justified.

The above invoice has since been changed accordingly, so that it could be properly processed. Therefore, please make the necessary changes to your invoice copy.

DOCKETING# 90 Tech

Page 2 Ms. Mary Ryerse January 18, 1993

If you have any questions, feel free to call J.C. Jones at (803) 734-0032.

> Sincerely, pro P. Spenen

Janet R. Sheridan, Manager Financial & Data Management Section Ground-Water Protection Division

Bureau of Drinking Water

JCJ/12352-2

Jim White, UST State Corrective Action Section Mr. Wallace M. Scott, 6423 Monticello Road, Columbia, SC 29203

A-JIMW.

# WOODWARD, LEVENTIS, UNGER, DAVES, HERNDON & COTHRAN Attorneys at Law

JAMES C. LEVENTIS
RICHARD M. UNGER
GARY R. DAVES
EDWARD M. WOODWARD, JR.
WARREN R. HERNDON, JR.
DARRA W. COTHRAN

SOUTH CAROLINA FEDERAL SAVINGS BANK BUILDING
1500 HAMPTON STREET, SUITE 400
POST OFFICE BOX 12399
COLUMBIA, SOUTH CAROLINA 29211
TELEPHONE (803) 799-9772
FACSIMILE (803) 779-3256

JOHN E. EDENS (1896-1963)

OF COUNSEL:
EDWARD M. WOODWARD, SR. GWENDELYN GEIDEL
JAMES S. GUIGNARD

JOHN VON LEHE CHARLESTON, S.C. OFFICE (803) 849-1016

September 11, 1992

Mr. James R. Hess, P.G., Manager
UST Corrective Action Section
Ground-Water Protection Division
Bureau of Drinking Water Protection
S. C. Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RE: CLOUD'S CHEVRON

GWPD site ID # 12352

Richland County

UST PROGRAM 9/1ect

Dear Mr. Hess:

On January 31, 1992 an invoice was submitted to your office regarding reimbursement to Mr. Wallace Scott for his site evaluation costs. These costs were not direct billed, rather he paid them directly to Tank & Environmental Testing, Inc. Mr. Scott has not yet received acknowledgment of your receipt of his claim. I am writing to ensure that the necessary information was submitted to your office so that the claim can be processed and Mr. Scott reimbursed.

I have attached copies of my prior submittal and thank you for your consideration of this matter.

Yours very truly,

WOODWARD, LEVENTIS, UNGER,

DAVES HERNDON COTHRAN

Gwendelyn Geidel

Enclosure: January 31, 1992 letter

with attachments

cc: Mr. Scott

CHOURTH A 1998 retection



Commissioner: Michael D. Jarrett

Board: William E. Applegate, III, Chairman John H. Burriss, Vice Chairman Richard E. Jabbour, DDS, Secretary

Sandra J. Molander John B. Pate, MD Robert J. Stripling, Jr.

Toney Graham, Jr., MD

Promoting Health, Protecting the Environment

August 27, 1992
Expiration Date: October 16, 1992.

Mr. Wallace Scott 6423 Monticello Road Columbia, S.C. 29203

RE: Cloud's Chevron

GWPD Site ID #12352 Richland County

UST PROGRAM 92 PECK

Dear Mr. Scott:

This office hereby grants an extension of six weeks (until October 16, 1992) to Tank & Environmental Testing (TET) for thermal treatment of approximately 300 cubic yards of virgin petroleum contaminated soils from the referenced underground storage tank facility at the TPST facility in Sumter County.

The following restrictions apply to all thermally treated soils.

- 1. Prior approval must be obtained from the appropriate thermal treatment facility officials.
- 2. The waste must be compatible with the treatment facility and not adversely affect the safe and efficient operation of the unit.
- 3. There can be no spillage or leakage during transport.
- 4. The DHEC District Solid Waste Consultant (Bob Hudson) must be notified (935-7015) of your soil disposal location 72 hours in advance.
- 5. Weekend or holiday disposal is prohibited without prior notification of the District Solid Waste Consultant.
- 6. All State and Federal Air Quality Regulations must be strictly complied with.
- 7. This approval will be for one time only and is invalid after October 16, 1992.
- 8. If reimbursement from the State Underground Environmental Response Bank (SUPERB) Account is requested, copies of all laboratory data sheets, weight tickets, and disposal manifests must be provided to this office (retain originals in your own records).

Mr. Scott August 27, 1992 page 2

9. Approval of your request for treatment at the above referenced facility does not guarantee that all of the associated costs will be considered reasonable or reimbursable from the SUPERB Account.

Sincerely,

James L. White, Hydrogeologist UST Corrective Action Section Ground-Water Protection Division Bureau of Drinking Water Protection

JLW/jlw

CC: Paul Bristol, Central Midlands District EQC
Bob Hudson, Central Midlands District EQC
Larry Bunn, Air Quality Control
Harold Seabrook, Bureau of Solid & Hazardous Waste Management
Chip Bunce, TPS Technologies Inc.
Britt Ransom, TET

# EXPANDED ASSESSMENT UPDATE (Must be submitted with Invoice)

DATE 09 /2/ / 92 CP# 0202 INVOICE# 332
SITE ID#/PCAS# 12352   SITE NAME CLOUD'S CHEVRON
Percentage of EAP completed:%
Date work initiated: 08 / 12 / 92. Established submittal date for AR: 03 / 15 / 93
Update prepared by: Jan Reypolds
Significant EAP accomplishments performed since previous update
1. COMPREHENSIVE SITE SURVEY WAS ATTEMPTED ON SEPT. 12 192
ADTACENT PROPERTY OWNER THREATENED SURVEYOR, THEREFORE, SURVEY
COULD NOT BE COMPLETED DRILLING SCHEDULED FOR SEPT. 23 & 24, 1992. HAS BEEN POST PONED UNTIL BOUNDARIES (PROPERTY) CAN BE ESTABLISHED. 2.
3
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August 4, 1992

Ms. Angela L. Dillon
UST Corrective Action Section
Ground-Water Protection Division
Bureau of Drinking Water Protection
SCDHEC 2600 Bull Street
Columbia, S.C. 29201

UST PROGRAM 93 Tech-

Re: Soil Stockpile Removal
Cloud's Chevron - Columbia, S.C.
GWPD Site ID # 12352

RECEIVANGE A 1992

AUG 0 4 1992

Groundwater Protection

Division

Dear Ms. Dillon:

This letter is sent in order to provide you with a Cost Proposal to supervise the proper loading and hauling of the soil stockpile from the referenced site. In addition, a letter report will be generated detailing the removal procedures and including both transportation manifests and disposal manifests.

The Cost Proposal requests that 16 hours be made available for the purpose of supervision of the proper loading and hauling. This number of hours may seem excessive, but complications may arise in which these hours will be required. Please be reminded that should this number of hours be required, the Department will be immediately notified.

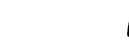
If you have any questions or require any additional information, please call (803) 754-3688.

Sincerely,

Britt Ransom

Post Parson

Project Manager





Commissioner: Michael D. Jarrett

Board:

William E. Applegate, III, Chairman John W. Burriss, Vice Chairman Richard E. Jabbour, DDS, Secretary Toney Graham, Jr., MD Henry S. Jordan, MD John B. Pate, MD Robert J. Stripling, Jr.

Promoting Health, Protecting the Environment

### July 21, 1992 Expiration Date: August 21, 1992.

Mr. Wallace Scott 6423 Monticello Road Columbia, S.C. 29203

RE: Cloud's Chevron

GWPD Site ID #12352

Richland County

UST PROGRAM 94 Tech DOCKETING # 94 Tech

Dear Mr. Scott:

This office hereby grants approval to Tank & Environmental Testing (TET) for thermal treatment of approximately 300 cubic yards of virgin petroleum contaminated soils from the referenced underground storage tank facility at the TPST facility in Sumter County.

The following restrictions apply to all thermally treated soils.

- 1. Prior approval must be obtained from the appropriate thermal treatment facility officials.
- 2. The waste must be compatible with the treatment facility and not adversely affect the safe and efficient operation of the unit.
- 3. There can be no spillage or leakage during transport.
- 4. The DHEC District Solid Waste Consultant (Bob Hudson) must be notified (935-7015) of your soil disposal location 72 hours in advance.
- 5. Weekend or holiday disposal is prohibited without prior notification of the District Solid Waste Consultant.
- 6. All State and Federal Air Quality Regulations must be strictly complied with.
- 7. This approval will be for one time only and is invalid after August 21, 1992.
- 8. If reimbursement from the State Underground Environmental Response Bank (SUPERB) Account is requested, copies of all laboratory data sheets, weight tickets, and disposal manifests must be provided to this office (retain originals in your own records).

Mr. Scott July 21, 1992 page 2

9. Approval of your request for treatment at the above referenced facility does not guarantee that all of the associated costs will be considered reasonable or reimbursable from the SUPERB Account.

Sincerely

James L. White, Hydrogeologist UST Corrective Action Section Ground-Water Protection Division Bureau of Drinking Water Protection

JLW/jlw

cc: Paul Bristol, Central Midlands District EQC

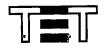
Bob Hudson, Central Midlands District EQC

Larry Bunn, Air Quality Control

Harold Seabrook, Bureau of Solid & Hazardous Waste Management

Chip Bunce, TPS Technologies Inc.

Britt Ransom, TET



## Tank & Environmental Testing, Inc.

Jim W. ?

July 15, 1992

Ms. Angela L. Dillon
UST Corrective Action Section
Ground-Water Protection Division
Bureau of Drinking Water Protection
SCDHEC 2600 Bull Street
Columbia, S.C. 29201

UST PROGRAM 95 Jech DOCKETING #

Re: Soil Stockpile Sampling and Removal Cloud's Chevron - Columbia, S.C.

GWPD Site ID # 12352

RECEIVEL

Groundwater Proteotion

Division

Dear Ms. Dillon:

This letter is sent in order to provide you with information regarding the soil stockpile at the referenced site. On May 28, 1992, Tank and Environmental Testing (TET) was on-site to excavate and remove the four underground storage tanks which had been located at Cloud's Chevron. At the direction of James L. White of the SCDNEC, additional soils were excavated from around and beneath the four USTs. Approximately 300 tons of soil are stockpiled on site.

On June 16, 1992, TET returned to the site to collect the soil samples necessary to implement a proper disposal plan. Ten composite samples were collected and submitted for laboratory analysis of BTEX and TPH (Method 3550). A copy of the laboratory analyses, the chain of custody and a site map detailing the

sampling locations has been included with this letter.

Thermal incineration will be required based on the levels of contamination in these soils. A letter requesting permission to load, haul and treat the soils at the Thermo Process System's (TPS) incinerator in Sumter S.C. has also been included.

If you have any questions or require any additional information, please call (803) 754-3688.

Sincerely,

Britt Ransom

Project Manager



# Tank & Environmental Testing, Inc.

June 19, 1992

Mr. James L. White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

Re: Cloud's Chevron, Columbia, S.C. Site ID # 12352

UST PROGRAM 96 TECK

Dear Mr. White:

The following provides you with the insurance information necessary to complete your file for the referenced site.

1. I do NOT have any other insurance which covers environmental site rehabilitation due to petroleum USTs at the referenced location.

If you any questions concerning the information provided, please contact:

Tank and Environmental Testing, Inc. 1700 Alta Vista Drive, Suite 110 Columbia, S.C. 29223 Phone (803) 754-3688

Sincerely,

W. M. Scott



### Commissioner: Michael D. Jarrett

Board: William E. Applegate, III, Chairman Toney Graham, Jr., MD John H. Burriss Vice Chairman Toney Graham, Jr., MD Toney Graham, J

Promoting Health. Protecting the Environment 2 1992

# GWPD INITIAL SITE CHARACTER EATION CHECKLIST

GWPD SITE ID # / 2 3 5 2	Division (Last five # of UST Registration)
Site Name Cloud's Chevron	Date Release Reported 12-30-9
CONTACT (PRINT) Mr. Wallace M.	Scott Phone # 754 - 4132

This checklist is to assist and inform the Responsible Party (RP) of activities required by the SC Underground Storage Tank Control Regulations. Timely compliance may significantly reduce the extent and severity of site contamination as well as time involved with site assessment and cleanup. You may answer the applicable items of this checklist on a separate sheet.

NOTE! ALL WELLS MUST BE INSTALLED BY A SC CERTIFIED WELL DRILLER. SAMPLES MUST BE ANALYZED BY A QUALIFIED SC CERTIFIED LAB. REPORT OF FINDINGS SHOULD FOLLOW ASSESSMENT GUIDELINES.

CHECKLIST FOR INITIAL SITE CHARACTERIZATION 280.63 A) Unless directed to do otherwise by the Department, owners and operators must assemble information about the site and the nature of the release, including information gained while confirming the release and completing the initial abatement measures in Section 280.60 and 280.61. This information must include, but is not necessarily limited to the following:

UNKNOWN TYPE OF PRODUCT RELEASED (i.e., gas, diesel).

WN KNOWN ESTIMATED QUANTITY OF RELEASE (VOLUME IN GALLONS).

THE FOLLOWING INFORMATION. INDICATE IF THIS WILL BE INCLUDED WITH AN EXPANDED ASSESSMENT PLAN (EAP).

\* SEE

TET EAP

June 12, 1992

- SURROUNDING POPULATIONS (APPROXIMATE NUMBER).
- 2) WATER QUALITY (FRESH, BRACKISH OR SALT WATER).
- 3) USE AND LOCATIONS OF ANY NEARBY WELLS (<500 FEET).
- 4) SUBSURFACE SOIL CONDITIONS (SOIL TYPES PRESENT).
- 5) SEWER AND UTILITY LINES (LOCATIONS ON A SCALED MAP).
- 6) WEATHER CONDITIONS (SEASON).
- 7) LAND USE (INDUSTRIAL, FARMING, RESIDENTIAL, RURAL).

YOU MUST SUBMIT THIS SHEET ALONG WITH THE REQUIRED INFORMATION/DOCUMENTATION TO; THE GROUND WATER PROTECTION DIVISION, 2600 BULL STREET, COLUMBIA, SC 29201  DOCKETING # 9711111111111111111111111111111111111	/

FOR DEPARTMENT USE ONLY

DATE INITIAL SITE CHARACTERIZATION REPORT RECEIVED



6162 920225

### Commissioner: Michael D. Jarrett

Board: William E. Applegate, III. Chairman John H. Burriss. Vice Chairman Richard E. Jabbour, DDS. Secretary

Toney Graham, Jr., MD Sandra J. Molander John B. Pate, MD Robert J. Stripling, Jr.

Promoting Health, Protecting the Environment

### GWPD INITIAL RESPONSE/ABATEMENT CHECKLIST

	GWPD SITE ID # 1 2 3 5 2 (Last five # of UST Registration)
	Site Name Cloud's Chevron Date Release Reported 12-30-91
	CONTACT (PRINT) Mr. Wallace M. Scott Phone # 754-4132
	This checklist is to assist and inform the Responsible Party (RP) of activities required by the SC Underground Storage Tank Control Regulations. Timely compliance may significantly reduce the extent and severity of site contamination as well as time involved with site assessment and cleanup. You may answer the applicable items of this checklist on a separate sheet.
	NOTE! ALL WELLS MUST BE INSTALLED BY A SC CERTIFIED WELL DRILLER. SAMPLES MUST BE ANALYZED BY A QUALIFIED SC CERTIFIED LAB. REPORT OF FINDINGS SHOULD FOLLOW ASSESSMENT GUIDELINES. COMPLETE THE FOLLOWING WITHIN 20 DAYS OF THE RELEASE DATE.
	CHECKLIST FOR INITIAL RESPONSE 280.61 Upon confirmation of a release in accordance with Section 280.52 or after a release for the UST system is identified in any other manner, owners and operators must perform the following initial response actions within 72 hours of a release;
* SEE June 12, 199, TET EAP	REPORT RELEASE TO THE DEPARTMENT WITHIN 72 HOURS.  PREVENT ANY FURTHER RELEASE INTO THE ENVIRONMENT (i.e., properly abandoning USTs, removal of petroleum product, or tank tightness testing).  IDENTIFY AND REDUCE ALL FIRE, EXPLOSION AND VAPOR HAZARDS (i.e., check for vapors in basements, sewers, underground utilities, etc.).
	CHECKLIST FOR INITIAL ABATEMENT MEASURES AND SITE CHECK 280.62  (A) Unless directed to do otherwise by the Department, owners and operators must perform the following abatement measures;
#. 	STOP THE RELEASE.  VISUALLY INSPECT UST SYSTEM FOR LEAKS AND REPAIR AS NEEDED.  CONTROL EXCAVATED SOILS, (SEE ASSESSMENT GUIDELINES).  SAMPLE FOR CONTAMINATION AROUND TANKS, PIPES AND DISPENSER (SEE ASSESSMENT GUIDELINES).  SAFELY REMOVE FREE PRODUCT FROM MONITOR WELLS, UST EXCAVATIONS, ETC., AS SOON AS POSSIBLE.
	YOU MUST SUBMIT THIS SHEET ALONG WITH THE REQUIRED INFORMATION/DOCUMENTATION TO; THE GROUND WATER PROTECTION DIVISION, 2600 BULL STREET, COLUMBIA, SC 29201
	FOR DEPARTMENT USE ONLY DATE INITIAL RELEASE REPORT RECEIVED DATE ABATEMENT REPORT RECEIVED



# Tank & Environmental Testing, Inc.

June 12, 1992

Mr. Jim White Ground-Water Protection Division SCDHEC 2600 Bull Street Columbia, S.C. 29201

JUN 1 2 1992

RE: Cloud's Chevron-Columbia - Richland County Division

EAP, Invoice and Cost Proposal

Dear Mr. White:

Please find enclosed a copy of the above referenced EAP and associated invoice. Also enclosed is a cost proposal to implement the proposal.

If you have any questions or comments regarding any of the enclosures, please do not hesitate to give me a call at 754-3688.

Sincerely,

Jan Reynolds Project Manager

cc: Mr. Wallace M. Scott

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	Description of Soil	Moisture Content	Contaminated by:					-	]
	Sand 1 Organic 1	0-10% U	Gas U Diesel U		(9) 4 AND	<b>,</b>	45.95	15.86	30.13
	Sand U Organic U Clay U Other U	0 - 10% U 10 - 20% U 20% - over U	Gas U Diesel U Other U				45.95	15.86	30.13
	Sand 1 Organic 1	0 - 10% U 10 - 20% U 20% - 0ver U 0 - 10% U	Gas U Diesel U Other U Gas U Diesel U				45.95	15.86	30.13
	Sand U Organic U Clay U Other U Sand U Organic U	0 - 10% U 10 - 20% Cl 20% - cycr Cl 0 - 10% U 10 - 20% U 20% - cycr U	Gas U Diesel U Other U Gas U Diesel U Other U			Address	45.95	15.86	30.13
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	Sand U Organic U Clay U Other U Sand U Organic U Clay U Other U Sand U Organic U Sand U Organic U	0 - 10% U 10 - 20% C 20% - over C 0 - 10% U 10 - 20% U 20% - over U 0 - 10% C 10 - 20% C 20% - over C	Gas U Diesel U Other U Gas U Other U Other U Gas U Other U U Gas U Diesel U			A	<b>५</b> इ.११	15.86	30.13
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a co.	Sand U Organic U Clay U Other U  Sand U Organic U Clay U Other U  Sand U Organic U Clay U Other U  List any exception to items listed  Generator's and/or cons. Data Sheet completed an  Frint or type Name:  Brill RANSS	0-10% U 10-20% C 20% - over C 0-10% U 10-20% C 20% - over C 0-10% C 10-20% C 20% - over C above:  above:  altant's certification ad certified by me/us control C  on: I/We acknowled	Gas U Diesel U Diesel U Other U Gas U Diesel U Other U Gas U Diesel U Other C	the soil referen	iced herein i. hove.	s taken entirely f	rom those soils	described in	the Soil Day Year Z 1 92
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<u> </u>	TPS Technologies Soil Recycling Non-Hazardous Soils Manifest									
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		re the receipt of the	soil covered by thi	s manifest exc	ept as not	ed above:				
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:	Manifes	t TPS	Technolo Non-I	ogies Se Hazardous	oil Rec Soils	ycling	■ Manifes	t# •	
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nerator and	Designated facility (Transport TPS Technolo 5090 Broad Sumter, SC		1 .	Miks (803)	494-488 e_Smith_ 494-564				
Ge	Transporter Name and Mailing Address:  G & K Transportation  Highway 76/378, West  Sumter, SC 29154				Tom_	494-269 Keels 494-859	C Hedrato	9.11 1.4	. <b> ····</b>
	Description of Soil	Moisture Content	Contaminated by	: Approx. Q	y: Desc	ription of Delive	ry Gross Weight	Tare Weight	Net Weight
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	Sumter, SC	Sumter, SC 29154				(803) 494-8598					
	Description of Soll	Moisture Content	Contaminated by:	أحجب وبماحته ويهوا	الاستيار والمستحددة والمرابع والمرابع	**************************************	Tare Weight	Net Weight			
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	Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received.										
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١	<u> </u>	TPS Technolo	ogies Inc.			304) -494-488	5	• •	•			
		5090 Broad	Street Ext	ension		Mike Smith						
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િહ	3	Transporter Name and Mading Address:				trendami A. V.						
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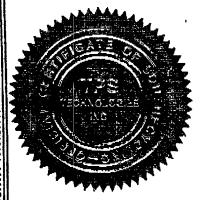
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ä	TPS Technologies Inc.				(804.)_494-4885_							
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10	G & K Transportation				(-	(803) 494-2694   Itap-pater [80] to						
11	Highway 76/378, West				Ton Keels							
11	Sumter, SC 29154				Tom Keels (803) 494-8598				Customer V. Sand Sandses all II's			
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	Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil										oil	
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1 1	Recycling Facility certif		····		#	ee and date		_//		/	-	

# Soil Recycling Certificate

THS Technologies Inc. does hereby certify
that 199.42 tons of petroleum - contaminated soil
received from

Cloud's Chevron 1600 Two Notch Road Columbia, SC 29204 DHEC GWP ID #12352

Under Manifest/authorization number 01-00127
has been properly recycled to approved regulatory standards
at our Soil Recycling Jacility in Sumter, South Carolina



Pated this 9th day of September, 1992
Sworn and Attested by:
THE Technologies Inc.

By: Mans Strath

/1



Commissioner: Michael D. Jarrett

Board: William E. Applegate, III, Chairman John W. Burriss, Vice Chairman Richard E. Jabbour, DDS, Secretary Toney Graham, Jr., MD Henry S. Jordan, MD John B. Pate, MD Robert J. Stripling, Jr.

Promoting Health, Protecting the Environment

May 26, 1992

Mr. Wallace Scott Cloud's Chevron 1600 Two Notch Road Columbia, S.C.

Re: Cloud's Chevron

GWPD Site ID #12352

Tank Removal Assessment Waiver

Richland County

Dear Mr. Scott:

The Ground-Water Protection Division of the South Carolina Department of Health and Environmental Control (SCDHEC) has received a preliminary subsurface assessment that indicates a substantial impact to groundwater on the above-referenced site. Due to the confirmed release, the normally required environmental closure assessment can be waived when the underground storage tanks are removed.

However information regarding the condition of the tanks and the dates excavation activities occurred must be submitted in order to properly update the billing database. Also, it will be necessary to sample the excavated soils so that a proper disposal option can be determined. The number of samples should number ten percent of the total cubic yards of excavated material, not to exceed ten samples. Analytical results should be forwarded to my attention within 30 days of tank removal. Please be reminded of the 48 hour notice required before tanks can be removed. Please bring this to the attention of Ms. Jeri Hagell (GWPD) at 734-5356.

On all correspondence concerning this site, please reference GWPD Site ID #12352. If you have any questions please feel free to call me at (803) 935-6304 or 734-5331.

Sincerely,

Jim White, Hydrogeologist UST Corrective Action Section Ground-Water Protection Division Bureau of Drinking Water Protection DOCKETING 99 TECK

CLOUDS.592

cc: Paul Bristol, Central Midlands District EQC Jeri Hagell, GWPD Britt Ransom, TET

Same and the same

: .



MR PETE OVERTON ACME PETROLEUM & FUEL COMPANY 543 COX RD STE C GASTONIA NC 28054

AUG 1 3 2013.



Re: Lad Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991

OST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Groundwater Sampling Reports received May 23, 2013

Analytical Reports received May 24, 2013 & June 5, 2013

Richland County

Dear Mr. Overton:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely.

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section

**UST Management Division** 

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



MRS WALLACE SCOTT 76 WHITEFORD WAY LEXINGTON SC 29072

AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

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**Richland County** 

Dear Mrs. Scott:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



MR ANDREW DIGGINS PROVIDENCE HOSPITAL 2435 FOREST DR COLUMBIA SC 29204

'AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 30, 1991

Groundwater Sampling Reports received May 23, 2013 Analytical Reports received May 24, 2013 & June 5, 2013 Richland County

Dear Mr. Diggins:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map

cc: Tom Pollard, Esq., Nexen Pruet Law Firm, PO Drawer 2426, Columbia, SC 29202 (w/

enc)



MR SOLOMON ADDICO
ASSISTANT VICE PRESIDENT FOR BUSINESS & FINANCE
BENEDICT COLLEGE
1600 HARDEN STREET
COLUMBIA SC 29204

AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

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UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Groundwater Sampling Reports received May 23, 2013 Analytical Reports received May 24, 2013 & June 5, 2013

Richland County

Dear Mr. Addico:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



MR MAHESH PATEL FAST POINT FOOD STORES 2811 REIDVILLE RD STE 11 SPARTANBURG SC 29301-3227

AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC
Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998
UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
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UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 30, 1991
Groundwater Sampling Reports received May 23, 2013

Analytical Reports received May 24, 2013 & June 5, 2013 Richland County

Dear Mr. Patel:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist Corrective Action Section UST Management Division Bureau of Land and Waste Management

Wen B. The

Enc: Summary Table

Site Map



MS BETTE GORDON BATEMAN MR JOHN BATEMAN C/O TRUSTEES PO BOX 1026 COLUMBIA SC 29201

'AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

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UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 30, 1991

Groundwater Sampling Reports received May 23, 2013

Analytical Reports received May 24, 2013 & June 5, 2013

Richland County

Dear Mr. and Mrs. Bateman:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Shill Bille

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section

**UST Management Division** 

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



2368 TAYLOR ST LLC 1227 ROSEWOOD DR COLUMBIA SC 29205

AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

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**Richland County** 

To Whom It May Concern:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely.

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



SYLVAN FOOD SYSTEMS INC 1245 BOSTON AVE WEST COLUMBIA SC 29170

AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

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UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

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Richland County

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The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section

Sher Brothel

**UST Management Division** 

Bureau of Land and Waste Management

Enc: Summary Table

Site Map

cc: Kentucky Fried Chicken, 2349 Taylor St., Columbia, SC 29204 (w/enc)



1500 MILLWOOD AVE LLC 1330 DEVONSHIRE DR COLUMBIA SC 29204

AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 31, 1991

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Richland County

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If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



JOHN M SUDDETH 1410 N MILLWOOD AVE COLUMBIA SC 29204

AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

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Release reported December 30, 1991

Groundwater Sampling Reports received May 23, 2013

Analytical Reports received May 24, 2013 & June 5, 2013

Richland County

Dear Mr. Suddeth:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section

**UST Management Division** 

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



MS LINDA WARREN C/O DOUGLAS HARLEY 1527 LYON ST COLUMBIA SC 29204

FAUG 1 3 2013

Re: Sampling & Analytical Report Review

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UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 30, 1991

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Dear Ms. Warren:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,
All B. Che

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



FUNG LAU 2300 TAYLOR ST STE D COLUMBIA SC 29204

AUG 1 3 2013.

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 30, 1991

Groundwater Sampling Reports received May 23, 2013 Analytical Reports received May 24, 2013 & June 5, 2013 Richland County

Dear Mr. Lau:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely.

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



CHANG MOON SUENG DBA STAR BEAUTY SUPPLY 2358 TAYLOR ST COLUMBIA SC 29204

'AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 30, 1991

Groundwater Sampling Reports received May 23, 2013 Analytical Reports received May 24, 2013 & June 5, 2013 Richland County

Dear Mr. Sueng:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist

Wer B. Khen

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



GILBERT WALKER COLUMBIA HOUSING AUTHORITY PO BOX 4307 COLUMBIA SC 29240

AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 30, 1991

Groundwater Sampling Reports received May 23, 2013 Analytical Reports received May 24, 2013 & June 5, 2013 Richland County

Dear Mr. Walker:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely.

Susan B. Fulmer, P.G., Hydrogeologist

wen B. Chen

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



ALLEN UNIVERSITY 1530 HARDEN ST COLUMBIA SC 29204

AUG 1 3 2013

Re: Sampling & Analytical Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release 1 reported January 30, 1991; Release 2 Reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 31, 1991

UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 30, 1991

Groundwater Sampling Reports received May 23, 2013
Analytical Reports received May 24, 2013 & June 5, 2013

Richland County

To Whom It May Concern:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control recently directed Midlands Environmental Consultants, Inc. (MECI) to conduct a groundwater sampling event at the referenced facilities. Please find enclosed a summary of the historic and current sampling data and a site map. The next necessary scope of work is to continue corrective action activities.

If you have any questions, please contact me by phone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely.

Susan B. Fulmer, P.G., Hydrogeologist

Well B. Chen

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

Enc: Summary Table

Site Map



## Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

AUG 1 4 2013

MIDLANDS ENVIRONMENTAL CONSULTANTS MR BRYAN SHANE PO BOX 854 LEXINGTON SC 29071-0854

JST JOHAN OF TOP OF THE PORT O

Re: Notice to Proceed for Small Scope Contract/Comprehensive Survey Solicitation # 5400003229, PO# 4600117789

#### Dear Mr. Shane:

In accordance with the referenced bid solicitation # IFB-5400003229 the UST Management Division requests that a **report and invoice are due sixty (60) days from the date of this letter.** Please note that all applicable South Carolina certification requirements regarding, well installation, survey and report preparation must be met in accordance with the referenced solicitation. The final report should contain the requirements of the appropriate section of the bid solicitation. The final report should be submitted to the project manager.

The facilities have been assigned a Cost Agreement (CA) numbers have been approved by the project manager. Please reference the CA numbers and Purchase Order # 4600117789 on the appropriate invoices submitted for payment. As specified in the referenced bid, the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below) after the technical and cost approval from the project manager.

UST Permit #	Facility	County	Project Manager	Work Scope	Due Date*
12352	Clouds Chevron	Richland	Fulmer	Comprehensive Survey	60 Days

<sup>\*</sup>From receipt of Notice to Proceed letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The site's UST owners have no obligation for payment for this scope of work.

Please note, if there are any changes in the established cost agreement amounts (e.g., additional water supply wells sampled, additional well footage, etc.) contact the site's project manager for technical and/or financial approval. Failure to do so prior to submittal of invoice may result in delay of payment.

Implementation and Report submittal shall be performed in accordance with the referenced contract. Per Section 3.4.2., a late fee of \$50.00/day (not to exceed 20% of the cost agreement total) may be levied for each report submitted after the deadline established in the Notice to Proceed.

If you have any questions, please contact Minda Hornosky at (803) 898-7542 or via e-mail at <a href="https://hornosms@dhec.sc.gov">hornosms@dhec.sc.gov</a>.

Sincerely,

Minda Hornosky, Hydrogeologist

Assessment Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

enc: Approved Cost Agreement (ACA)

**Information Packets** 

cc: Minda Hornosky, UST Management Division (w/o enc)

Susan Fulmer, UST Management Division (w/enc)

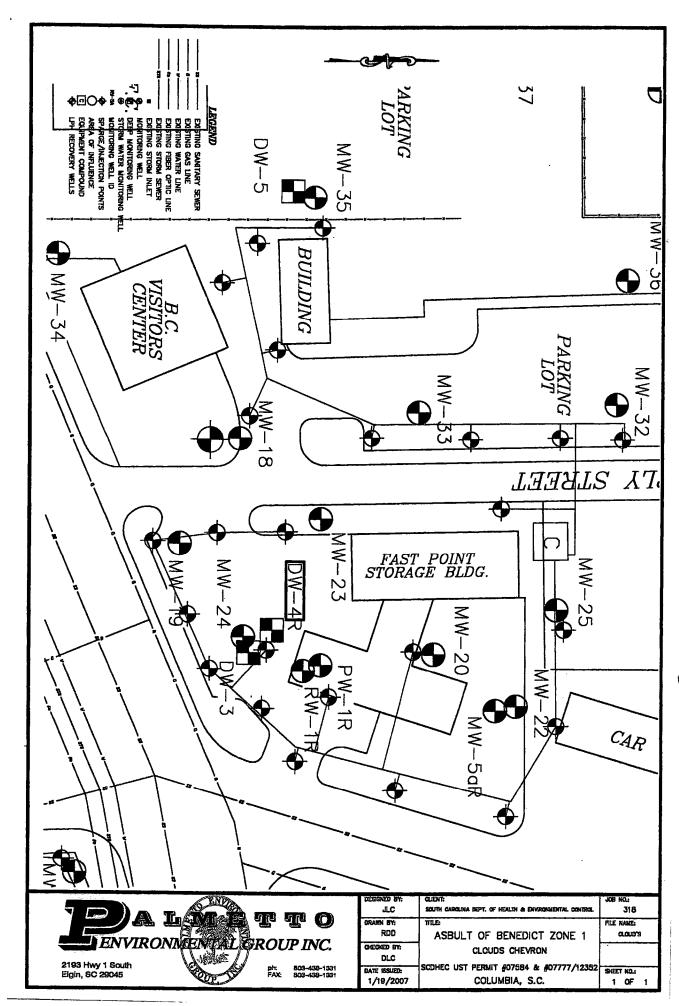
Technical File (w/enc)



### UNDERGROUND STORAGE TANK PROGRAM BUREAU OF LAND AND WASTE MANAGEMENT 2600 Bull Street, Columbia, South Carolina 29201 Telephone: 803-898-2544

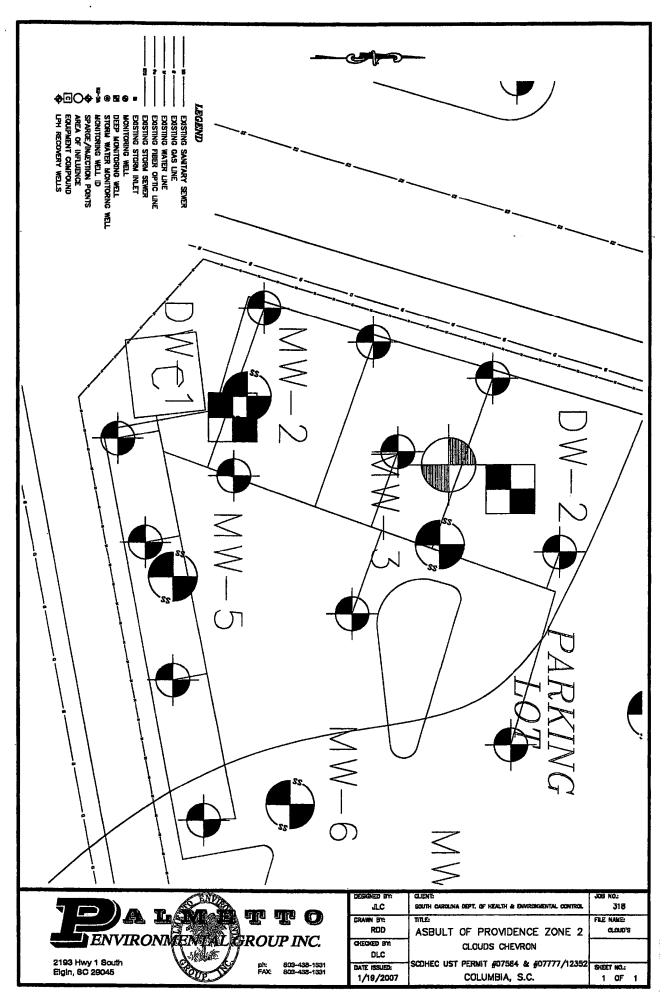
## MEMORANDUM

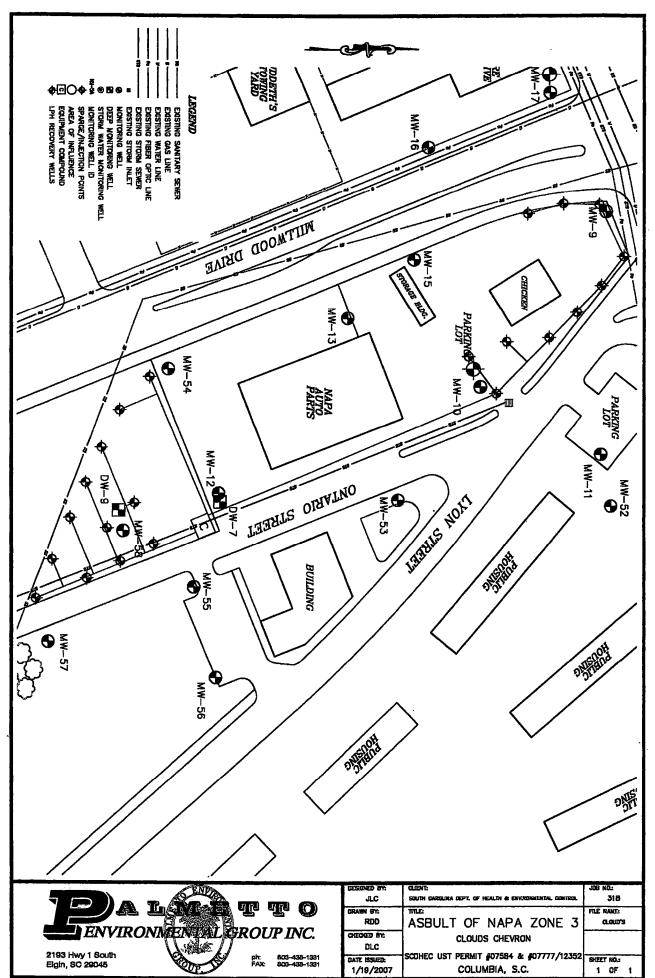
TO:	Bryan Shane, Midla	nds Environmental Consultants, Inc.	
FROM:	Susan Fulmer		
RE:	NOTICE TO PRO	CEED	
	Facility Name:	Clouds Chevron	
	Permit Number:	12352	
	County:	Richland	
W	ork To Be Completed:	Conduct comprehensive survey of all wells associated with Chevron (UST # 12352 & 07777) and University Mart (UST)	
	CA#	46574	



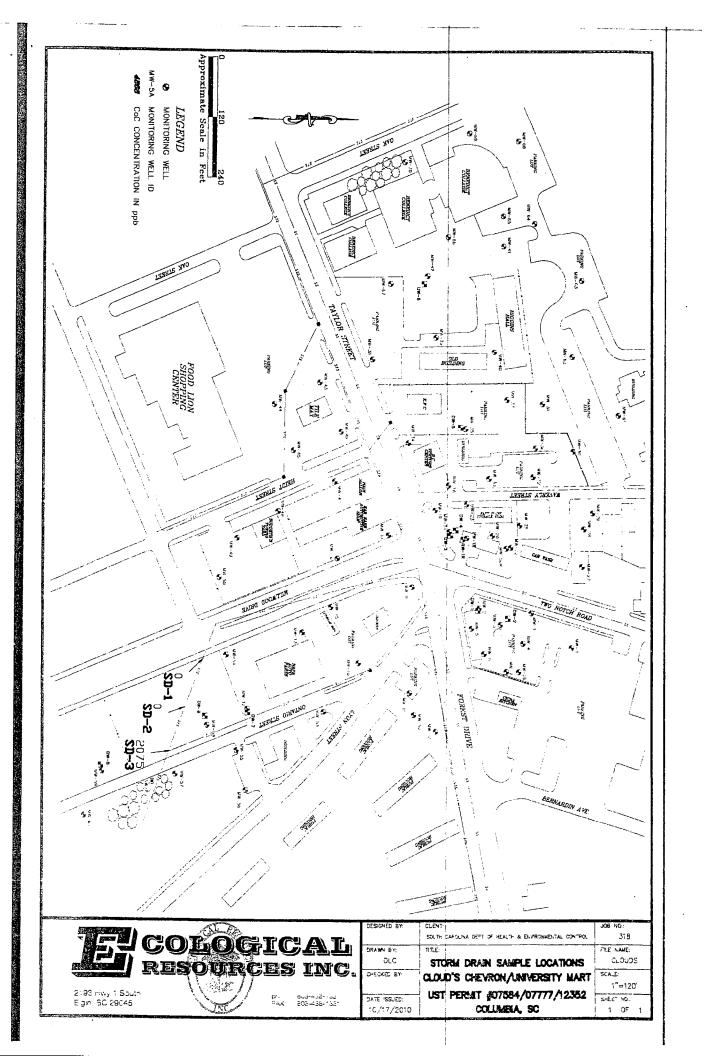
As Built for previous ACA. Remediation wells may or may not be functional.

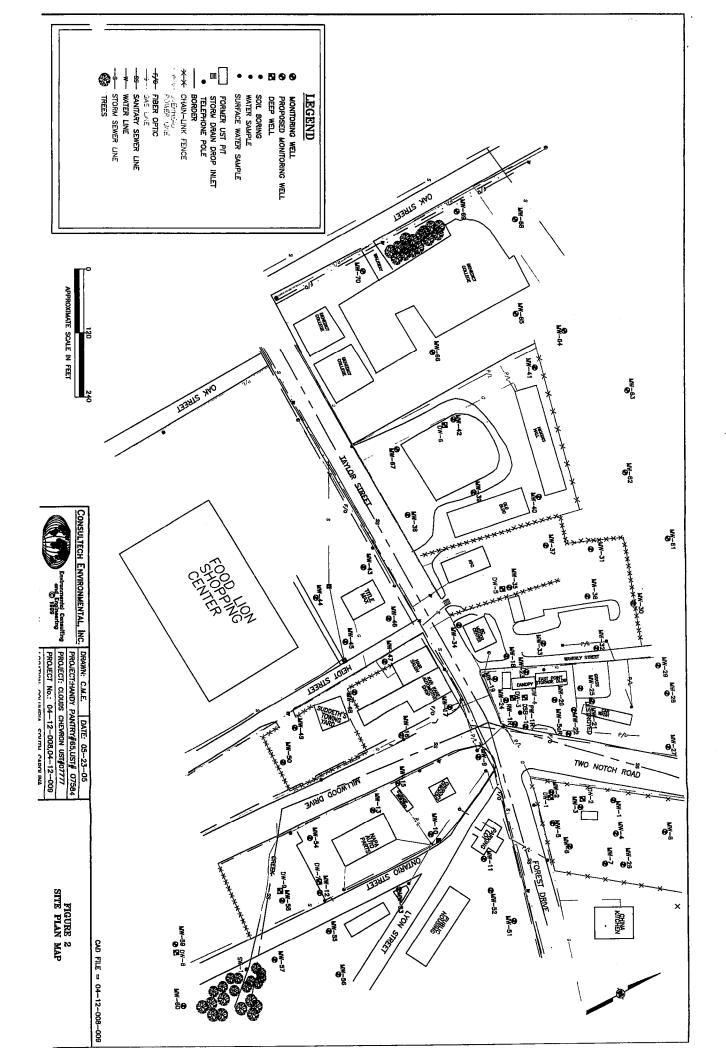
As Built for previous ACA. Remediation wells may or may not be twictional





As Built for previous ACA. Remediation wells may not be functional





#### UNDERGROUND STORAGE TANK OWNER

#### PERMISSION FORM - FACILITY ID # 07584

If you are the owner of the former or existing underground storage tanks or are designated as their authorized representative, but do not own the property, please complete this form.

I. Defe Clue Rfs. certify that I am the legal owner of the underground storage tank(s) located at the facility identified below or serve as the authorized representative for the UST owner. I grant permission to the South Carolina Department of Health and Environmental Control (SCDHEC) to

secure on my behalf services of a contractor to conduct assessment and corrective action activities, as required. The contractor will be designated as my contractor for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that SCDHEC will be responsible for obtaining right-of-entry from the property owner and notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Bureau of Underground Storage Tank Management in writing.
Name of Facility Fast Point #24 Phone # 503 - 256 - 4043
Street Address of Facility 2367 Traylon Street
Town, City, District, Suburb Columbia
Name of nearest intersecting street, road, highway, alley
Is this facility within the city limits? (yes or no)
Were underground storage tanks previously removed from the ground at this facility? (yes or no) <u>USS</u> , if yes, please provide the name and phone number of a person we can contact that can assist in the location of the former underground storage tank excavation.  Name  Uicha of Manage (1864-587-1009)
Is the property currently leased of reduced the someone? (yes or no)
NAME of UST owner (Please Prim): Pete Querter
Phone Number (home) (work) 704-867-2336
Signature of Underground Storage Tank Owner: Relative to
Witness: Laure Elwart

Date: March Month 17 Day 2003 Year

If you are the owner of the former or existing underground storage tanks and the property owner, please complete this form.

### PERMISSION FORM - SITE ID #12352

I,
Name of Facility Clienton Sewer Heter Phone #
Street Address of Facility FOREST DRIVE
Town, City, District, Suburb _ < \circ \ci
Name of nearest intersecting street, road, highway, alley
Is this facility within the city limits? (yes or no)
Fhotie number (8037 7872 70 20
Is the property currently leased or rented to someone? (yes or no), if yes, please provide their name and phone number and let them know about the pending assessment activities. If vehicles or other mobile structures are parked over the former or existing underground storage tanks, they should be moved before SCDHEC's contractor gets to the site.
NAME of UST/property owner (Please Print): Jack Lec
PhoneNumber(home) (803) 787-7525 (work)
PhoneNumber(home) (303) 737-7525 (work)  Signature of UST/property Owner: Joseph Rec
Witness:
Date: 8 Month 7 Day 76 Year

1781 Size Cores Constant

## PERMISSION FORM - SITE ID #07777

I, Wellow h. Jeest h., certify that I am the legal owner of the underground storage tanks and property located at the facility identified below or serve as the authorized representative for the owner. I grant permission to the South Carolina Department of Health and Environmental Control (SCDHEC) to secure on my behalf services of a contractor for only the activities outlined in the August 1996 letter and authorize SCDHEC, or a contractor selected by SCDHEC, to enter this property at reasonable times only to accomplish these tasks. The contractor will be designated as my contractor for only the site rehabilitation activities outlined therein. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that SCDHEC shall be responsible for notifying me of all activities that are necessary prior to their initiation and shall promptly provide to me a summary of the data upon request.
Name of Facility Cloud Clemon Suice Station Phone #
Street Address of Facility 1600 Two Lotel Road
Town, City, District, Suburb Clumbia, SC,
Name of nearest intersecting street, road, highway, alley  Two hotel Roaf at Frosest Durie a Highway # 1
Is this facility within the city limits? (yes or no)
Is this facility serviced by a public water or sewer utility? (yes or no), if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines, phone number,
Were underground storage tanks previously removed from the ground at this facility? (yes or no)
Is the property currently leased or rented to someone? (yes or no), if yes, please provide their name and phone number and let them know about the pending assessment activities. If vehicles or other mobile structures are parked over the former or existing underground storage tanks, they should be moved before SCDHEC's contractor gets to the site.
NAME of UST/property owner (Please Print): WALLACE M. SCOTT
PhoneNumber(home) 803-95/-0732 (work) Returned
PhoneNumber(home) 803-95/-0732 (work) Returned  Signature of UST/property Owner: Wallace n. Lott
Witness: TD ECRIVET
Date: 17 Month 8- Day 19 96 Year  AUG 1 9 1996

The set former pages to work the set

Bureau of Underground Storage Tank Management

## Approved Cost Agreement 46574

Facility: 12352 CLOUDS CHEVRON

FULMERSB PO Number:

Task / Description Categories	Item Description	Qty / Pct	Unit Price	Amount
03 COMPREHENSIVE SURVEY				
	COMPREHENSIVE SURVEY	3.0000	1,000.00	3,000.00
04 MOB/DEMOB				
	A EQUIPMENT	1.0000	100.00	100.00
		Total Arno	unt	3,100.00

August 13, 2013

# Midlands Environmental Consultants, Inc.

Ms. Susan Fulmer, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201



Subject:

Comprehensive Survey

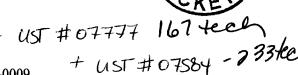
Clouds Chevron

1600 Two Notch Road

Columbia, South Carolina/ SCDHEC Site ID# 12352, CA # 46574

MECI Project Number 13-4579

Certified Site Rehabilitation Contractor UCC-0009



Dear Ms. Fulmer,

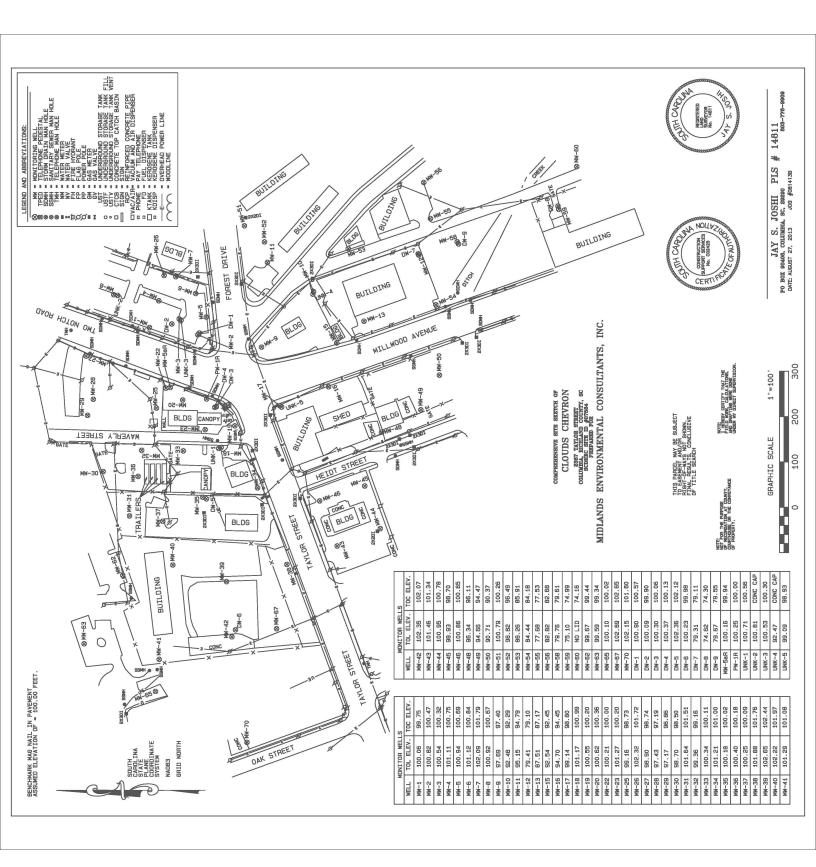
Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Comprehensive Survey for the referenced site. A comprehensive survey conducted by Construction Support Services, Inc. (Jay S. Joshi/PLS# 14811) dated August 27, 2013. A copy of the signed and stamped survey is attached. This comprehensive survey was conducted accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines, including adherence to the UST Division Programmatic Quality Assurance Program Plan (QAPP).

Midlands Environmental appreciates the opportunity to offer our professional environmental services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,

Midlands Environmental Consultants, Inc.

Courtney M. Sanders Project Biologist Senior Scientist



# Midlands Environmental Consultants, Inc.

103 tech -12352

234 tech - 07584 168-beh 07777

SEP 0 9 2013

Ms. Susan B. Fulmer, P.G., Hydrogeologist Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject:

Report of Map Production

University Mart 2367 Taylor Street Columbia, South Carolina

SCDHEC Site ID# 07584, CA# 46571

MECI Project Number 13-4585

Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Fulmer,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Map Production for the referenced site. This report describes activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

#### MAP PRODUCTION

SCDHEC requested MECI to provide services to create five (5) CoC concentration maps and two (2) potentiometric maps based on data collected during the May 10, 2013 groundwater sampling event performed at the referenced site.

The maps produced were based on potentiometric data and analytical data from the May 10, 2013 groundwater sampling event conducted at the subject site and the adjacent Clouds Chevron Site (UST Permit#'s 12352 & 07777). Figures included as part of the project include:

Figure 1 – Site Base Map

Figure 2 – Groundwater Contour Map ("Shallow" Zone)

Figure 2A - Groundwater Contour Map ("Deep" Zone)

Figure 3 – CoC Concentration Map (Benzene Isopleth)

Figure 3A – CoC Concentration Map (Naphthalene Isopleth)

Figure 3B - CoC Concentration Map (MTBE Isopleth)

Figure 3C – CoC Concentration Map (EDB Isopleth)

Figure 3D – CoC Concentration Map (TAA Isopleth)

COPY

#### QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in hydrogeological assessment and waste management projects of this type. Our evaluation of site conditions has been based on our understanding of the site, project information provided to us, and data obtained in our exploration. The general subsurface conditions utilized in our evaluation have been based on interpretation of subsurface data between borings. Contents of this report are intended for the sole use of the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

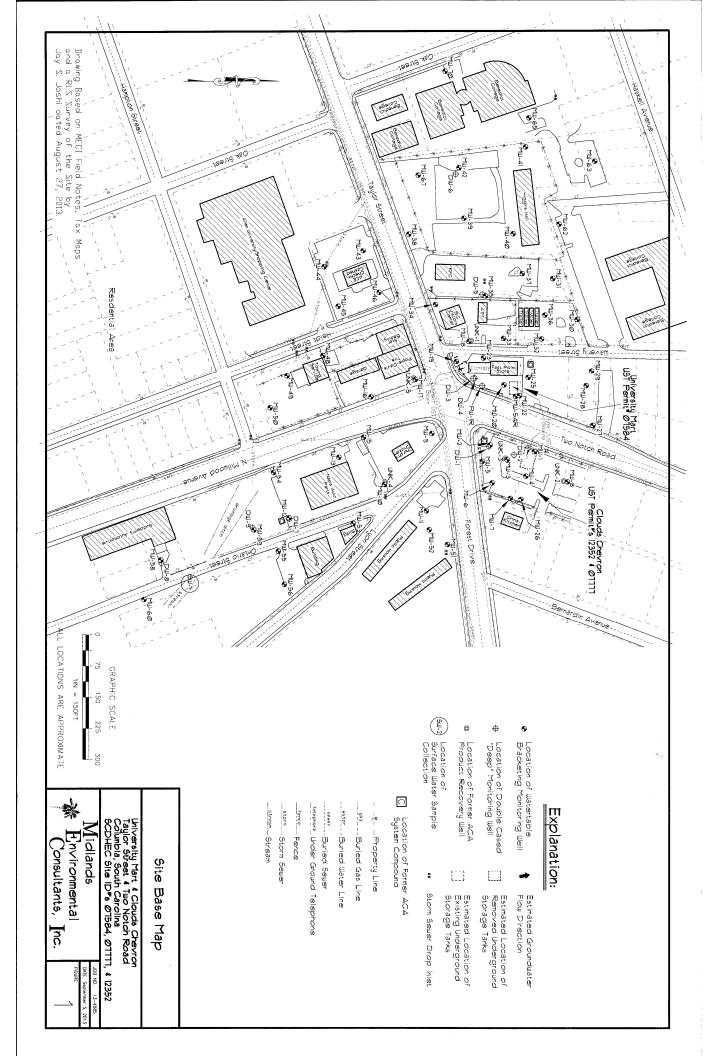
Midlands Environmental appreciates the opportunity to offer our professional environmental services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

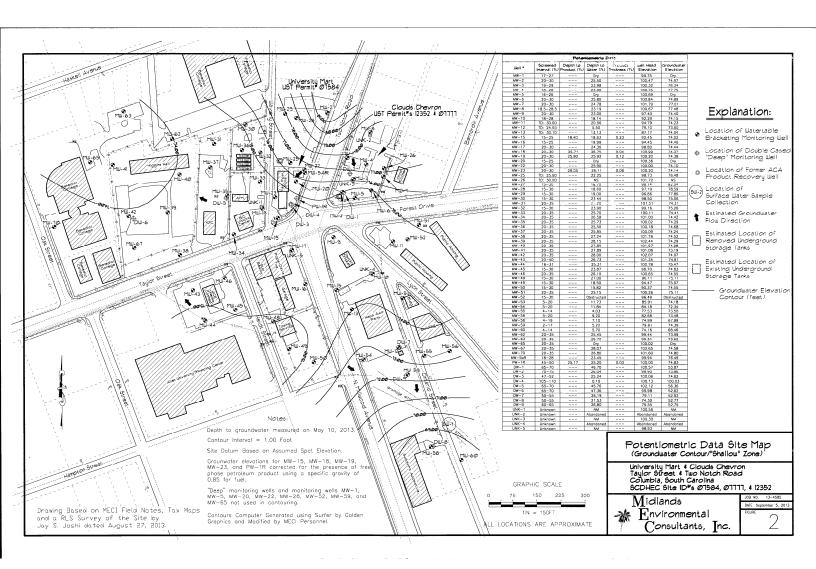
Sincerely,

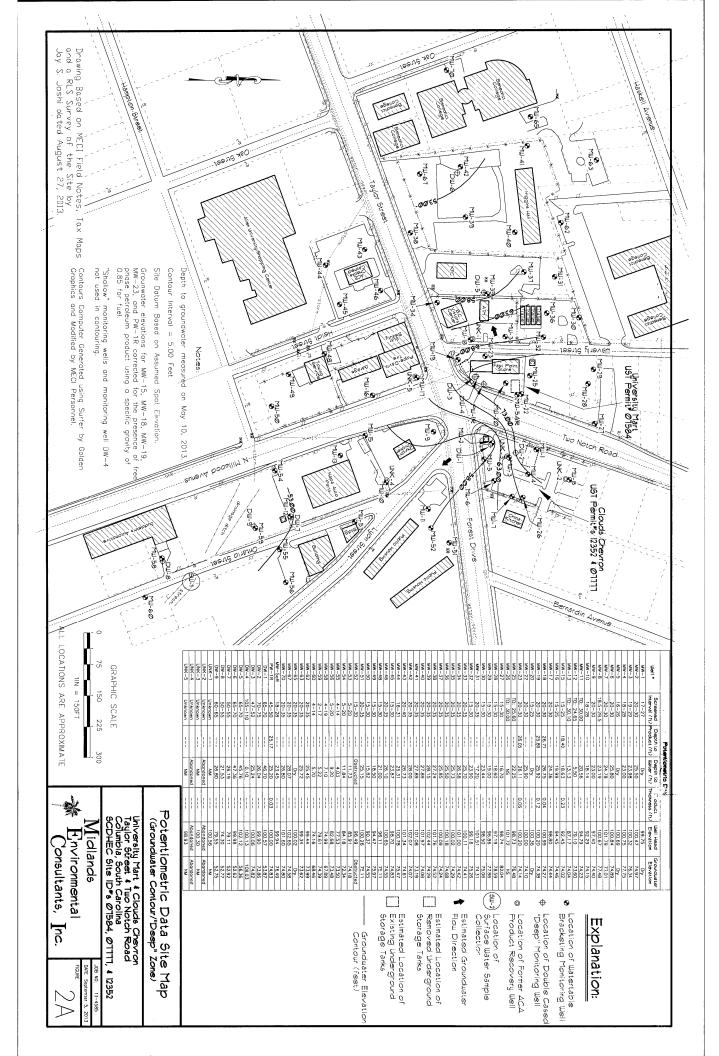
Midlands Environmental Consultants, Inc.

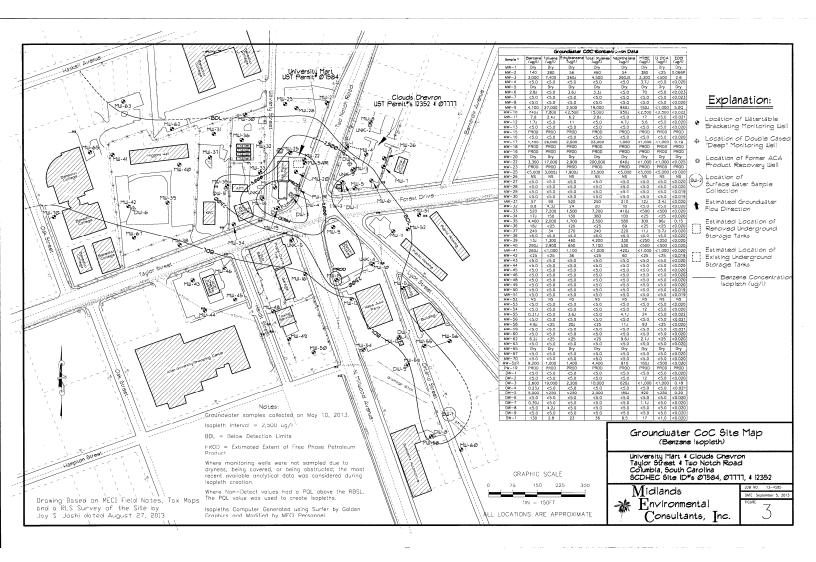
Senior Scientist

Bryan T. Shane, P.G. Principal Geologist

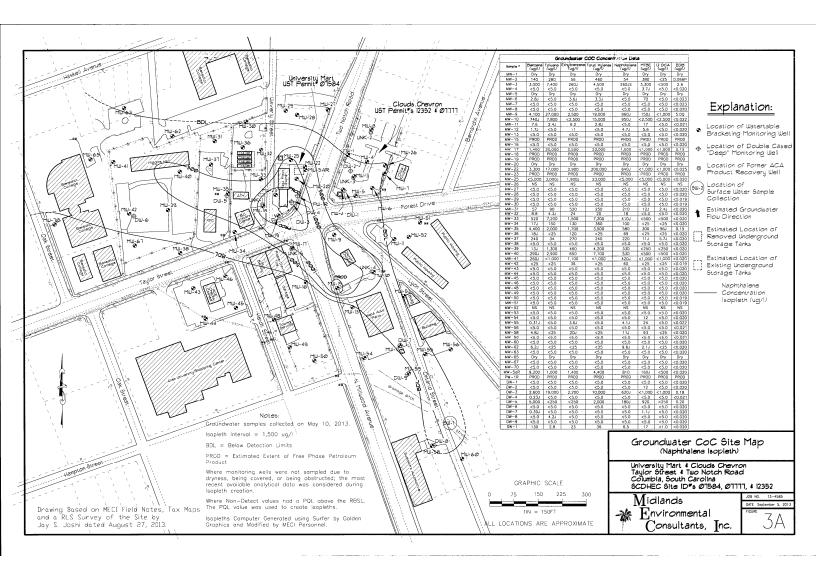


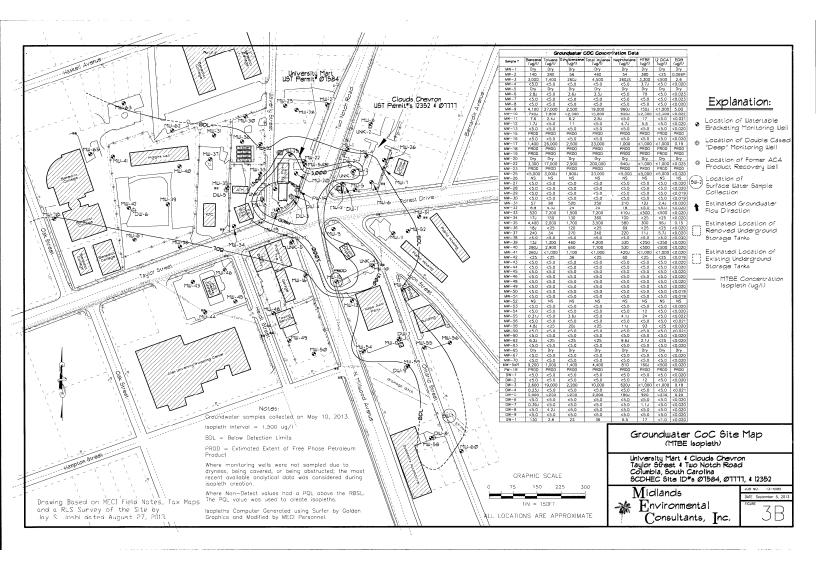


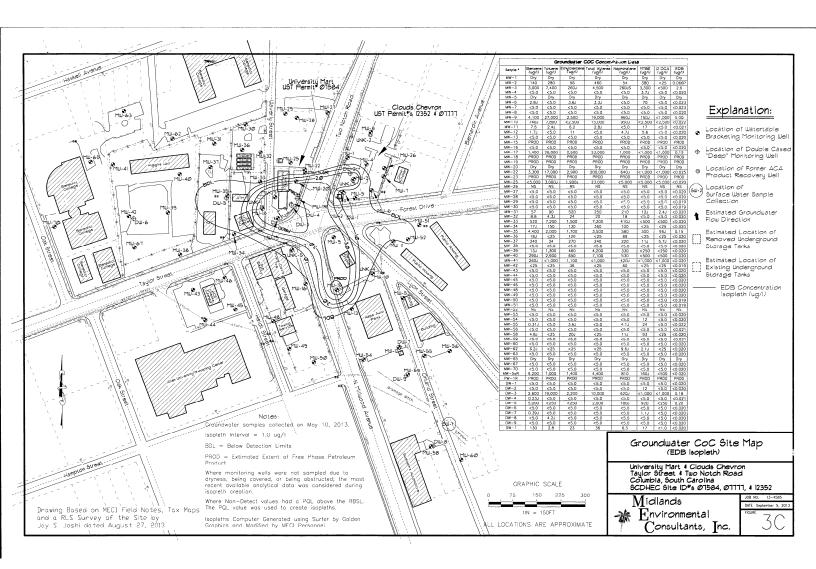


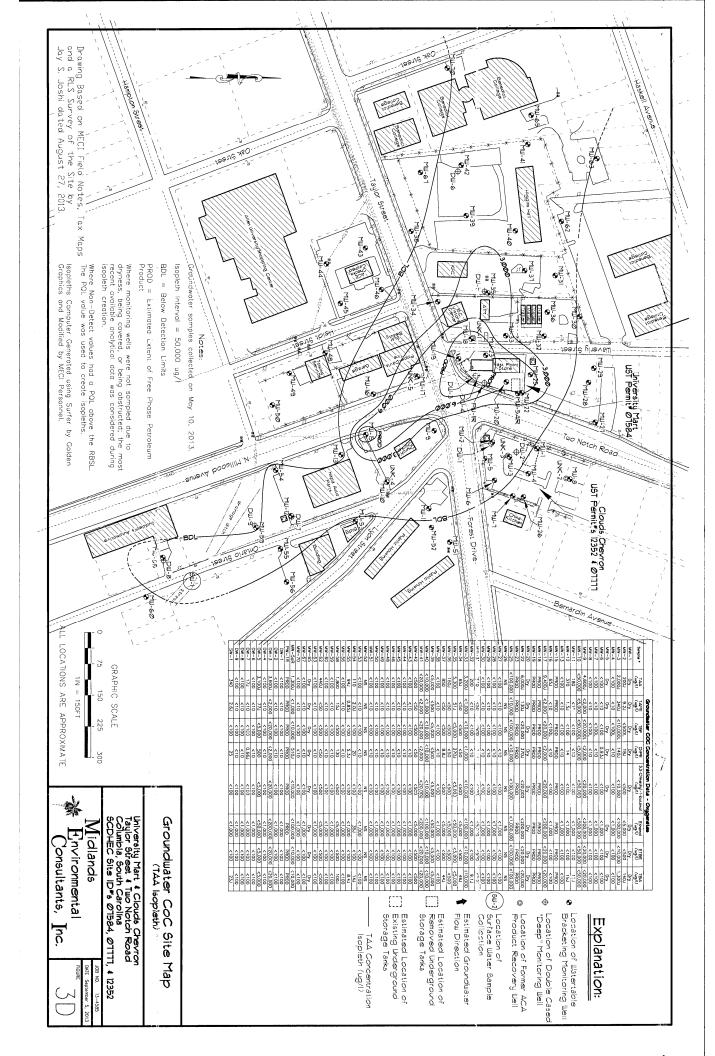


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# BID SHEET

# DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL SOUTH CAROLINA



SOLICITATION NUMBER: IFB-5400007095

OPENING/CLOSING DATE: 1/30/14

PROCUREMENT OFFICER: Matt Winslow

TIME: 2:30 pm

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	005

COMPANY NAME	sc	Sn	VP			
Mid-Carolina Probe				1 189,405		
Crawford Environmental Services				540,000		
						·
				Y		

CERTIFIED AS TRUE AND ACCURATE

D. S. C. Cong. BID CLERK



# State of South Carolina

Invitation for Bid Amendment - 1 Solicitation Number:
Date Issued:
Procurement Officer:

5400007095

January 13, 2014

E. Madison Winslow

E. Madis 25-15

Phone: E-Mail Address:

ne: 803-898-3487 ess: winsloem@dhec.sc.gov

DESCRIPTION: UST Corrective Action, UST # 07584, # 07777, # 12352 - Columbia, South Carolina USING GOVERNMENTAL UNIT: South Carolina Department of Health and Environmental Control

The Term "Offer" Means Your "Bid" or "Proposal". Solicitation Number & Opening Date must appear on package exterior. See "Submitting Your Offer" provision.

SUBMIT YOUR SEALED OFFER TO	EITHER OF THE I	FOLLOWI	NG ADDRESSES:	
MAILING ADDRESS:  DHEC – Division of Procurement Services Bureau of Business Management 2600 Bull Street Columbia, S.C. 29201  DHEC – Division of Procurement Services - Bureau of Business Manageme Columbia Mills Building – 4 <sup>th</sup> Floor 301 Gervais Street Columbia, S.C. 29201  See Section ILA - Public Opening Information – DHEC Clause				
SUBMIT OFFER BY (Opening Date/Ti	me): <b>January 28,</b> 2	2014/2:30	pm ET (See "Deadline For Submission Of Offer" provision)	
QUESTIONS MUST BE RECEIVED B	Y: <b>DEADLINE</b>	HAS PAS	SED (See "Questions From Offerors" provision)	
NUMBER OF COPIES TO BE SUBMI	TTED: 1			
CONFERENCE TYPE: Not Applicable DATE & TIME:	2		LOCATION: Not Applicable	
(As appropriate, see "Conferences - Pre-Bid/Proposal" & "	Site Visit" provisions)			
AWARD & Award will be posted on February 4, 2014. The award, this solicitation, any amendments, and any related notices will be posted at the following web address: <a href="http://www.procurement.sc.gov">http://www.procurement.sc.gov</a>				
You must submit a signed copy of this form with Your Offer. By submitting a bid or proposal, You agree to be bound by the terms of the Solicitation. You agree to hold Your Offer open for a minimum of thirty (30) calendar days after the Opening Date.  (See "Signing Your Offer" and "Electronic Signature" provisions.)				
NAME OF OFFEROR  Crawford Environmental Services, Inc.  (full Jegs J-pame of business submitting the offer)  Any award issued will be issued to, and the contract will be formed the entity identified as the Offeror. The entity named as the offeror a single and distinct legal entity. Do not use the name of a branch of a division of a larger entity if the branch or division is not a separal entity, i.e., a separate corporation, partnership, sole proprietorship,			entified as the Offeror. The entity named as the offeror must be distinct legal entity. Do not use the name of a branch office or a larger entity if the branch or division is not a separate legal	
AUTHORIZED SIGNATURE  (Person must be authorized to submit binding offer to control	TAXPAYER IDENTIFICATION NO. 11-368-3978  contract on behalf of Offeror.) (See "Taxpayer Identification Number" provision)			
TITLE President / CEO (business title of person signing above)  STATE VENDOR NO. UCC-0388 7000 - 130 - 450 (Register to Obtain S.C. Vendor No. at www.procurement.sc.gov)			388 7000 - 130 - 450	
PRINTED NAME Charles F. Crawford (printed name of person signing above)	DATE SIGNED 01/26/14			
OFFEROR'S TYPE OF ENTITY: (Che	ck one)		(See "Signing Your Offer" provision.)	
Sole Proprietorship	Partnership		Other	
X Corporate entity (not tax-exempt)	Corporation (tax-	exempt)	Government entity (federal, state, or local)	
COVER PAGE (NOV. 2007)				

PAGE TWO
(Return Page Two with Your Offer)

HOME OFFIC principal place of	CE ADDRESS business)	Address for offeror	's home office /		DRESS (Address to nould be sent.) (See "		ement and contract
15 Church A	Avenue, SW			SAME AS HOME OFFICE ADDRESS			
Roanoke, V	irginia 24011						
					56 540		Area Code -
PAYMENT ADDRESS (Address to which payments will be sent.) (See "Payment" clause) 15 Church Avenue, SW Roanoke, Virginia 24011				ORDER ADDRESS (Address to which purchase orders will be sent) (See "Purchase Orders and "Contract Documents" clauses)  15 Church Avenue, SW Roanoke, Virginia 24011			
X Payment Address same as Home Office Address Payment Address same as Notice Address (check only one)				X Order Ad	dress same as Hom dress same as Noti		
ACKNOWLEDGMENT OF AMENDMENTS Offerors acknowledges receipt of amendments by indicating amendment number and its date of issue. (See "Amendments to Solicitation" Provision)					ion" Provision)		
Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date				Amendment Issue Date
1	1/13/14						
PROMPT PA (See "Discount i	DISCOUNT FOR OMPT PAYMENT  be "Discount for Prompt Payment" clause)  DISCOUNT FOR OMPT PAYMENT  be "Discount for Prompt Payment" clause)				alendar Days (%)		

PAGE TWO (SEP 2009)

End of PAGE TWO

# VIII. BIDDING SCHEDULE/PRICE-BUSINESS PROPOSAL

# BIDDING SCHEDULE (NOV 2007)

<b>A</b> .	ACCEPT	ANCE	AND	DEL	IVERY	STA	LTEA	<b>1ENT</b>
------------	--------	------	-----	-----	-------	-----	------	-------------

In sacciset it or as dimen	forth for all sites as stated below. For the purpose of sour, I certify that this company understands the nat locumented in the technical file and this solicitation thod(s) below are estimates and changes to those price. Additionally, I certify that this company un	quirements thereof, the Offeror agrees, if this bid is ng, to initiate the corrective action as specified at the prices of this submittal and acceptance of financial approval should ure of the release(s) and the geologic conditions at this site
	s of concern.	1100 0300
******	awford Environmental Services, Inc.	UST Site Rehabilitation Contractor Certification #
<u>B.</u>	Thomas Houghton	
Res	gistered Professional Name (Print)	Registered Professional Signature (required)
	P.E. (check appropriate box)	Professional Certification # 2343
B. C	ORRECTIVE ACTION SOLICITATION RESI	PONSE
Colu Colu	mbia, SC:  State and briefly describe the corrective action me the CAP to achieve completion in five years, shouncessary.	ethod(s) or technology(ies) that will be discussed in detail in ald financial approval occur. Attach an additional sheet if
	<u> </u>	extractions events to remove free-phase petroleum. ions to address dissolved-phase concentrations.
<b>2.</b> <b>3.</b>	The Corrective Action Completion Time, in monicorrective action plan implementation until the first for 2 consecutive quarters is 60 months. All a financial award unless otherwise approved in written Corrective Action Cost, in whole dollars, registechnology applied, to treat the area of concern all exceed SSTLs at any point in the area of concern action verification; prepare all plans, reports, and all required permits and licenses; design, install.	ths, to complete the corrective action from the date of nal corrective action goal has been achieved and maintained activities must be completed within 5 years of the date of
	s 540,000.	

# IV. INFORMATION FOR OFFERORS TO SUBMIT

#### INFORMATION FOR OFFERORS TO SUBMIT -- GENERAL (JAN 2006)

Offeror shall submit a signed Cover Page and Page Two. Offeror should submit all other information and documents requested in this part and in parts II.B. Special Instructions; III. Scope of Work; V. Qualifications; VIII. Bidding Schedule/Price Proposal; and any appropriate attachments addressed in section IX. Attachments to Solicitations. [04-4010-1]

MINORITY PARTICIPATION (JA	ıN	2006)
----------------------------	----	-------

Is the bidder a South Carolina Certified Minority Business? [] Yes [X] No
Is the bidder a Minority Business certified by another governmental entity? [ ] Yes [X] No
If so, please list the certifying governmental entity:
Will any of the work under this contract be performed by a SC certified Minority Business as a subcontractor? [ ] Yes [X] No
If so, what percentage of the total value of the contract will be performed by a SC certified Minority Business as a subcontractor?
Will any of the work under this contract be performed by a minority business certified by another governmental entity as a subcontractor? [ ] Yes [X] No
If so, what percentage of the total value of the contract will be performed by a minority business certified by another governmental entity as a subcontractor?
If a certified Minority Business is participating in this contract, please indicate all categories for which the Business is certified:
[ ] Traditional minority, but female [ ] Women (Caucasian females) [ ] Hispanic minorities [ ] DOT referral (Traditional minority) [ ] DOT referral (Caucasian female) [ ] Temporary certification [ ] SBA 8 (a) certification referral [ ] Other minorities (Native American, Asian, etc.)
(If more than one minority contractor will be utilized in the performance of this contract, please provide the information above for each minority business.)
For a list of certified minority firms, please consult the Minority Business Directory, which is available at the following URL:http://www.govoepp.state.sc.us/osmba/ [04-4015-1]

**AMENDMENTS TO SOLICITATION (JAN 2004)** 

(a) The Solicitation may be amended at any time prior to opening. All actual and prospective Offerors should monitor the following web site for the issuance of Amendments: <a href="www.procurement.sc.gov">www.procurement.sc.gov</a> (b) Offerors shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on Page Two, (3) by letter, or (4) by submitting a bid that indicates in some way that the bidder received the amendment. (c) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged. [02-2A005-1]

# Amendment Number Three Solicitation 5400007095

#### **Questions and Answers**

1. Question: How much SUPERB Fund monies have been spent on each of the referenced sites to date?

Answer: For UST # 07584, Release 1, \$304,138.94 in SUPERB funds have been spent.

For UST # 07584, Release 2, \$188,793.66 in SUPERB funds have been spent.

For UST # 07777, \$364,711.80 in SUPERB funds have been spent. For UST # 12352, \$200,851.65 in SUPERB funds have been spent.

2. Question: What is the SUPERB available balance for completing the solicited corrective action?

Answer: \$1 million is available for each site per release from the SUPERB account.

SOIR TAN 30 BM 1:30 BRIST BRIDGE NEW MERCENNER BRID

SOUICITATION / 143 # S460007095

OFFEROR: CRAWFORD ENVIRONMENTAL SERVICES, INC.

STATE VENOVE # 7400-130-450

UCC# 0388



MAILING ADDRESS:

DHEC - Division of Procurement Services

# State of South Carolina

Invitation for Bid

SUBMIT YOUR SEALED OFFER TO EITHER OF THE FOLLOWING ADDRESSES:

Solicitation Number: Date Issued: **Procurement Officer:** 

December 18, 2013

E. Madison Winslow & The dita 2 South

5400007095

Phone: E-Mail Address:

DHEC - Division of Procurement Services - Bureau of Business Management

803-898-3487 winsloem@dhec.sc.gov

DESCRIPTION: UST Corrective Action, UST # 07584, # 07777, # 12352 - Columbia, South Carolina USING GOVERNMENTAL UNIT: South Carolina Department of Health and Environmental Control

The Term "Offer" Means Your "Bid" or "Proposal". Solicitation Number & Opening Date must appear on package exterior. See "Submitting Your Offer" provision.

**OPENING/PHYSICAL ADDRESS:** 

2600 Bull Street Columbia, S.C. 29201	301 Gervais Columbia, S				
SUBMIT OFFER BY (Opening Date/Time):	January 28,	2014/2:30 pm	a ET	(See "Deadline For Submission Of Offer" provision)	
QUESTIONS MUST BE RECEIVED BY:	January 10,	2014/2:30 pm	n ET	(See "Questions From Offerors" provision)	
NUMBER OF COPIES TO BE SUBMITTE	D; 1				
CONFERENCE TYPE: Not Applicable DATE & TIME:		I	LOCAT	ION: Not Applicable	
(As appropriate, see "Conferences - Pre-Bid/Proposal" & "Site Vi	sit" provisions)				
AWARD & Award will be posted on F AMENDMENTS related notices will be post	ebruary 4, 20: ted at the follow	14. The award wing web add	d, this s ress: <u>ht</u>	olicitation, any amendments, and any p://www.procurement.sc.gov	
You must submit a signed copy of this form v the terms of the Solicitation. You agree to hold Opening Date. (See "Signia	vith Your Offer I Your Offer op g Your Offer" and "E	pen for a mini	mum o	f thirty (30) calendar days after the	
NAME OF OFFEROR  Mid-Caro lina Probe,  (full legal name of business submitting the offer)	LLC	the entity identity a single and distantial a division of a la	fied as th tinct legal arger enti	issued to, and the contract will be formed with, e Offeror. The entity named as the offeror must be entity. Do not use the name of a branch office or ty if the branch or division is not a separate legal poration, partnership, sole proprietorship, etc.	
AUTHORIZED SIGNATURE  M. Chcul K - W well of (Person must be authorized to submit binding offer to contract on	SIGNATURE TAXPAYER IDENTIFICATION NO.			1696 479	
TITLE President (business title of person signing above)		STATE VEI	579		
	TE SIGNED 26   2014	240	- (50	RPORATION Onth Carolina) ontify the state of incorporation.)	
OFFEROR'S TYPE OF ENTITY: (Check or	ne)			(See "Signing Your Offer" provision.)	
Sole Proprietorship	Partnership		<b>∠</b> Ot	her LLC	
Corporate entity (not tax-exempt)	Corporation (tax-	exempt)	Go	vernment entity (federal, state, or local)	
COVER PAGE (NOV 2007)					

PAGE TWO
(Return Page Two with Your Offer)

HOME OFFICE principal place of	CE ADDRESS (business)	Address for offero	r's home office /	related notices sh	DRESS (Address nould be sent.) (See "	Notice" clause)	
	Mid-Carolina Probe, LLC  258 Tapp Road  Greer, SC 29651-5221  Number - Extension Facsimile  Mid-Carolina Probe, LL  258 Tapp Road  Greer, S-C. 29651-522  Number - Extension Facsimile  Mid-Carolina Probe, LL  258 Tapp Road  Greer, S-C. 29651-522  Number - Extension Facsimile  Mike @ mid carolina probe. cong.  MYMENT ADDRESS (Address to which payments will be sent.)  ORDER ADDRESS (Address to which payments will be sent.)					0 e, LLC 1-5221 169-7129 Area Code -	
PAYMENT ADDRESS (Address to which payments will be sent.) (See "Payment" clause)  ORDER ADDRESS (Address to which purchase orders will be sent.) (See "Purchase Orders and "Contract Documents" clauses)  Payment Address same as Home Office Address Payment Address same as Notice Address (check only one)  Order Address same as Home Office Address Order Address same as Notice Address (check only one)					es)		
ACKNOWLEDGMENT OF AMENDMENTS Offerors acknowledges receipt of amendments by indicating amendment number and its date of issue. (See "Amendments to Solicitation" Provision)					ion" Provision)		
Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No. Amendment Issue Date Amendment No. Amendment Issue Date			
1-3	1-13-2014						
PROMPT PA (See "Discount f	DISCOUNT FOR PROMPT PAYMENT (See "Discount for Prompt Payment" clause)  10 Calendar Days (%) 20 Calendar Days (%) 30 Calendar Days (%)Calendar Days (%)					alendar Days (%)	

PAGE TWO (SEP 2009)

End of PAGE TWO

#### IV. INFORMATION FOR OFFERORS TO SUBMIT

#### INFORMATION FOR OFFERORS TO SUBMIT -- GENERAL (JAN 2006)

Offeror shall submit a signed Cover Page and Page Two. Offeror should submit all other information and documents requested in this part and in parts II.B. Special Instructions; III. Scope of Work; V. Qualifications; VIII. Bidding Schedule/Price Proposal; and any appropriate attachments addressed in section IX. Attachments to Solicitations. [04-4010-1]

MINORITY	PARTICIPATION	(JAN 2006)
----------	---------------	------------

[04-4015-1]

Is the bidder a South Carolina Certified Minority Business? [] Yes [] No
Is the bidder a Minority Business certified by another governmental entity? [ ] Yes [ ] No
If so, please list the certifying governmental entity:
Will any of the work under this contract be performed by a SC certified Minority Business as a subcontractor? [ ] Yes [ No
If so, what percentage of the total value of the contract will be performed by a SC certified Minority Business as a subcontractor?
Will any of the work under this contract be performed by a minority business certified by another governmental entity as a subcontractor? [] Yes [✓] No
If so, what percentage of the total value of the contract will be performed by a minority business certified by another governmental entity as a subcontractor?
If a certified Minority Business is participating in this contract, please indicate all categories for which the Business is certified:
[ ] Traditional minority [ ] Traditional minority, but female [ ] Women (Caucasian females) [ ] Hispanic minorities [ ] DOT referral (Traditional minority) [ ] DOT referral (Caucasian female) [ ] Temporary certification [ ] SBA 8 (a) certification referral [ ] Other minorities (Native American, Asian, etc.)
(If more than one minority contractor will be utilized in the performance of this contract, please provide the information above for each minority business.)
For a list of certified minority firms, please consult the Minority Business Directory, which is available at the following URL:http://www.govoepp.state.sc.us/osmba/

#### VIII. BIDDING SCHEDULE/PRICE-BUSINESS PROPOSAL

#### **BIDDING SCHEDULE (NOV 2007)**

#### A. ACCEPTANCE AND DELIVERY STATEMENT

set forth for all sites as stated below. For the purpose of it occur, I certify that this company understands the nat as documented in the technical file and this solicitation method(s) below are estimates and changes to those	ng, to initiate the corrective action as specified at the prices of this submittal and acceptance of financial approval should ture of the release(s) and the geologic conditions at this site. Any quantities listed in the corrective action quantities or to the listed method(s) will not affect the derstands that acceptance is based on total cost to treat the
Mid- Carolina Probe, LLC	No. 405
Offeror (Print)	UST Site Rehabilitation Contractor Certification #
	F. Den Salay
Registered Professional Name (Print)	Registered Professional Signature (required)
P.G. (check appropriate box)	Professional Certification #
B. CORRECTIVE ACTION SOLICITATION RESP	ONSE

In compliance with the solicitation and subject to all requirements thereof, the Offeror agrees, if this bid is

#### B

Please respond to the following questions for UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC and UST Permit # 07777 & UST Permit # 12352, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC:

- State and briefly describe the corrective action method(s) or technology(ies) that will be discussed in detail in the CAP to achieve completion in five years, should financial approval occur. Attach an additional sheet if necessary. The contaminants of concern will be treated with insitu injection technologies including insitu chemical oxidation and othe proven biostimulation injection technologies. Aggressive fluid recovery and/or skimmer pumps will also be used.

  2. The Corrective Action Completion Time, in months, to complete the corrective action from the date of
- corrective action plan implementation until the final corrective action goal has been achieved and maintained for 2 consecutive quarters is 54 months. All activities must be completed within 5 years of the date of financial award unless otherwise approved in writing by the Agency.
- The Corrective Action Cost, in whole dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern shown in the Appendix such that CoC concentrations do not exceed SSTLs at any point in the area of concern; complete all associated monitoring and post-corrective action verification; prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon and/or remove all assessment and corrective action components; and complete other items outlined in this solicitation is:

\$ 1,189,405

BUSINESS MANAGEMENT 2014 JAN 27 PM 3: 53

ZFB-5400001095

(UST # 507584,077, 12352)

DHEC - Procurement Services

301 Gervais street

Columbia, S.C. 29201



MAILING ADDRESS:

DHEC - Division of Procurement Services

# State of South Carolina

Invitation for Bid

SUBMIT YOUR SEALED OFFER TO EITHER OF THE FOLLOWING ADDRESSES:

Solicitation Number: Date Issued: December 18, 2013

Procurement Officer: E. Madison Winslow E. Madina avials

5400007095

Phone: E-Mail Address:

803-898-3487 winsloem@dhec.sc.gov

DESCRIPTION: UST Corrective Action, UST # 07584, # 07777, # 12352 - Columbia, South Carolina USING GOVERNMENTAL UNIT: South Carolina Department of Health and Environmental Control

The Term "Offer" Means Your "Bid" or "Proposal". Solicitation Number & Opening Date must appear on package exterior. See "Submitting Your Offer" provision.

**OPENING / PHYSICAL ADDRESS:** 

DHEC – Division of Procurement Services Bureau of Business Management 2600 Bull Street Columbia, S.C. 29201	Columbia M 301 Gervais Columbia, S	DHEC – Division of Procurement Services - Bureau of Business Management Columbia Mills Building – 4 <sup>th</sup> Floor 301 Gervais Street Columbia, S.C. 29201  See Section II.A - Public Opening Information – DHEC Clause			
SUBMIT OFFER BY (Opening Date/Ti	me): January 28,	2014/2:30 p	om ET	(See "Dea	adline For Submission Of Offer" provision)
QUESTIONS MUST BE RECEIVED B	BY: January 10,	2014/2:30	pm ET	(See "Qu	estions From Offerors" provision)
NUMBER OF COPIES TO BE SUBMI	TTED: 1				
CONFERENCE TYPE: Not Applicable DATE & TIME:			LOCATI	ION:	Not Applicable
(As appropriate, see "Conferences - Pre-Bid/Proposal" & "S	Site Visit" provisions)				
					tion, any amendments, and any w.procurement.sc.gov
You must submit a signed copy of this fo the terms of the Solicitation. You agree to Opening Date. (See "		oen for a mi	nimum of	thirty	
NAME OF OFFEROR  (full legal name of business submitting the offer)	Any award issued will be issued to, and the contract will be formed with, the entity identified as the Offeror. The entity named as the offeror must be a single and distinct legal entity. Do not use the name of a branch office or a division of a larger entity if the branch or division is not a separate legal entity, i.e., a separate corporation, partnership, sole proprietorship, etc.				
AUTHORIZED SIGNATURE		TAXPAYER IDENTIFICATION NO.			
(Person must be authorized to submit binding offer to contract on behalf of Offeror.)		(See "Taxpayer Identification Number" provision)			
TITLE		STATE VENDOR NO.			
(business title of person signing above)		(Register to Obtain S.C. Vendor No. at www.procurement.sc.gov)			
PRINTED NAME	DATE SIGNED	ED STATE OF INCORPORATION		TION	
(printed name of person signing above)		(If you are a co	orporation, idea	ntify the	state of incorporation.)
OFFEROR'S TYPE OF ENTITY: (Chec	ck one)				(See "Signing Your Offer" provision.)
Sole Proprietorship	Partnership		Oth	er	
Corporate entity (not tax-exempt)	Corporation (tax-	exempt)	Gov	ernme	nt entity (federal, state, or local)
COVER PAGE (NOV. 2007)					

# **PAGE TWO**

(Return Page Two with Your Offer)

HOME OFFIC principal place of	CE ADDRESS (business)	Address for offeron	r's home office /		DRESS (Address to ould be sent.) (See		ement and contract
				Number - Exte	ension Fa	csimile	Area Code -
				mail Address			E-
PAYMENT ADDRESS (Address to which payments will be sent.)  (See "Payment" clause)  Payment Address same as Home Office Address Payment Address same as Notice Address (check only one)			ORDER ADDRESS (Address to which purchase orders will be sent) (See "Purchase Orders and "Contract Documents" clauses)  Order Address same as Home Office Address Order Address same as Notice Address (check only one)				
	DGMENT OF a			nber and its date o	f issue. (See "Ameno	Iments to Solicitat	ion" Provision)
Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date
DISCOUN' PROMPT PA (See "Discount for Payment" co	YMENT for Prompt	Calendar Days (%)	20 Calenda	nr Days (%)	30 Calendar Days	(%)C	alendar Days (%)

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#### I. SCOPE OF SOLICITATION

This solicitation is being released pursuant to South Carolina's statutes and regulations as outlined in Title 44, Chapter 2 of the 1976 SC Code of Laws as amended. The South Carolina Department of Health and Environmental Control (Agency) oversees and manages the state's Underground Storage Tank (UST) Management Division in accordance with State Regulation 61-92, Part 280. The South Carolina State Budget and Control Board granted an exemption for the UST Management Division from the South Carolina Consolidated Procurement Code on October 24, 1995, and amended on March 4, 1996 and March 15, 2007.

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) is seeking services to perform corrective action of a petroleum release at a regulated underground storage tank site in accordance with defined corrective action goals. The objectives are to prevent significant further migration of free-phase product (FPP) and chemicals of concern (CoC), to remove FPP, and to reduce the CoC concentrations to or below site-specific target levels (SSTLs) established by the Agency. All Offerors must be South Carolina-Certified Class I Site Rehabilitation Contractors.

#### **ACQUIRE SERVICES (JAN 2006)**

The purpose of this solicitation is to acquire services complying with the enclosed description and/or specifications and conditions. [01-1010-1]

#### MAXIMUM CONTRACT PERIOD - ESTIMATED (DHEC 2011)

Start Date: February 4, 2014 End Date: Completion of project

Dates provided are estimates only. Any resulting contract will begin on the date specified in the statement of award. This contract will be effective until the contractor has completed the project to the satisfaction of the Agency.

#### II. INSTRUCTIONS TO OFFERORS -- A. GENERAL INSTRUCTIONS

#### **DEFINITIONS (JAN 2006)**

EXCEPT AS OTHERWISE PROVIDED HEREIN, THE FOLLOWING DEFINITIONS ARE APPLICABLE TO ALL PARTS OF THE SOLICITATION.

AMENDMENT means a document issued to supplement the original solicitation document.

BOARD means the South Carolina Budget & Control Board.

BUYER means the Procurement Officer.

CHANGE ORDER means any written alteration in specifications, delivery point, rate of delivery, period of performance, price, quantity, or other provisions of any contract accomplished by mutual agreement of the parties to the contract.

CONTRACT See clause entitled Contract Documents & Order of Precedence.

CONTRACT MODIFICATION means a written order signed by the Procurement Officer, directing the contractor to make changes which the changes clause of the contract authorizes the Procurement Officer to order without the consent of the contractor.

CONTRACTOR means the Offeror receiving an award as a result of this solicitation.

COVER PAGE means the top page of the original solicitation on which the solicitation is identified by number. Offerors are cautioned that Amendments may modify information provided on the Cover Page.

OFFER means the bid or proposal submitted in response this solicitation. The terms Bid and Proposal are used interchangeably with the term Offer.

OFFEROR means the single legal entity submitting the offer. The term Bidder is used interchangeably with the term

Offeror. See bidding provisions entitled Signing Your Offer and Bid/Proposal As Offer To Contract.

ORDERING ENTITY Using Governmental Unit that has submitted a Purchase Order.

PAGE TWO means the second page of the original solicitation, which is labeled Page Two.

PROCUREMENT OFFICER means the person, or his successor, identified as such on the Cover Page.

YOU and YOUR means Offeror.

SOLICITATION means this document, including all its parts, attachments, and any Amendments.

STATE means the Using Governmental Unit(s) identified on the Cover Page.

SUBCONTRACTOR means any person having a contract to perform work or render service to Contractor as a part of the Contractor's agreement arising from this solicitation.

USING GOVERNMENTAL UNIT means the unit(s) of government identified as such on the Cover Page. If the Cover Page names a Statewide Term Contract as the Using Governmental Unit, the Solicitation seeks to establish a Term Contract [11-35-310(35)] open for use by all South Carolina Public Procurement Units [11-35-4610(5)].

WORK means all labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract.

[02-2A003-1]

#### **AMENDMENTS TO SOLICITATION (JAN 2004)**

(a) The Solicitation may be amended at any time prior to opening. All actual and prospective Offerors should monitor the following web site for the issuance of Amendments:www.procurement.sc.gov(b) Offerors shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on Page Two, (3) by letter, or (4) by submitting a bid that indicates in some way that the bidder received the amendment. (c) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged. [02-2A005-1]

#### AUTHORIZED AGENT - ONLY THE DHEC PROCUREMENT OFFICER (DHEC - APR 2011)

All authority regarding the conduct of this procurement is vested **solely** with the responsible Procurement Officer. Unless specifically delegated in writing, the Procurement Officer is the **only** government official authorized to bind the government with regard to this procurement. The Procurement Officer is an employee of the South Carolina Department of Health and Environmental Control (DHEC) acting on behalf of DHEC pursuant to the South Carolina Consolidated Procurement Code.

#### **AWARD NOTIFICATION (DHEC-UST JULY 2012)**

Notice regarding any award or cancellation of award will be posted at the location specified on the Cover Page. Any

Offeror desiring to exercise a grievance may do so under Section IV of DHEC Underground Storage Tank Environmental Remediation Procedures. All correspondence should be directed to the Director of Procurement Services, Bureau of Business Management, 2600 Bull Street, Columbia, S. C. 29201. DHEC Underground Storage Tank Environmental Remediation Procedures are attached to this solicitation.

#### BID/PROPOSAL AS OFFER TO CONTRACT (JAN 2004)

By submitting Your Bid or Proposal, You are offering to enter into a contract with the Using Governmental Unit(s). Without further action by either party, a binding contract shall result upon final award. Any award issued will be issued to, and the contract will be formed with, the entity identified as the Offeror on the Cover Page. An Offer may be submitted by only one legal entity; "joint bids" are not allowed. [02-2A015-1]

#### **BID ACCEPTANCE PERIOD (JAN 2004)**

In order to withdraw Your Offer after the minimum period specified on the Cover Page, You must notify the Procurement Officer in writing. [02-2A020-1]

#### **BID IN ENGLISH and DOLLARS (JAN 2004)**

Offers submitted in response to this solicitation shall be in the English language and in US dollars, unless otherwise permitted by the Solicitation. [02-2A025-1]

#### **CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (MAY 2008)**

GIVING FALSE, MISLEADING, OR INCOMPLETE INFORMATION ON THIS CERTIFICATION MAY RENDER YOU SUBJECT TO PROSECUTION UNDER SECTION 16-9-10 OF THE SOUTH CAROLINA CODE OF LAWS AND OTHER APPLICABLE LAWS.

- (a) By submitting an offer, the offeror certifies that-
- (1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to-
- (i) Those prices;
- (ii) The intention to submit an offer; or
- (iii) The methods or factors used to calculate the prices offered.
- (2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and
- (3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.
- (b) Each signature on the offer is considered to be a certification by the signatory that the signatory-
- (1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; or
- (2)(i) Has been authorized, in writing, to act as agent for the offeror's principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification [As used in this subdivision (b)(2)(i), the term "principals" means the person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal];
- (ii) As an authorized agent, does certify that the principals referenced in subdivision (b)(2)(i) of this certification have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; and
- (iii) As an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification.

(c) If the offeror deletes or modifies paragraph (a)(2) of this certification, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure. [02-2A032-1]

#### CERTIFICATION REGARDING DEBARMENT AND OTHER RESPONSIBILITY MATTERS (JAN 2004)

- (a) (1) By submitting an Offer, Offeror certifies, to the best of its knowledge and belief, that-
- (i) Offeror and/or any of its Principals-
- (A) Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any state or federal agency;
- (B) Have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and
- (C) Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.
- (ii) Offeror has not, within a three-year period preceding this offer, had one or more contracts terminated for default by any public (Federal, state, or local) entity.
- (2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).
- (b) Offeror shall provide immediate written notice to the Procurement Officer if, at any time prior to contract award, Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- (c) If Offeror is unable to certify the representations stated in paragraphs (a)(1), Offer must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Offeror's responsibility. Failure of the Offeror to furnish additional information as requested by the Procurement Officer may render the Offeror nonresponsible.
- (d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- (e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the State, the Procurement Officer may terminate the contract resulting from this solicitation for default.

  [02-2A035-1]

#### **CODE OF LAWS AVAILABLE (JAN 2006)**

The South Carolina Code of Laws, including the Consolidated Procurement Code, is available at: http://www.scstatehouse.gov/code/statmast.htm. The South Carolina Regulations are available at: http://www.scstatehouse.gov/coderegs/statmast.htm [02-2A040-1]

#### **COMPLETION OF FORMS/CORRECTION OF ERRORS (JAN 2006)**

All prices and notations should be printed in ink or typewritten. Errors should be crossed out, corrections entered and initialed by the person signing the bid. Do not modify the solicitation document itself (including bid schedule). (Applicable only to offers submitted on paper.) [02-2A045-1]

# **DEADLINE FOR SUBMISSION OF OFFER (JAN 2004)**

Any offer received after the Procurement Officer of the governmental body or his designee has declared that the time set for opening has arrived, shall be rejected unless the offer has been delivered to the designated purchasing office or the governmental bodies mail room which services that purchasing office prior to the bid opening. [R.19-445.2070(H)] [02-2A050-1]

#### DRUG FREE WORK PLACE CERTIFICATION (JAN 2004)

By submitting an Offer, Contractor certifies that, if awarded a contract, Contractor will comply with all applicable provisions of The Drug-free Workplace Act, Title 44, Chapter 107 of the South Carolina Code of Laws, as amended. [02-2A065-1]

#### **DUTY TO INQUIRE (JAN 2006)**

Offeror, by submitting an Offer, represents that it has read and understands the Solicitation and that its Offer is made in compliance with the Solicitation. Offerors are expected to examine the Solicitation thoroughly and should request an explanation of any ambiguities, discrepancies, errors, omissions, or conflicting statements in the Solicitation. Failure to do so will be at the Offeror's risk. Offeror assumes responsibility for any patent ambiguity in the Solicitation that Offeror does not bring to the State's attention. [02-2A070-1]

#### **ETHICS CERTIFICATE (MAY 2008)**

By submitting an offer, the offeror certifies that the offeror has and will comply with, and has not, and will not, induce a person to violate Title 8, Chapter 13 of the South Carolina Code of Laws, as amended (ethics act). The following statutes require special attention: Section 8-13-700, regarding use of official position for financial gain; Section 8-13-705, regarding gifts to influence action of public official; Section 8-13-720, regarding offering money for advice or assistance of public official; Sections 8-13-755 and 8-13-760, regarding restrictions on employment by former public official; Section 8-13-775, prohibiting public official with economic interests from acting on contracts; Section 8-13-790, regarding recovery of kickbacks; Section 8-13-1150, regarding statements to be filed by consultants; and Section 8-13-1342, regarding restrictions on contributions by contractor to candidate who participated in awarding of contract. The state may rescind any contract and recover all amounts expended as a result of any action taken in violation of this provision. If contractor participates, directly or indirectly, in the evaluation or award of public contracts, including without limitation, change orders or task orders regarding a public contract, contractor shall, if required by law to file such a statement, provide the statement required by Section 8-13-1150 to the procurement officer at the same time the law requires the statement to be filed. [02-2A075-2]

#### **OMIT TAXES FROM PRICE (JAN 2004)**

Do not include any sales or use taxes in Your price that the State may be required to pay. [02-2A080-1]

#### **PUBLIC OPENING (JAN 2004)**

Offers will be publicly opened at the date/time and at the location identified on the Cover Page, or last Amendment, whichever is applicable. [02-2A090-1]

#### **PUBLIC OPENING INFORMATION - DHEC (JUL 2013)**

Vendors arriving at 301 Gervais Street will notice construction in the front of the State Museum. Proceed to the left side of the building, following the signs to "Visitor Parking Garage." Park in the upper deck of the two-level parking garage.

Adjacent to the parking garage is a glass door with a SC DHEC logo. This entrance is locked at all times, so vendors must call DHEC's procurement receptionist at (803) 898-3501 in order to enter the building. An employee will open the door and escort the vendor to the 4th floor receptionist for their offers to be date/time stamped and then, if desired, escorted to the conference room (403) where the public opening will take place.

To obtain building access and have offers date/time stamped will take several minutes. The public opening date/time is identified on the Cover Page, or the last Amendment, if applicable. Please plan accordingly; opening times will not be adjusted.

#### **QUESTIONS FROM OFFERORS (JAN 2004)**

(a) Any prospective offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing. Questions must be received by the Procurement Officer no later than five (5) days prior to opening unless otherwise stated on the Cover Page. Label any communication regarding your questions with the name of the procurement officer, and the solicitation's title and number. Oral explanations or instructions will not be binding. Any information given a prospective offeror concerning a solicitation will be furnished promptly to all other prospective offerors as an Amendment to the solicitation, if that information is necessary for submitting offers or if the lack of it would be prejudicial to other prospective offerors. (b) The State seeks to permit maximum practicable competition. Offerors are urged to advise the Procurement Officer -- as soon as possible -- regarding any aspect of this procurement, including any aspect of the Solicitation, that unnecessarily or inappropriately limits full and open competition. [02-2A095-1]

All questions must be in writing and received by E. Madison Winslow no later than January 10, 2014/2:30 pm ET. Email is the preferred method for submitting questions with "Questions: UST Corrective Action - UST Permits # 07584, 07777. & 12352" as the subject of the email. Submit questions in an easily copied format such as MS Word.

E-mail: winsloem@dhec.sc.gov

If you choose not to email questions, send to the following address/fax number:

South Carolina Department of Health and Environmental Control Division of Procurement Services
Attn: E. Madison Winslow

2600 Bull Street, Columbia, S.C. 29201

Fax: 803-898-3505

#### **REJECTION/CANCELLATION (JAN 2004)**

The State may cancel this solicitation in whole or in part. The State may reject any or all proposals in whole or in part. [SC Code Section 11-35-1710 & R.19-445.2065] [02-2A100-1]

#### RESPONSIVENESS/IMPROPER OFFERS (JAN 2004)

- (a) Bid as Specified. Offers for supplies or services other than those specified will not be considered unless authorized by the Solicitation.
- (b) Multiple Offers. Offerors may submit more than one Offer, provided that each Offer has significant differences other than price. Each separate Offer must satisfy all Solicitation requirements. If this solicitation is an Invitation for Bids, each separate offer must be submitted as a separate document. If this solicitation is a Request for Proposals, multiple offers may be submitted as one document, provided that you clearly differentiate between each offer and you submit a separate cost proposal for each offer, if applicable.
- (c) Responsiveness. Any Offer which fails to conform to the material requirements of the Solicitation may be rejected as nonresponsive. Offers which impose conditions that modify material requirements of the Solicitation may be rejected. If a fixed price is required, an Offer will be rejected if the total possible cost to the State cannot be determined. Offerors will not be given an opportunity to correct any material nonconformity. Any deficiency resulting from a minor informality may be cured or waived at the sole discretion of the Procurement Officer. [R.19-445.2070 and Section 11-35-1520(13)]
- (d) Price Reasonableness: Any offer may be rejected if the Procurement Officer determines in writing that it is unreasonable as to price. [R. 19-445.2070].
- (e) Unbalanced Bidding. The State may reject an Offer as nonresponsive if the prices bid are materially unbalanced between line items or subline items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the State even though it may be the low evaluated bid, or if it is so

unbalanced as to be tantamount to allowing an advance payment. [02-2A105-1]

#### **RESTRICTIONS APPLICABLE TO OFFERORS (JAN 2004)**

Violation of these restrictions may result in disqualification of your offer, suspension or debarment, and may constitute a violation of the state Ethics Act. (a) After issuance of the solicitation, you agree not to discuss this procurement activity in any way with the Using Governmental Unit or its employees, agents or officials All communications must be solely with the Procurement Officer. This restriction may be lifted by express written permission from the Procurement Officer. This restriction expires once a contract has been formed. (b) Unless otherwise approved in writing by the Procurement Officer, you agree not to give anything to any Using Governmental Unit or its employees, agents or officials prior to award. [02-2A110-1]

#### SIGNING YOUR OFFER (JAN 2004)

Every Offer must be signed by an individual with actual authority to bind the Offeror. (a) If the Offeror is an individual, the Offer must be signed by that individual. If the Offeror is an individual doing business as a firm, the Offer must be submitted in the firm name, signed by the individual, and state that the individual is doing business as a firm. (b) If the Offeror is a partnership, the Offer must be submitted in the partnership name, followed by the words by its Partner, and signed by a general partner. (c) If the Offeror is a corporation, the Offer must be submitted in the corporate name, followed by the signature and title of the person authorized to sign. (d) An Offer may be submitted by a joint venturer involving any combination of individuals, partnerships, or corporations. If the Offeror is a joint venture, the Offer must be submitted in the name of the Joint Venture and signed by every participant in the joint venture in the manner prescribed in paragraphs (a) through (c) above for each type of participant. (e) If an Offer is signed by an agent, other than as stated in subparagraphs (a) through (d) above, the Offer must state that is has been signed by an Agent. Upon request, Offeror must provide proof of the agent's authorization to bind the principal. [02-2A115-1]

#### STATE OFFICE CLOSINGS (JAN 2004)

If an emergency or unanticipated event interrupts normal government processes so that offers cannot be received at the government office designated for receipt of bids by the exact time specified in the solicitation, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal government processes resume. In lieu of an automatic extension, an Amendment may be issued to reschedule bid opening. If state offices are closed at the time a pre-bid or pre-proposal conference is scheduled, an Amendment will be issued to reschedule the conference. Useful information may be available at: http://www.scemd.org/scgovweb/weather alert.html [02-2A120-1]

# SUBMITTING CONFIDENTIAL INFORMATION (AUG 2002)

(An overview is available at www.procurement.sc.gov) For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the word "CONFIDENTIAL" every page, or portion thereof, that Offeror contends contains information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-40(a)(1), or (b) privileged and confidential, as that phrase is used in Section 11-35-410. For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the words "TRADE SECRET" every page, or portion thereof, that Offeror contends contains a trade secret as that term is defined by Section 39-8-20 of the Trade Secrets Act. For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the word "PROTECTED" every page, or portion thereof, that Offeror contends is protected by Section 11-35-1810. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire response (bid, proposal, quote, etc.) as confidential, trade secret, or protected. If your response, or any part thereof, is improperly marked as confidential or trade secret or protected, the State may, in its sole discretion, determine it nonresponsive. If only portions of a page are subject to some protection, do not mark the entire page. By submitting a response to this solicitation or request, Offeror (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, and documents submitted during negotiations), unless the page is conspicuously marked "TRADE SECRET" or "CONFIDENTIAL" or "PROTECTED", (2) agrees that any information not marked, as required by these bidding instructions, as a "Trade Secret" is not a trade secret as defined by the Trade Secrets Act, and (3) agrees that, notwithstanding any claims or markings otherwise, any prices,

commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure. In determining whether to release documents, the State will detrimentally rely on Offeror's marking of documents, as required by these bidding instructions, as being either "Confidential" or "Trade Secret" or "PROTECTED". By submitting a response, Offeror agrees to defend, indemnify and hold harmless the State of South Carolina, its officers and employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney's fees, arising out of or resulting from the State withholding information that Offeror marked as "confidential" or "trade secret" or "PROTECTED". (All references to S.C. Code of Laws.) [02-2A125-1]

# SUBMITTING YOUR OFFER OR MODIFICATION (JAN 2004)

(a) Offers and offer modifications shall be submitted in sealed envelopes or packages (unless submitted by electronic means) - (1) Addressed to the office specified in the Solicitation; and (2) Showing the time and date specified for opening, the solicitation number, and the name and address of the bidder. (b) If you are responding to more than one solicitation, each offer must be submitted in a different envelope or package. (c) Each Offeror must submit the number of copies indicated on the Cover Page. (d) Offerors using commercial carrier services shall ensure that the Offer is addressed and marked on the outermost envelope or wrapper as prescribed in paragraphs (a)(1) and (2) of this provision when delivered to the office specified in the Solicitation. (e) Facsimile or e-mail offers, modifications, or withdrawals, will not be considered unless authorized by the Solicitation. (f) Offers submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation. [02-2A130-1]

# TAX CREDIT FOR SUBCONTRACTING WITH DISADVANTAGED SMALL BUSINESSES (JAN 2008)

Pursuant to Section 12-6-3350, a taxpayer having a contract with this State who subcontracts with a socially and economically disadvantaged small business is eligible for an income tax credit equal to four percent of the payments to that subcontractor for work pursuant to the contract. The subcontractor must be certified as a socially and economically disadvantaged small business as defined in Section 11-35-5010 and regulations pursuant to it. The credit is limited to a maximum of fifty thousand dollars annually. A taxpayer is eligible to claim the credit for ten consecutive taxable years beginning with the taxable year in which the first payment is made to the subcontractor that qualifies for the credit. After the above ten consecutive taxable years, the taxpayer is no longer eligible for the credit. A taxpayer claiming the credit shall maintain evidence of work performed for the contract by the subcontractor. The credit may be claimed on Form TC-2, "Minority Business Credit." A copy of the subcontractor's certificate from the Governor's Office of Small and Minority Business (OSMBA) is to be attached to the contractor's income tax return. Questions regarding the tax credit and how to file are to be referred to: SC Department of Revenue, Research and Review, Phone: (803) 898-5786, Fax: (803) 898-5888. Questions regarding subcontractor certification are to be referred to: Governor's Office of Small and Minority Business Assistance, Phone: (803) 734-0657, Fax: (803) 734-2498. [02-2A135-1]

# **TAXPAYER IDENTIFICATION NUMBER (JAN 2004)**

- (a) If Offeror is owned or controlled by a common parent as defined in paragraph (b) of this provision, Offeror shall submit with its Offer the name and TIN of common parent.
- (b) Definitions: "Common parent," as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member. "Taxpayer Identification Number (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.
- (c) If Offeror does not have a TIN, Offeror shall indicate if either a TIN has been applied for or a TIN is not required. If a TIN is not required, indicate whether (i) Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States; (ii) Offeror is an agency or instrumentality of a state or local government; (iii) Offeror is an agency or instrumentality of the Federal Government. [02-2A140-1]

# **VENDOR REGISTRATION MANDATORY (JAN 2006)**

You must have a state vendor number to be eligible to submit an offer. To obtain a state vendor number, visit www.procurement.sc.gov and select New Vendor Registration. (To determine if your business is already registered, go to "Vendor Search"). Upon registration, you will be assigned a state vendor number. Vendors must keep their vendor information current. If you are already registered, you can update your information by selecting Change Vendor

Registration. (Please note that vendor registration does not substitute for any obligation to register with the S.C. Secretary of State or S.C. Department of Revenue. You can register with the agencies at <a href="http://www.scbos.com/default.htm">http://www.scbos.com/default.htm</a>) [02-2A145-1]

#### WITHDRAWAL OR CORRECTION OF OFFER (JAN 2004)

Offers may be withdrawn by written notice received at any time before the exact time set for opening. If the Solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before the exact time set for opening. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for opening, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid. The withdrawal and correction of Offers is governed by S.C. Code Section 11-35-1520 and Regulation 19-445.2085. [02-2A150-1]

# II. INSTRUCTIONS TO OFFERORS -- B. SPECIAL INSTRUCTIONS

#### **CLARIFICATION (NOV 2007)**

Pursuant to Section 11-35-1520(8), the Procurement Officer may elect to communicate with you after opening for the purpose of clarifying either your offer or the requirements of the solicitation. Such communications may be conducted only with offerors who have submitted an offer which obviously conforms in all material aspects to the solicitation. Clarification of an offer must be documented in writing and included with the offer. Clarifications may not be used to revise an offer or the solicitation. [Section 11-35-1520(8); R.19-445.2080] [02-2B055-1]

#### **UNIT PRICES REQUIRED (JAN 2006)**

Unit price to be shown for each item. [02-2B170-1]

# II. INSTRUCTIONS TO OFFERORS -- C. SPECIAL INSTRUCTIONS

#### **ENVIRONMENTAL REMEDIATION PROCUREMENT PROCEDURES**

Attached to this solicitation are the applicable processes adopted by DHEC and approved by the South Carolina Office of the State Engineer for DHEC's Environmental Remediation Procurement Procedures.

#### III. SCOPE OF WORK/SPECIFICATIONS

#### BIDDING SCHEDULE

See Bidding Schedule (Solicitation Item VIII) [03-3005-1]

#### **DELIVERY/PERFORMANCE LOCATION -- SPECIFIED (JAN 2006)**

After award, all deliveries shall be made and all services provided to the following addresses, unless otherwise specified: UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC UST Permit # 07777 & UST Permit # 12352, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC [03-3030-1]

#### 3.1 DEFINITIONS

#### For the purposes of this contract the following terms and definitions shall apply:

- A. <u>Area of Concern</u>: the horizontal and vertical area in which concentrations of petroleum chemicals of concern have been quantified and/or can be relatively determined by actual data and subsequent interpretation using accepted scientific principles.
- B. <u>Catastrophic Occurrence</u>: An event (e.g., hurricane) that results in a declared state of emergency and directly and substantially affects the Contractor's operations at a site.
- C. <u>Chemicals of Concern (CoC)</u>: Specific petroleum constituents that are identified for monitoring and corrective action.
- D. <u>Corrective Action Completion Time</u>: The time in months, submitted by the Contractor, necessary to reduce CoC concentrations to or below site-specific target levels (SSTLs), verify attainment of corrective action goals, and remove and/or properly abandon assessment and corrective action components (wells, treatment lines, etc.). All activities must be completed within five years of the date of financial award unless otherwise approved in writing by the Agency.
- E. <u>Corrective Action Cost</u>: The total amount established via the procurement process to complete the scope of work/specifications detailed in the solicitation.
- F. <u>Corrective Action Plan (CAP)</u>: A document submitted by the Contractor that outlines and details proposed corrective action(s) and contains a timetable consistent with the Corrective Action Completion Time.
- G. <u>Corrective Action Plan Implementation Date</u>: The date on which the Contractor initiates corrective action (i.e., physical treatment activities such excavation, extraction, injection, etc.) under the approved Corrective Action Plan. The date must be within 30 days of receipt of a Notice to Proceed issued by the Agency.
- H. <u>Day</u>: For the purpose of this solicitation, any reference to day(s) will be intended as calendar day(s) and not business day(s).
- Free-Phase Product (FPP): Petroleum lighter than water non-aqueous phase liquid (LNAPL) identified for monitoring and corrective action.
- J. <u>Liquidated Damages</u>: Costs over and above the pre-approved amount that are incurred by the Agency in order to complete the corrective action as specified in this document in the event of a breach of contract by the Contractor resulting in termination of the contract.
- K. QAPP: UST Management Division Quality Assurance Program Plan

L. <u>Site Incentive Period</u>: The period of time in months established by the Agency during which the Contractor must achieve the corrective action goals (see Solicitation Item III 3.4 B 3) in order to qualify for the Early Completion Incentive.

#### 3.2 SCHEDULE OF DELIVERABLES

The following table summarizes the deadlines for deliverables associated with this contract:

DELIVERABLE DUE	DEADLINE		
Questions	By January 10, 2014/2:30 pm ET		
Invitation for Bids	By January 28, 2014/2:30 pm ET		
QAPP Contractor Addendum for Initial Monitoring Report	15 days from issue of Purchase Order		
Corrective Action Plan and QAPP Contractor Addendum for Corrective Action	30 days from issue of Purchase Order		
Initial Monitoring Report	45 days from approval of QAPP Contractor Addendum for Initial Monitoring Report		
CAP Implementation	30 days from Notice to Proceed		
CAP Implementation Report	60 days from Notice to Proceed		
Notify Project Manager of Sampling	At least 2 weeks prior to sampling event		
Corrective Action System Evaluation Report	Semi-annually with initial report due within 90 days of the CAP Implementation Report or other schedule approved by the Agency		
Update QAPP Contractor Addendum for Corrective Action	First quarter of each year or as needed until completion of corrective action		
Abandon and/or Remove Assessment and Corrective Action Equipment and Components	Within 60 days from notice by the Agency		

#### 3.3 SITE-SPECIFIC INFORMATION

The scope of work defined in this solicitation is to be implemented at UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC and UST Permit # 07777 & UST Permit # 12352, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC for the releases reported on January 30, 1991, April 17, 1998, December 31, 1991, and December 30, 1991. A copy of the technical files will be available on-line at <a href="http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm">http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm</a> until the initial Corrective Action Plan is approved. The technical files may also be reviewed at the Freedom of Information (FOI) Office located at the Sims/Aycock Building, 2600 Bull Street, Columbia, SC (803-898-3882).

#### 3.4 CONTRACTUAL REQUIREMENTS

#### A. GENERAL REQUIREMENTS

 SITE WORK VERIFICATION: The Contractor will be required to treat the area of concern as defined in Solicitation Item III 3.1 A and as shown in the Appendix (Figures 3A-3C). Verification that FPP removal and interim corrective action goals have been achieved will be based upon gauging/sampling results from the sitespecific target level (SSTL) wells and sampling points listed in the Appendix, and all injection and/or extraction wells installed as part of the corrective action. Verification that the final corrective action goal has been achieved will be based upon sampling results from all wells and sampling points listed in the Appendix and all verification wells to be installed at locations and depths designated by the Agency (see Solicitation Item III 3.5 B 11 for more details). It is understood that seasonal fluctuations in FPP thicknesses and CoC concentrations will occur. It is the intent of this corrective action to prevent further degradation of the aquifer(s) by continued migration of FPP and/or CoC into areas not previously impacted. If the corrective action allows FPP and/or CoC to migrate into areas not previously impacted, the Contractor will be responsible for completing assessment activities necessary to re-define the impacted areas without further compensation and for providing amendments to their Corrective Action Plan (CAP) to address the additional impact.

- 2. REPORTS: Reports are to be submitted to the Agency on, or prior to, established due dates unless otherwise approved in writing by the Agency. Deliver one paper copy and one electronic copy of each plan or report to: SCDHEC, Bureau of Land and Waste Management, UST Management Division, 2600 Bull Street, Columbia, SC 29201. The electronic copy should be submitted on compact disc (CD) in Personal Data Format (PDF). All data tables should be in MS Excel or comparable format. A copy of each plan or report must be delivered to each party on the Distribution List included in the Appendix. The distribution copies may be paper or electronic as agreed upon by the party and the Contractor. Based upon permitting and other requirements, additional copies of plans or reports may be required by the Agency. For such instances, the Agency will notify the Contractor in writing of the exact number of copies of each document to be submitted.
- 3. INVOICING: Invoices will be submitted to: SCDHEC, Bureau of Land and Waste Management, UST Management Division, ATTN: Financial Section, 2600 Bull Street, Columbia, SC 29201, using the Corrective Action (CA) Invoice form provided by the Agency. The initial invoice must be received at the above address within 4 months of CAP approval or funds will be uncommitted as required by the Section 44-2-40(B) of the SUPERB Act. If funds are uncommitted, the submitted invoice will be held until funding is available. Payment will only be made for achieving corrective action goals as specified below. No partial payments will be made, except as outlined in Solicitation Item III 3.5 B 4. No payments will be made if there are any outstanding reports associated with this solicitation. Payment to the Contractor will be on a pay-for-performance basis as follows:
  - a. Payment of 40% of the total Corrective Action Cost will be made within 90 days following receipt of an invoice and documentation that the Contractor has completed the Corrective Action Plan Implementation. All corrective action activities must be as described in the CAP and are subject to the limitations of Section 44-2-40 of the SUPERB Act. The implementation should be documented in the Corrective Action Plan Implementation Report. The Corrective Action Plan Implementation Report must include the construction logs for all injection and/or extraction wells installed in accordance with the CAP.
  - b. Payment of 30% of the total Corrective Action Cost will be made based on achieving FPP removal, interim CoC concentration reduction goals, and a final CoC concentration reduction goal as verified in the SSTL wells and sampling points listed in the Appendix, in all injection and/or extraction wells, and in all verification wells. Payments will be made upon receipt of invoices and documentation that the Contractor has achieved FPP removal, and interim and final goals of 60%, 90%, and 100% reduction of total CoC concentration above the SSTLs by the implementation of corrective action. CoC concentrations and SSTLs are listed in the Appendix.
    - 1) FPP removal will be achieved when the FPP thickness does not exceed 0.01' in all SSTL wells and sampling points listed in the Appendix, and in all verification and/ or extraction wells. Payment of 10% of the total Corrective Action Cost will be made upon verification (see Solicitation Item III 3.5 B 11 for the method of verification) that measurable (>0.01') FPP has been removed. Achievement of FPP removal must be verified by gauging conducted by the Agency.
    - 2) The first interim concentration reduction goal will be achieved when 60% of the total CoC concentration above SSTLs in the SSTL wells and sampling points listed in the Appendix is removed. The formula listed in the site rehabilitation section of the QAPP will be used to calculate the percent total concentration reduction. Payment of 10% of the total Corrective Action Cost will be made upon confirmation by CASE report or upon verification (see Solicitation Item III 3.5 B 11 for the method of verification) that at least 60% of the total CoC concentration above SSTLs has been removed.

- 2) The second interim concentration reduction goal will be achieved when 90% of the total CoC concentration above SSTLs in the SSTL wells and sampling points listed in the Appendix is removed. The formula listed in the site rehabilitation section of the QAPP will be used to calculate the percent total concentration reduction. Payment of 5% of the total Corrective Action Cost will be made upon verification (see Solicitation Item III 3.5 B 11 for the method of verification) that at least 90% of the total CoC concentration above SSTLs has been removed. Achievement of this interim goal must be verified by split sampling conducted with the Agency.
- 3) The final concentration reduction goal will be achieved when 100% of the total CoC concentration above SSTLs in the SSTL wells and sampling points listed in the Appendix is removed. The formula listed in the site rehabilitation section of the QAPP will be used to calculate the percent total concentration reduction. Payment of 5% of the total Corrective Action Cost will be made upon verification (see Solicitation Item III 3.5 B 11 for the method of verification) that 100% of the total CoC concentration above SSTLs has been removed. The 100% payment milestone must be verified following two consecutive quarters with all corrective action activities completely ceased prior to payment eligibility. Achievement of this goal must be verified by split sampling conducted with the Agency (to be completed during the 2<sup>nd</sup> 100% verification quarter). CoC concentrations must not exceed SSTLs in all wells and sampling points listed in the Appendix, in all verification wells, and at any point in the area of concern.
- c. The final 30% of the total Corrective Action Cost will be paid upon receipt of an invoice and verification that all assessment and corrective action components (e.g., piping, wells, trenches, etc.) have been removed from the site or properly abandoned (see Solicitation Item III 3.5 B 11-14 for more details), and the facility and associated adjacent properties have been restored to the condition that existed prior to assessment and corrective action (Solicitation Item 3.5 B 13). If 100% CoC concentration reduction is not achieved, the final payment may be reduced accordingly (e.g., 98% paid for 98% final reduction) as mutually agreed upon by the Agency and the Contractor.
- 4. NOTIFICATION FOR FAILURE TO PERFORM: If the Contractor fails during the course of this contract to make reasonable progress toward the cleanup goals in accordance with the Corrective Action Completion Time as included in the corrective action plan, or fails to meet any requirement or specification of corrective action as outlined in this document without prior notification to the Agency of circumstances legitimately beyond their control, the Agency will, on the first occurrence, notify the Contractor by certified letter and meet with them to establish a timetable and remedy for the deficiency (ies). If the Contractor corrects the deficiency (ies) within the agreed to period of time, the contract award will continue. If the Contractor does not correct the deficiency (ies) in a satisfactory manner as specified by the Agency within the agreed to period of time, the Contractor will be in breach of contract and the contract award may be voided by the Agency. On a second occurrence of a deficiency, the Agency will notify the Contractor by certified letter and meet with them to establish a timetable and remedy for any deficiency (ies). If the Contractor corrects the deficiency (ies) within the agreed to period of time, the contract award will continue. If the Contractor does not correct the deficiency (ies) within the agreed period of time to the satisfaction of the Agency, the Contractor will be in breach of contract and the contract award may be voided by the Agency. If the Contractor fails on a third occasion during the course of this contract to meet any requirement or specification established in this document, the Contractor will be in breach of contract and the contract award will be voided by the Agency. The Agency will notify the Contractor by certified letter that the contract award has been voided and will initiate appropriate actions in accordance with Solicitation Item III 3.4 A 6. In the event that the contract award is voided due to a breach of contract as outlined above, no further payment of any invoices will be made and the Contractor will incur a one-year suspension from bidding on any USTrelated solicitations in South Carolina and may be subject to suspension or decertification in accordance with the SUPERB Site Rehabilitation and Fund Access Regulations, R.61-98.
- 5. CANCELLATION: The accepted Corrective Action Cost will be final and will not be increased or cancelled for any reason (e.g., unanticipated iron fouling of a system, wells clogging because of biological activity or sediments, damage by lightning, increased subcontractor costs, loss of utilities, modification to the system to meet the remediation goals, etc.) with the exception of: 1) unforeseen subsurface conditions as determined solely at the discretion of the Agency; and 2) identification of additional FPP or CoC from a confirmed release that occurs after the award of this contract and that adversely impacts the corrective action as determined by the Agency. Payment will only be made for achieving the corrective action goals as specified in this document. No interim or partial payments will be made, except as outlined in Solicitation Item III 3.5 B 4. Once corrective action has been initiated under this contract and in the event of a cancellation due to any of the conditions described in this

contract Item, final payment, if appropriate, will be a percentage of the Corrective Action Cost. The percentage will be equal to actual percent total CoC concentration reduction based upon the last sampling results, as verified by the Agency, from all wells and sampling points listed in the Appendix and all verification wells, less the amount previously paid. Contractor-owned items used on-site for the corrective action that are damaged or destroyed by common acts of nature, improper maintenance or handling, theft or vandalism will not be replaced or reimbursed by the SUPERB Account. The Contractor cannot delay progress or suspend corrective action activities at the site based upon a claim of a suspected new petroleum release from the UST system. Unless directed otherwise by the Agency, the Contractor must continue to perform corrective action activities under this contract during any period of time during which a new petroleum release from the UST system is being investigated. The Contractor must clearly demonstrate sufficient evidence of the release in the form of analytical test results or other demonstrative evidence to the Agency. The determination that a new petroleum release from the UST system has occurred that post-dates the contract award, and that adversely impacts corrective action at the site, is the sole discretion of the Agency.

6. LIQUIDATED DAMAGES: In the event that the contract award is voided for cause as outlined in Solicitation Item III 3.4 A 4, the Contractor will be required to pay liquidated damages equal to the costs that are incurred by the Agency over and above the Corrective Action Cost in order to complete the corrective action as specified in this contract. The amount of liquidated damages will be computed by subtracting the unpaid balance of the Corrective Action Cost from the completion cost of the corrective action as determined by re-bid of the corrective action contract. The Contractor will be notified by certified mail of the amount of liquidated damages within 15 business days following opening of the re-bid. The Contractor will have 60 days from the date of notification to make payment of the amount. In the event that the Contractor is unable or unwilling to pay the liquidated damages, the Agency will initiate decertification of the Contractor in accordance with Section V A 4 of the SUPERB Site Rehabilitation and Fund Access Regulations, R.61-98, and may initiate legal action to secure payment of the damages.

#### **B. SPECIFIC REQUIREMENTS**

- CONTRACT SCOPE: This contract is for corrective action at two sites (three UST Permits) in South Carolina.
- 2. INQUIRIES: A copy of the technical files will be available on-line at <a href="http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm">http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm</a> until the initial Corrective Action Plan is approved. The technical files may also be reviewed at the Freedom of Information (FOI) Office located at the Sims/Aycock Building, 2600 Bull Street, Columbia, SC (803-898-3882). Questions or requests for information must be submitted in writing and received by 2:30 P.M. on the date specified in Solicitation Item III 3.2. After this date, no further questions will be addressed. A written response will be provided to all requestors of the solicitation. The questions may be faxed to E. Madison Winslow in the Bureau of Business Management at 803-898-3505.
- 3. PROVISION FOR EARLY COMPLETION INCENTIVE: The Agency will pay the Contractor an incentive of 10% of the Corrective Action Cost for early completion, subject to the conditions set forth in this provision. Payment will be made if the corrective action goals have been met in accordance with the terms of this contract prior to the end of the Site Incentive Period, as established by the Agency, and verified in accordance with Solicitation Item III 3.5 B 11.

The Site Incentive Period will commence on the Corrective Action Plan Implementation Date. A month starts at 12:00 Midnight on the Corrective Action Plan Implementation Date and ends at Midnight preceding the same day of the following month. Months will be consecutively counted from the Corrective Action Plan Implementation Date. Following implementation, the Agency will provide the Contractor notice in writing of the closing date of the Site Incentive Period.

The Site Incentive Period will not be adjusted for any reason, cause or circumstance whatsoever, regardless of fault, save and except: 1) in the instance of a catastrophic occurrence (e.g., hurricane) that results in a declared state of emergency and that directly and substantially affects the Contractor's operations at a site and results in unavoidable delay of the corrective action, or 2) an unforeseen condition that could not have been anticipated following financial award to which the Agency has been notified in writing by the Contractor and as the Agency has approved in writing. In the event of a catastrophic occurrence or unforeseen condition on a specific site, shall determine the number of months reasonably necessary to extend the Site Incentive Period

due solely to such catastrophic occurrence. Any amendments to the Site Incentive Period will be provided to the Contractor in writing.

The parties anticipate that routine delays may be caused by or arise from any number of events during the course of corrective action, including, but not limited to, work performed, work deleted, supplemental agreements, delays, disruptions, differing site conditions, utility conflicts, design changes or defects, extra work, right-of-way issues, permitting issues, actions of suppliers, subcontractors, or other Contractors, actions by third parties, revision of the work scope by the Contractor, weather, weekends, holidays, suspensions of the Contractor's operations, or any other such events, forces or factors experienced in environmental work. Such delays or events, and their potential impacts on performance by the Contractor are specifically contemplated and acknowledged by the Contractor upon entering into this contract, and shall not affect the Site Incentive Period or incentives set forth in this contract item. Further, any and all costs or impacts whatsoever incurred by the Contractor to complete corrective action within the Site Incentive Period, whether successful or not, shall be the sole responsibility of the Contractor in every instance.

The Contractor shall have no rights under the contract to make any claim arising out of this incentive provision except as is expressly set forth in this provision.

The Site Incentive Period for UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC and UST Permit # 07777 & UST Permit # 12352, Cloud's Chevron, 1600 Two Notch Rd., Columbia, SC is 36 months.

4. SITE-SPECIFIC DETAILS: A brief technical summary, including maps and data tables, is attached in the Appendix. A copy of the technical files will be available on-line at <a href="http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm">http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm</a> until the initial Corrective Action Plan is approved. The technical files may also be reviewed at the Freedom of Information (FOI) Office located at the Sims/Aycock Building, 2600 Bull Street, Columbia, SC. Appointment(s) to view the technical files may be scheduled on weekdays between the hours of 8:30 A.M. to 5:00 P.M. by calling FOI at 803-898-3882. Offerors are strongly encouraged to review the file(s) to ensure a complete understanding of corrective action requirements. The successful Offeror will be responsible for all information in the technical file(s).

#### 3.5 CORRECTIVE ACTION SPECIFICATIONS

#### A. GENERAL SPECIFICATIONS

- 1. SUBMITTALS: All Offerors must submit a completed Corrective Action Solicitation Response form (Solicitation Item VIII). The response outlines in general terms the Offeror's approach to achieve the corrective action goals.
- 2. MINIMUM REQUIREMENTS: Corrective action will be considered complete when: 1) the CoC concentrations are verified to be at or below SSTLs in all wells and sampling points listed in the Appendix, in all verification wells, and at any point in the area of concern for two consecutive quarters; 2) all assessment and corrective action components (e.g., piping, wells, trenches, etc.) have been removed from the sites or are properly abandoned; and 3) the facilities and associated adjacent properties have been restored to the condition that existed prior to assessment and corrective action in accordance with Solicitation Item 3.5 B 13. See Solicitation Item III 3.5 B 11 for the method of verification. Per R.61-98, all site rehabilitation activities associated with a UST release must be performed by an SCDHEC-certified Class I Site Rehabilitation Contractor. The Contractor will be required to adhere to all applicable portions of the QAPP. See http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm and follow the link for UST Quality Assurance Program Plan for the most up-to-date version. All corrective action plans and reports must be sealed by a Professional Engineer or Professional Geologist registered in the State of South Carolina. All engineering reports, drawings and plans must be sealed by a Professional Engineer registered in the State of South Carolina. All laboratory analysis for CoC must be performed by an SC-certified laboratory. All monitoring, verification, injection and/or extraction wells must be installed and abandoned by an SC-certified well driller. All applicable certification, training, permits, applications, and fees associated with well installation; injection, discharge, treatment, or transportation of groundwater, air, or soil; construction or operation of a corrective action system; and any other action requiring a permit are the responsibility of the Contractor. Any required business or occupation licenses and occupational safety and health training (e.g. OSHA) as defined by the laws and regulations of the United States of America, the State of South Carolina, the county, or city are also the responsibility of the Contractor. The terms and conditions of all applicable permits will be met.

Any contaminated soil and construction debris, contaminated water, and FPP must be properly transported and disposed of, or treated at, an approved facility with prior approval from the Agency. Any costs for utilities construction and service (electric, telephone, sewer, etc.) required by the corrective action are the responsibility of the Contractor.

#### B. PERFORMANCE REQUIREMENTS

- 1. QAPP CONTRACTOR ADDENDA: The Contractor must submit a QAPP Contactor Addendum for the Initial Monitoring Report within 15 days from issue of the Purchase Order by the Bureau of Business Management. The Addendum for the Initial Monitoring Report must be approved by the Agency prior to initiation of work at the sites. A QAPP Contractor Addendum for corrective action must be submitted with the Corrective Action Plan (CAP). The Addendum for corrective action must be updated during the first quarter of each calendar year or as needed until completion of corrective action.
- 2. CORRECTIVE ACTION PLAN: The Contractor must complete and submit a detailed Corrective Action Plan (CAP) and QAPP Contractor Addendum for corrective action within 30 days from issue of the Purchase Order by the Bureau of Business Management. Copies of the CAP must be distributed in accordance with Solicitation Item III 3.4 A 2. The CAP must define the method(s) and technology(ies) proposed to achieve corrective action goals in a manner that is consistent with the Corrective Action Completion Time submitted by the Contractor. The corrective action method(s) or technology(ies) will be designed to prevent vapors from entering onsite or adjacent structures. It must be shown, by use of scientific models, computations, or discussion, how FPP will be removed and CoC concentrations will be reduced by each method and technology proposed. Any assumptions used in a model will be listed or shown, as well as appropriate references. The use of monitoring well(s) for injection, extraction, or FPP recovery purposes is not allowed. Accordingly, the CAP may propose installation of additional injection, extraction, or compliance wells. General construction details will be included in the CAP (e.g., install 4 extraction wells, install 8 injection wells, excavate 3,000 cubic yards of impacted soils, etc.) as well as details of assessment and corrective action component abandonment and removal.

A corrective action timetable that includes demobilization and site restoration (Solicitation Items III 3.5 B 11-14) will be provided by the Contractor. As corrective action is required to be completed within 5 years from CAP implementation, the submitted timetable shall not exceed 5 years in any case. The timetable shall itemize when the Contractor expects to meet the FPP removal, 60%, 90%, and 100% interim payment milestones. During corrective action, this timetable may be adjusted (as approved in writing by the Agency) if circumstances beyond the control of the Contractor arise. If the Contractor fails to meet the interim goals in the proposed time frames, a remedy will be sought through the procedures outlined in Solicitation Item III 3.4 A 4.

The Agency will review the CAP or CAP addendum, as appropriate, and initiate a public notice period for a maximum of 30 days. The names and addresses of the owners of all impacted properties and all properties located adjacent to the impacted properties are provided in the Appendix. The Contractor may be required to attend and provide input at one or more public meetings upon request by the Agency. Any CAP amendments and modifications resulting from the public notice must be submitted within 15 days of notification by the Agency. The CAP and any amendments or modifications must be sealed by a qualified Professional Geologist or Engineer registered in the State of South Carolina. The Contractor shall consult with the UST Owner/Operator and any other affected property owners regarding the location of the corrective action system and obtain written approval from them prior to implementation. Copies of the approval(s) should be included in the CAP Implementation Report. Any aboveground part of the system that is to remain on-site for longer than 30 contiguous days must be secured within a fenced area or building.

- 3. PERMIT APPLICATIONS: The Contractor must complete and submit all applications for permits (injection, NPDES, BAQC modeling form, thermal treatment, construction, etc.) with the CAP. All submitted applications must comply with the requirements of the respective permitting program. Any required permit changes or corrections will be submitted within 15 days of notification by the Agency.
- 4. INITIAL MONITORING REPORT: Prior to Corrective Action Plan implementation, the Contractor must submit an initial monitoring report to the Agency documenting FPP thicknesses, CoC concentrations, and potentiometric conditions in all wells and sampling points listed in the Appendix. The report will be due within 45 days after QAPP Contractor Addendum approval. The report should include color photographs

with date stamp of the facility/site and surrounding properties to provide documentation of the condition of the facility/site prior to implementation of any corrective action activities. Copies of the initial monitoring report must be distributed in accordance with Solicitation Item III 3.4 A 2.

Naturally occurring conditions may cause FPP thicknesses and CoC concentrations to increase or decrease. For the purpose of this solicitation, the total FPP thickness or CoC concentration for all wells and sampling points listed in the Appendix may reasonably increase up to 150% or decrease as much as 50%. If the total FPP thickness or CoC concentration in all wells and sampling points listed in the Appendix increases more than 150% or decreases by more than 50% based on initial sampling, or if measurable (>0.01') FPP that has not been previously documented in any report is detected during the initial sampling event, the Contractor may request in writing that the contract award be canceled. If any of these conditions is identified during initial gauging and sampling, the Contractor will notify the Agency within 2 days of identification and will submit written documentation within 5 days of notification. The Contractor will be reimbursed based on the following rate schedule:

Subcontractor costs*	Invoice + 15%
Personnel mobilization	\$125.00
Equipment mobilization	\$250.00
Groundwater sample collection	\$35.00 per well
Gauging FPP	\$20.00 per well
Contaminated water disposal	\$.80 per gallon
CAP preparation and associated costs	\$6,000.00
QAPP Contractor Addendum preparation	\$525.00

<sup>\*</sup> Includes laboratory analysis, drilling, electrical, etc.

If the total FPP thickness or CoC concentration in all wells and sampling points listed in the Appendix decreases more than 50% based on initial sampling, the Agency may cancel the contract award. The Contractor will be notified of the cancellation by certified letter and must submit an invoice for the appropriate items listed in the rate schedule within 20 days from receipt of the letter. The rate schedule above does not apply in the event that the award is voided due to breach of contract in accordance with Solicitation Item III 3.4 A 4. If the contract is cancelled prior to the Corrective Action Plan Implementation Date due to any of the conditions described in this Contract Item, final payment will not exceed 40% of the Corrective Action Cost under any circumstance as no FPP removal or CoC reduction will have been accomplished by implementation of corrective action. If the CAP has been implemented and physical treatment activities performed, the Contractor will be required to complete the contract unless conditions outlined in Solicitation Item III 3.4 A 5 are encountered.

5. CORRECTIVE ACTION PLAN IMPLEMENTATION: After CAP, QAPP Contractor Addendum, and all permit applications are reviewed and approved in accordance with the QAPP and R.61-92, Section 280.66, the Agency will issue a notice to proceed with CAP implementation. The Contractor will implement the CAP within 30 days of receipt of the notice to proceed and any required permit to construct. A penalty of \$100 per day will be assessed for each calendar day late if the CAP is not implemented in 30 days unless the Contractor obtains written approval from the Agency regarding a change in the implementation schedule. Any assessed penalty amounts will be deducted from the initial payment. If any problem with CAP implementation occurs, the Contractor will notify the Agency within 24 hours of problem identification and will submit written documentation within 5 days of notification. Disruption to the normal business at the sites will be kept to a minimum. Any modification, relocation, disturbance, or destruction of physical structures or features as a result of CAP implementation must be approved in writing by the affected property owner prior to CAP implementation. Upon completion of any required construction, the Agency will inspect the corrective action system and issue a permit to operate. The Contractor will, at all times, keep the sites free from waste materials and rubbish related to the corrective action and maintain the site in a neat and workmanlike condition for the duration of the corrective action. All contaminated soil and construction debris,

contaminated water, and FPP generated will be removed from the sites promptly. Manifests documenting the proper disposal of contaminated soil and construction debris, contaminated water, and FPP must be included in the appropriate report. The Contractor will repair and/or restore the sites/facilities to the condition that existed prior to CAP implementation and as documented by the photographs included in the Initial Monitoring Report in accordance with III 3.5B 13. Any deviation in returning the sites/facilities to the condition that existed prior to CAP implementation must be documented in writing by the Contractor and signed by the Owner/Operator and property owner.

Implementation of the CAP is not authorized until the Contractor receives a notice to proceed from the Agency. If unauthorized implementation occurs, the Agency will not reimburse related costs incurred by the Contractor from the SUPERB Account, and the Corrective Action Cost will be reduced by the amount of the incurred costs. If the Agency agrees with early implementation to better protect human health in an emergency and provides approval in writing, early implementation without any reduction to the Corrective Action Cost will be authorized.

A Corrective Action Plan Implementation Report will be due 60 days from the Notice to Proceed and shall include a description of work sufficient to document CAP implementation activities and the associated dates of work.

- 6. PROPERTY ACCESS: The Contractor will secure access to the sites and adjacent properties to gauge and sample wells and sampling points, and to install any corrective action components, as required. The Contractor will be responsible for corrective action components installed on adjacent properties. Costs to repair or replace components of the corrective action system damaged due to the actions of adjacent property owners cannot be paid by the SUPERB Account.
- 7. START-UP: The Contractor will initiate corrective action within 15 days of receipt of the permit to operate, if required. Corrective action as defined by the CAP will begin upon start-up. NOTE: The application of corrective action technologies or natural fluctuations in the water table can mobilize FPP and cause possible appearance of FPP and/or elevated CoC concentrations in non-SSTL wells and sampling points.
- 8. REPORTING: The Contractor must complete and submit a Corrective Action Plan (CAP) Implementation Report within 60 days of the Notice to Proceed. The Contractor must also complete and submit a Corrective Action System Evaluation (CASE) report on a semi-annual schedule. The CAP Implementation Report and CASE reports will be distributed in accordance with Solicitation Item III 3.4 A 2. The first CASE report is due within 90 days of the CAP Implementation Report. CASE reports must be submitted regardless of the status of corrective action activities.

All wells and sampling points listed in the Appendix will be sampled on a semi-annual schedule following submittal of the CAP Implementation Report. The Contractor must submit a written request for a change in the protocol to the Agency. Approval for any reduction in the number of wells and sampling points to be sampled, or for any lengthening of the reporting interval, is at the sole discretion of the Agency.

CASE reports must include, at a minimum, all items stipulated in the Documents and Records section and Active Site Rehabilitation Procedures section of the QAPP. CASE reports must also include any additional data required by permits (e.g., air analyses, wastewater effluent analyses, etc.). The Contractor will be provided with the proper report forms and reporting format prior to Corrective Action Plan Implementation. The Agency will notify the Contractor regarding any revisions to the forms or format 60 days prior to the due date for the next CASE report.

9. SAMPLING: The Contractor must collect water samples from all wells and sampling points listed in the Appendix on a semi-annual schedule. Do not sample wells and sampling points containing measurable (>0.01') FPP. If measurable FPP is present, the thickness of product and depth to groundwater must be recorded to the nearest 0.01'. The sampling will be conducted in accordance with applicable portions of the QAPP. Additional samples (air, groundwater, effluent, soil) required by permits must be collected in accordance with established QA/QC protocol and submitted to an SC-certified laboratory for analysis. The samples will be analyzed for parameters stipulated in the permits. Sampling and analytical data for each sample (e.g., field sampling logs, chain of custody forms, certificates of analysis, lab certification number) will be included in the CASE report.

The Contractor must submit a written request to the Agency for a change in the sampling protocol. Approval for any reduction in the number of wells and sampling points to be sampled is at the sole discretion of the Agency. The Contractor may choose to conduct sampling more frequently in order to document that a reduction milestone has been achieved.

- 10. DISPOSAL: The Contractor must properly dispose of all contaminated water, contaminated soil, and FPP generated during the corrective action. The Owner/Operator of the UST facility is considered to be the generator. In the case of an orphan site, the Contractor will be considered the generator. Treatment and disposal must be conducted at an SCDHEC-approved facility, and must be documented in the CASE reports.
- 11. QUALITY ASSURANCE & VERIFICATION: Once sampling data indicate 100% CoC concentration reduction, the Contractor must completely suspend corrective action and provide notification to the Agency. After 30 days, the Contractor will sample all wells and sampling points listed in the Appendix to verify that the final (100%) CoC concentration reduction goal has been achieved and maintained. If the goal is maintained, the date of the 30-day sampling event will be considered the start of the two-quarter, post-corrective action verification period. During the verification period, the Contractor will conduct quarterly sampling of all wells and sampling points listed in the Appendix and all verification wells. Do not sample wells and sampling points containing measurable (>0.01') FPP. If measurable FPP is present, the thickness of product and depth to groundwater must be recorded to the nearest 0.01'. The samples should be analyzed for the parameters listed in the Appendix, and for dissolved oxygen, ferrous iron, methane, nitrate, and sulfate using the analytical methods and reporting limits detailed in the QAPP.

If sampling results show that the final (100%) CoC concentration reduction goal has not been maintained, and/or CoC concentrations exceed SSTLs in any verification well, corrective action must be resumed. The Agency may require the Contractor to propose a revised corrective action strategy and timetable to achieve and maintain the goal. The strategy may require modification of the existing corrective action system. The post-corrective action period will be suspended and corrective action will continue until the final (100%) CoC concentration reduction goal is again achieved and maintained for a period of 30 days, and CoC concentrations in the verification well(s) remain below SSTLs for a period of 30 days. Once again, the Contractor will completely suspend corrective action and a new post-corrective action verification period will begin. The aforementioned cycle of activity must be repeated until CoC concentrations remain at or below SSTLs in all wells and sampling points listed in the Appendix and in all verification wells for 2 consecutive quarters.

The Agency may require installation of four verification wells during the post-corrective action verification period at designated locations and depths. Costs for the verification wells will be considered part of the Corrective Action Cost. SSTLs for the verification wells will be provided by the Agency.

The Agency will collect split samples from wells and sampling points in the area of concern to verify achievement of the second (90%) interim CoC concentration reduction goal, and <a href="mailto:may">may</a> collect split samples to verify achievement of the first (60%) interim CoC reduction goal and to confirm the start of the two-quarter, post-corrective action verification period. Split samples will also be collected at the end of the two-quarter, post-corrective action verification period to confirm that corrective action goals have been maintained. In addition to the split samples, the Agency may provide up to three standards or prepared blanks for the Contractor's laboratory to analyze. Analytical data sets from the Contractor's laboratory and the Agency's laboratory will be compared. In the event of substantial variance (more than 15%) between the sets, a second split sampling event may be conducted with the Contractor. If the variance persists, all data sets and associated quality assurance/quality control data will be provided to Laboratory Certification to determine the cause of the variance. The Director of the Assessment and Corrective Action Division, UST Management Division, will solicit input from Laboratory Certification, the UST Section Manager, the UST Project Manager, and the Contractor, and render a final decision as to which data set will be used for verification. The Contractor will be provided a written record of the decision.

If the Contractor anticipates that split sampling is warranted, the Agency must be allowed at least 2 weeks to schedule a mutually agreeable time for the split sampling event. Costs for transportation and analysis of split or duplicate samples collected by the Agency will be paid by the Agency.

12. DEMOBILIZATION: The Contractor will disassemble and remove the corrective action system and associated components including utilities within 60 days of notification by the Agency that the final CoC concentration reduction goal has been achieved and maintained for 2 consecutive quarters. Disruption to the UST Owner/Operator's or property owner's business must be kept to a minimum.

- 13 SITE RESTORATION: The Contractor must remove or properly abandon all assessment and corrective action components (piping, monitoring wells, injection and/or extraction wells, trenches, etc.) within 60 days of notification by the Agency that the final CoC concentration reduction goal has been achieved and maintained for 2 consecutive quarters. Please note that the corrective action components previously installed at these sites and at adjacent properties must also be removed and/or abandoned. Abandonment will be in accordance with South Carolina Well Standards and Regulations R. 61-71, the UST Management Division QAPP, and accepted industry standards for abandonment of trenches and piping/utility runs. Disruption to the owner/operator's or property owner's business must be kept to a minimum. The Contractor must provide the Agency with documentation of the abandonment and disposal of any remaining contaminated soil, contaminated groundwater, and FPP. The Contractor will restore the sites and adjacent properties to the condition that existed prior to assessment and corrective action (e.g., repaving, reseeding, etc.) as documented by the photographs included in the Initial Monitoring Report or other written documentation detailing a variance from the conditions documented by the photographs. Neither the Agency nor the SUPERB Account will be liable for any damages caused by the Contractor. As required by Section IV.A.4c of the SUPERB Site Rehabilitation and Fund Access Regulations R.61-98, the Contractor shall be required to indemnify the property owner, UST Owner/Operator and the State of South Carolina from and against all claims, damages, losses and expenses arising out of or resulting from activity conducted by the Contractor, its agents, employees or subcontractors.
- 14. COMPLETION NOTICE: Written notice must be provided to the Agency at least two weeks prior to completion of site restoration. This will allow the Agency and the Contractor time to jointly inspect the sites and adjacent properties and compile a list of tasks to be finished. Task items may include, but are not limited to, well abandonment, pavement repair, debris removal, etc. Site restoration will be complete once all the tasks are finished, the sites pass a final inspection by the Agency, and the Agency issues written notice that the contract is complete.

## IV. INFORMATION FOR OFFERORS TO SUBMIT

**MINORITY PARTICIPATION (JAN 2006)** 

[ ] Traditional minority, but female [ ] Women (Caucasian females)

[ ] DOT referral (Traditional minority)
[ ] DOT referral (Caucasian female)

[ ] Other minorities (Native American, Asian, etc.)

[ ] Hispanic minorities

[ ] Temporary certification [ ] SBA 8 (a) certification referral

#### INFORMATION FOR OFFERORS TO SUBMIT -- GENERAL (JAN 2006)

Offeror shall submit a signed Cover Page and Page Two. Offeror should submit all other information and documents requested in this part and in parts II.B. Special Instructions; III. Scope of Work; V. Qualifications; VIII. Bidding Schedule/Price Proposal; and any appropriate attachments addressed in section IX. Attachments to Solicitations. [04-4010-1]

Is the bidder a South Carolina Certified Minority Business? [] Yes [] No
Is the bidder a Minority Business certified by another governmental entity? [ ] Yes [ ] No
If so, please list the certifying governmental entity:
Will any of the work under this contract be performed by a SC certified Minority Business as a subcontractor? [ ] Yes [ ] No
If so, what percentage of the total value of the contract will be performed by a SC certified Minority Business as a subcontractor?
Will any of the work under this contract be performed by a minority business certified by another governmental entity as a subcontractor? [ ] Yes [ ] No
If so, what percentage of the total value of the contract will be performed by a minority business certified by another governmental entity as a subcontractor?
If a certified Minority Business is participating in this contract, please indicate all categories for which the Business is certified:
[ ] Traditional minority

(If more than one minority contractor will be utilized in the performance of this contract, please provide the information above for each minority business.)

For a list of certified minority firms, please consult the Minority Business Directory, which is available at the following URL:http://www.govoepp.state.sc.us/osmba/[04-4015-1]

## V. QUALIFICATIONS

# **QUALIFICATION OF OFFEROR (JAN 2006)**

To be eligible for award of a contract, a prospective contractor must be responsible. In evaluating an Offeror's responsibility, the State Standards of Responsibility [R.19-445.2125] and information from any other source may be considered. An Offeror must, upon request of the State, furnish satisfactory evidence of its ability to meet all contractual requirements. Unreasonable failure to supply information promptly in connection with a responsibility inquiry may be grounds for determining that you are ineligible to receive an award. S.C. Code Section 11-35-1810. [05-5005-1]

# **SUBCONTRACTOR - IDENTIFICATION (JAN 2006)**

If you intend to subcontract with another business for any portion of the work and that portion exceeds 10% of your price, your offer must identify that business and the portion of work which they are to perform. Identify potential subcontractors by providing the business name, address, phone, taxpayer identification number, and point of contact. In determining your responsibility, the state may evaluate your proposed subcontractors. [05-5030-1]

#### VI. AWARD CRITERIA

# **AWARD CRITERIA -- BIDS (JAN 2006)**

Award will be made to the lowest responsible and responsive bidder(s). [06-6020-1]

#### **AWARD TO ONE OFFEROR (JAN 2006)**

Award will be made to one Offeror. [06-6040-1]

#### CORRECTIVE ACTION COST AND COMPLETION TIME

Award will be made to a South Carolina-Certified UST Site Rehabilitation Contractor based on the Corrective Action Cost (Solicitation Item VIII B 3), method(s), and Corrective Action Completion Time for the site listed. For a bid to be considered responsive, the proposed implementation schedule and the proposed remediation technology(ies) or method(s) for active corrective action to achieve the remediation goals must be protective of public health and the environment and be eligible for permitting by the Agency. The total cost, methods, and time to complete the contract must be advantageous to the State of South Carolina.

- a. The Corrective Action Completion Time shall be determined by the Offeror and entered into the Corrective Action Solicitation Response (Contract Item VIII.B.2)
  - Time is of the essence in completing the site work to restore the aquifers and protect human health and the environment. Therefore, Offerors are encouraged to strive for efficient remediation methods and to propose the shortest practical time for the completion of this site.
  - 2) Award of the contract, if made, will be made to the responsible and qualified Offeror who submits a responsive bid with the lowest Corrective Action Cost. In the event that two or more Offerors submit the lowest Corrective Action Cost, the award, if made, will be decided in accordance with the Tie Bids procedure in Section B. (6) of the Underground Storage Tank Environmental Remediation Procedures. The Agency reserves the right to request additional information to clarify the feasibility of the proposed remediation technology(ies) or method(s) for corrective action included in the bid.
  - The Offeror shall enter the number of months in the space provided in the Corrective Action Solicitation Response.

#### REASONABLE COST

The Agency reserves the right to reject any and all bids that appear to be above customary and reasonable cost for the same scope of work in a similar geologic setting, that propose technologies that cannot be permitted in South Carolina, or that propose time frames for cleanup that are not protective of human health or the environment. The Agency reserves the right to request additional information to clarify the feasibility of the proposed remediation technology(ies) or method(s) for corrective action included in the bid.

#### VII. TERMS AND CONDITIONS -- A. GENERAL

#### **ASSIGNMENT (JAN 2006)**

No contract or its provisions may be assigned, sublet, or transferred without the written consent of the Procurement Officer. [07-7A004-1]

# **BANKRUPTCY (JAN 2006)**

(a) Notice. In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish written notification of the bankruptcy to the Using Governmental Unit. This notification shall be furnished within five (5) days of the initiation of the proceedings relating to the bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of all State contracts against which final payment has not been made. This obligation remains in effect until final payment under this Contract. (b) Termination. This contract is voidable and subject to immediate termination by the State upon the contractor's insolvency, including the filing of proceedings in bankruptcy. [07-7A005-1]

#### CHOICE-OF-LAW (JAN 2006)

The Agreement, any dispute, claim, or controversy relating to the Agreement, and all the rights and obligations of the parties shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the State of South Carolina, except its choice of law rules. As used in this paragraph, the term "Agreement" means any transaction or agreement arising out of, relating to, or contemplated by the solicitation. [07-7A010-1]

# CONTRACT DOCUMENTS and ORDER OF PRECEDENCE (JAN 2006)

(a) Any contract resulting from this solicitation shall consist of the following documents: (1) a Record of Negotiations, if any, executed by you and the Procurement Officer, (2) documentation regarding the clarification of an offer [e.g., 11-35-1520(8) or 11-35-1530(6)], if applicable, (3) the solicitation, as amended, (4) modifications, if any, to your offer, if accepted by the Procurement Officer, (5) your offer, (6) any statement reflecting the state's final acceptance (a/k/a "award"), and (7) purchase orders. These documents shall be read to be consistent and complimentary. Any conflict among these documents shall be resolved by giving priority to these documents in the order listed above. (b) The terms and conditions of documents (1) through (6) above shall apply notwithstanding any additional or different terms and conditions in either (i) a purchase order or other instrument submitted by the State or (ii) any invoice or other document submitted by Contractor. Except as otherwise allowed herein, the terms and conditions of all such documents shall be void and of no effect. (c) No contract, license, or other agreement containing contractual terms and conditions will be signed by any Using Governmental Unit. Any document signed or otherwise agreed to by persons other than the Procurement Officer shall be void and of no effect. [07-7A015-1]

#### **DISCOUNT FOR PROMPT PAYMENT (JAN 2006)**

- (a) Discounts for prompt payment will not be considered in the evaluation of offers. However, any offered discount will form a part of the award, and will be taken if payment is made within the discount period indicated in the offer by the offeror. As an alternative to offering a discount for prompt payment in conjunction with the offer, offerors awarded contracts may include discounts for prompt payment on individual invoices.
- (b) In connection with any discount offered for prompt payment, time shall be computed from the date of the invoice. If the Contractor has not placed a date on the invoice, the due date shall be calculated from the date the designated billing office receives a proper invoice, provided the state annotates such invoice with the date of receipt at the time of receipt. For the purpose of computing the discount earned, payment shall be considered to have been made on the date that appears on the payment check or, for an electronic funds transfer, the specified payment date. When the discount date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day [07-7A020-1]

## **DISPUTES (JAN 2006)**

(1) Choice-of-Forum. All disputes, claims, or controversies relating to the Agreement shall be resolved exclusively by the appropriate Chief Procurement Officer in accordance with Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws, or in the absence of jurisdiction, only in the Court of Common Pleas for, or a federal court located in, Richland County, State of South Carolina. Contractor agrees that any act by the Government regarding the Agreement is not a waiver of either the Government's sovereign immunity or the Government's immunity under the Eleventh Amendment of the United State's Constitution. As used in this paragraph, the term "Agreement" means any transaction or agreement arising out of, relating to, or contemplated by the solicitation. (2) Service of Process. Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any disputes, claims, or controversies relating to the Agreement; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided as the Notice Address on Page Two or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail. [07-7A025-1]

## **EQUAL OPPORTUNITY (JAN 2006)**

Contractor is referred to and shall comply with all applicable provisions, if any, of Title 41, Part 60 of the Code of Federal Regulations, including but not limited to Sections 60-1.4, 60-4.2, 60-4.3, 60-250.5(a), and 60-741.5(a), which are hereby incorporated by reference. [07-7A030-1]

#### **FALSE CLAIMS (JAN 2006)**

According to the S.C. Code of Laws Section 16-13-240, "a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty" of a crime. [07-7A035-1]

# **FIXED PRICING REQUIRED (JAN 2006)**

Any pricing provided by contractor shall include all costs for performing the work associated with that price. Except as otherwise provided in this solicitation, contractor's price shall be fixed for the duration of this contract, including option terms. This clause does not prohibit contractor from offering lower pricing after award. [07-7A040-1]

#### **NON-INDEMNIFICATION (JAN 2006)**

Any term or condition is void to the extent it requires the State to indemnify anyone. [07-7A045-1]

## NOTICE (JAN 2006)

(A) After award, any notices shall be in writing and shall be deemed duly given (1) upon actual delivery, if delivery is by hand, (2) upon receipt by the transmitting party of automated confirmation or answer back from the recipient's device if delivery is by telex, telegram, facsimile, or electronic mail, or (3) upon deposit into the United States mail, if postage is prepaid, a return receipt is requested, and either registered or certified mail is used. (B) Notice to contractor shall be to the address identified as the Notice Address on Page Two. Notice to the state shall be to the Procurement Officer's address on the Cover Page. Either party may designate a different address for notice by giving notice in accordance with this paragraph. [07-7A050-1]

## **PAYMENT & INTEREST (MAY 2011)**

(a) Unless otherwise provided in this Solicitation, the State shall pay the Contractor, after the submission of proper invoices or vouchers, the prices stipulated in this contract for supplies delivered and accepted or services rendered and accepted, less any deductions provided in this contract. Unless otherwise specified herein, including the purchase order, payment shall not be made on partial deliveries accepted by the Government. (b) Unless otherwise provided herein, including the purchase order, payment will be made by check. (c) Notwithstanding any other provision, payment shall be made in accordance with S.C. Code Section 11-35-45, which provides the Contractor's exclusive means of recovering any type of interest from the Owner. Contractor waives imposition of an interest penalty unless the invoice submitted specifies that the late penalty is applicable. Except as set forth in this paragraph, the State shall not be liable for the payment of interest on any debt or claim

arising out of or related to this contract for any reason. (d) Amounts due to the State shall bear interest at the rate of interest established by the South Carolina Comptroller General pursuant to Section 11-35-45 ("an amount not to exceed fifteen percent each year"), as amended. (e) Any other basis for interest, including but not limited to general (pre- and post-judgment) or specific interest statutes, including S.C. Code Ann. § 34-31-20, are expressly waived by both parties. If a court, despite this agreement and waiver, requires that interest be paid on any debt by either party other than as provided by items (c) and (d) above, the parties further agree that the applicable interest rate for any given calendar year shall be the lowest prime rate as listed in the first edition of the Wall Street Journal published for each year, applied as simple interest without compounding.

## **PUBLICITY (JAN 2006)**

Contractor shall not publish any comments or quotes by State employees, or include the State in either news releases or a published list of customers, without the prior written approval of the Procurement Officer. [07-7A060-1]

#### **PURCHASE ORDERS (JAN 2006)**

Contractor shall not perform any work prior to the receipt of a purchase order from the using governmental unit. The using governmental unit shall order any supplies or services to be furnished under this contract by issuing a purchase order. Purchase orders may be used to elect any options available under this contract, e.g., quantity, item, delivery date, payment method, but are subject to all terms and conditions of this contract. Purchase orders may be electronic. No particular form is required. An order placed pursuant to the purchasing card provision qualifies as a purchase order. [07-7A065-1]

## SETOFF (JAN 2006)

The state shall have all of its common law, equitable, and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the state with regard to this contract, any other contract with any state department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the state for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. [07-7A070-1]

## **SURVIVAL OF OBLIGATIONS (JAN 2006)**

The Parties' rights and obligations which, by their nature, would continue beyond the termination, cancellation, rejection, or expiration of this contract shall survive such termination, cancellation, rejection, or expiration, including, but not limited to, the rights and obligations created by the following clauses: Indemnification - Third Party Claims, Intellectual Property Indemnification, and any provisions regarding warranty or audit. [07-7A075-1]

#### **TAXES (JAN 2006)**

Any tax the contractor may be required to collect or pay upon the sale, use or delivery of the products shall be paid by the State, and such sums shall be due and payable to the contractor upon acceptance. Any personal property taxes levied after delivery shall be paid by the State. It shall be solely the State's obligation, after payment to contractor, to challenge the applicability of any tax by negotiation with, or action against, the taxing authority. Contractor agrees to refund any tax collected, which is subsequently determined not to be proper and for which a refund has been paid to contractor by the taxing authority. In the event that the contractor fails to pay, or delays in paying, to any taxing authorities, sums paid by the State to contractor, contractor shall be liable to the State for any loss (such as the assessment of additional interest) caused by virtue of this failure or delay. Taxes based on Contractor's net income or assets shall be the sole responsibility of the contractor. [07-7A080-1]

## **TERMINATION DUE TO UNAVAILABILITY OF FUNDS (JAN 2006)**

Payment and performance obligations for succeeding fiscal periods shall be subject to the availability and appropriation of funds therefor. When funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period, the contract shall be canceled. In the event of a cancellation pursuant to this paragraph, contractor will be reimbursed the resulting unamortized, reasonably incurred, nonrecurring costs. Contractor will not be reimbursed any costs amortized beyond the initial contract term. [07-7A085-1]

# **THIRD PARTY BENEFICIARY (JAN 2006)**

This Contract is made solely and specifically among and for the benefit of the parties hereto, and their respective successors and assigns, and no other person will have any rights, interest, or claims hereunder or be entitled to any benefits under or on account of this Contract as a third party beneficiary or otherwise. [07-7A090-1]

## WAIVER (JAN 2006)

The State does not waive any prior or subsequent breach of the terms of the Contract by making payments on the Contract, by failing to terminate the Contract for lack of performance, or by failing to strictly or promptly insist upon any term of the Contract. Only the Procurement Officer has actual authority to waive any of the State's rights under this Contract. Any waiver must be in writing. [07-7A095-1]

#### VII. TERMS AND CONDITIONS -- B. SPECIAL

### **CHANGES (JAN 2006)**

- (1) Contract Modification. By a written order, at any time, and without notice to any surety, the Procurement Officer may, subject to all appropriate adjustments, make changes within the general scope of this contract in any one or more of the following:
- (a) drawings, designs, or specifications, if the supplies to be furnished are to be specially manufactured for the [State] in accordance therewith;
- (b) method of shipment or packing;
- (c) place of delivery;
- (d) description of services to be performed;
- (e) time of performance (i.e., hours of the day, days of the week, etc.); or,
- (f) place of performance of the services. Subparagraphs (a) to (c) apply only if supplies are furnished under this contract. Subparagraphs (d) to (f) apply only if services are performed under this contract.
- (2) Adjustments of Price or Time for Performance. If any such change increases or decreases the contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed by the order, an adjustment shall be made in the contract price, the delivery schedule, or both, and the contract modified in writing accordingly. Any adjustment in contract price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause of this contract. Failure of the parties to agree to an adjustment shall not excuse the contractor from proceeding with the contract as changed, provided that the State promptly and duly make such provisional adjustments in payment or time for performance as may be reasonable. By proceeding with the work, the contractor shall not be deemed to have prejudiced any claim for additional compensation, or an extension of time for completion.
- (3) Time Period for Claim. Within 30 days after receipt of a written contract modification under Paragraph (1) of this clause, unless such period is extended by the Procurement Officer in writing, the contractor shall file notice of intent to assert a claim for an adjustment. Later notification shall not bar the contractor's claim unless the State is prejudiced by the delay in notification.
- (4) Claim Barred After Final Payment. No claim by the contractor for an adjustment hereunder shall be allowed if notice is not given prior to final payment under this contract.

  [07-7B025-1]

#### **COMPLIANCE WITH LAWS (JAN 2006)**

During the term of the contract, contractor shall comply with all applicable provisions of laws, codes, ordinances, rules, regulations, and tariffs. [07-7B035-1]

# **CONTRACTOR'S LIABILITY INSURANCE (JAN 2013)**

- (a) Contractor shall procure from a company or companies lawfully authorized to do business in South Carolina and with a current A.M. Best rating of no less than A: VII, and maintain for the duration of the contract, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work and the results of that work by the contractor, his agents, representatives, employees or subcontractors. (b) Coverage shall be at least as broad as:
- (1) Commercial General Liability (CGL): Insurance Services Office (ISO) Form CG 00 01 12 07 covering CGL on an "occurrence" basis, including products-completed operations, personal and advertising injury, with limits no less than \$1,000,000 per occurrence. If a general aggregate limit applies, the general aggregate limit shall be twice the required occurrence limit. This contract shall be considered to be an "insured contract" as defined in the policy.
- (2) Auto Liability: ISO Form Number CA 00 01 covering any auto (Code 1), or if Contractor has no owned autos, hired, (Code 8) and non-owned autos (Code 9), with limits no less than \$1,000,000 per accident for bodily injury and property damage.
- (3) Worker's Compensation: As required by the State of South Carolina, with Statutory Limits, and Employer's Liability Insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease.
- (b) Every applicable Using Governmental Unit, and the officers, officials, employees and volunteers of any of them, must be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by

or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance at least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of both CG 20 10 and CG 20 37 if a later edition is used.

- (c) For any claims related to this contract, the Contractor's insurance coverage shall be primary insurance as respects the State, every applicable Using Governmental Unit, and the officers, officials, employees and volunteers of any of them. Any insurance or self-insurance maintained by the State, every applicable Using Governmental Unit, or the officers, officials, employees and volunteers of any of them, shall be excess of the Contractor's insurance and shall not contribute with it.
- (d) Prior to commencement of the work, the Contractor shall furnish the State with original certificates and amendatory endorsements or copies of the applicable policy language effecting coverage required by this section. All certificates are to be received and approved by the State before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The State reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by this section, at any time.
- (e) Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions. In addition, the Contractor shall notify the State immediately upon receiving any information that any of the coverages required by this section are or will be changed, cancelled, or replaced.
- (f) Contractor hereby grants to the State and every applicable Using Governmental Unit a waiver of any right to subrogation which any insurer of said Contractor may acquire against the State or applicable Using Governmental Unit by virtue of the payment of any loss under such insurance. Contractor agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation, but this provision applies regardless of whether or not the State or Using Governmental Unit has received a waiver of subrogation endorsement from the insurer.
- (g) Any deductibles or self-insured retentions must be declared to and approved by the State. The State may require the Contractor to purchase coverage with a lower deductible or retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention.
- (h) The State reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

#### **CONTRACTOR PERSONNEL (JAN 2006)**

The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. [07-7B060-1]

#### CONTRACTOR'S OBLIGATION -- GENERAL (JAN 2006)

The contractor shall provide and pay for all materials, tools, equipment, labor and professional and non-professional services, and shall perform all other acts and supply all other things necessary, to fully and properly perform and complete the work. The contractor must act as the prime contractor and assume full responsibility for any subcontractor's performance. The contractor will be considered the sole point of contact with regard to all situations, including payment of all charges and the meeting of all other requirements. [07-7B065-1]

## **DEFAULT (JAN 2006)**

- (a) (1) The State may, subject to paragraphs (c) and (d) of this clause, by written notice of default to the Contractor, terminate this contract in whole or in part if the Contractor fails to:
- (i) Deliver the supplies or to perform the services within the time specified in this contract or any extension;
- (ii) Make progress, so as to endanger performance of this contract (but see paragraph (a)(2) of this clause); or
- (iii) Perform any of the other material provisions of this contract (but see paragraph (a)(2) of this clause).
- (2) The State's right to terminate this contract under subdivisions (a)(1)(ii) and (1)(iii) of this clause, may be exercised if the

Contractor does not cure such failure within 10 days (or more if authorized in writing by the Procurement Officer) after receipt of the notice from the Procurement Officer specifying the failure.

- (b) If the State terminates this contract in whole or in part, it may acquire, under the terms and in the manner the Procurement Officer considers appropriate, supplies or services similar to those terminated, and the Contractor will be liable to the State for any excess costs for those supplies or services. However, the Contractor shall continue the work not terminated.
- (c) Except for defaults of subcontractors at any tier, the Contractor shall not be liable for any excess costs if the failure to perform the contract arises from causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (1) acts of God or of the public enemy, (2) acts of the State in either its sovereign or contractual capacity, (3) fires, (4) floods, (5) epidemics, (6) quarantine restrictions, (7) strikes, (8) freight embargoes, and (9) unusually severe weather. In each instance the failure to perform must be beyond the control and without the fault or negligence of the Contractor.
- (d) If the failure to perform is caused by the default of a subcontractor at any tier, and if the cause of the default is beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either, the Contractor shall not be liable for any excess costs for failure to perform, unless the subcontracted supplies or services were obtainable from other sources in sufficient time for the Contractor to meet the required delivery schedule.
- (e) If this contract is terminated for default, the State may require the Contractor to transfer title and deliver to the State, as directed by the Procurement Officer, any (1) completed supplies, and (2) partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (collectively referred to as "manufacturing materials" in this clause) that the Contractor has specifically produced or acquired for the terminated portion of this contract. Upon direction of the Procurement Officer, the Contractor shall also protect and preserve property in its possession in which the State has an interest.
- (f) The State shall pay contract price for completed supplies delivered and accepted. The Contractor and Procurement Officer shall agree on the amount of payment for manufacturing materials delivered and accepted and for the protection and preservation of the property; if the parties fail to agree, the Procurement Officer shall set an amount subject to the Contractor's rights under the Disputes clause. Failure to agree will be a dispute under the Disputes clause. The State may withhold from these amounts any sum the Procurement Officer determines to be necessary to protect the State against loss because of outstanding liens or claims of former lien holders.
- (g) If, after termination, it is determined that the Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the State, be the same as if the termination had been issued for the convenience of the State. If, in the foregoing circumstances, this contract does not contain a clause providing for termination for convenience of the State, the contract shall be adjusted to compensate for such termination and the contract modified accordingly subject to the contractor's rights under the Disputes clause.
- (h) The rights and remedies of the State in this clause are in addition to any other rights and remedies provided by law or under this contract.

  [07-7B075-1]

#### **ILLEGAL IMMIGRATION (NOV. 2008)**

(An overview is available at www.procurement.sc.gov) By signing your offer, you certify that you will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agree to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable to you and your subcontractors or sub-subcontractors; or (b) that you and your subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." You agree to include in any contracts with your subcontractors language requiring your subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14. [07-7B097-1]

## **INDEMNIFICATION - THIRD PARTY CLAIMS (NOV 2011)**

Notwithstanding any limitation in this agreement, and to the fullest extent permitted by law, Contractor shall defend and hold harmless Indemnitees for and against any and all suits or claims of any character (and all related damages, settlement payments, attorneys' fees, costs, expenses, losses or liabilities) by a third party which are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property arising out of or in connection with the goods or services acquired hereunder or caused in whole or in part by any act or omission of contractor, its subcontractors, their employees, workmen, servants, agents, or anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by an Indemnitee, and whether or not such claims are made by a third party or an Indemnitee; however, if an Indemnitee's negligent act or omission is subsequently determined to be the sole proximate cause of a suit or claim, the Indemnitee shall not be entitled to indemnification hereunder. Contractor shall be given timely written notice of any suit or claim. Contractor's obligations hereunder are in no way limited by any protection afforded under workers' compensation acts, disability benefits acts, or other employee benefit acts. This clause shall not negate, abridge, or reduce any other rights or obligations of indemnity which would otherwise exist. The obligations of this paragraph shall survive termination, cancelation, or expiration of the parties' agreement. This provision shall be construed fairly and reasonably, neither strongly for nor against either party, and without regard to any clause regarding insurance. As used in this clause, "Indemnitees" means the State of South Carolina, its instrumentalities, agencies, departments, boards, political subdivisions and all their respective officers, agents and employees.

#### **LICENSES AND PERMITS (JAN 2006)**

During the term of the contract, the Contractor shall be responsible for obtaining, and maintaining in good standing, all licenses (including professional licenses, if any), permits, inspections and related fees for each or any such licenses, permits and /or inspections required by the State, county, city or other government entity or unit to accomplish the work specified in this solicitation and the contract. [07-7B115-1]

#### **PRICE ADJUSTMENTS (JAN 2006)**

- (1) Method of Adjustment. Any adjustment in the contract price made pursuant to a clause in this contract shall be consistent with this Contract and shall be arrived at through whichever one of the following ways is the most valid approximation of the actual cost to the Contractor (including profit, if otherwise allowed):
- (a) by agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
- (b) by unit prices specified in the Contract or subsequently agreed upon;
- (c) by the costs attributable to the event or situation covered by the relevant clause, including profit if otherwise allowed, all as specified in the Contract; or subsequently agreed upon;
- (d) in such other manner as the parties may mutually agree; or,
- (e) in the absence of agreement by the parties, through a unilateral initial written determination by the Procurement Officer of the costs attributable to the event or situation covered by the clause, including profit if otherwise allowed, all as computed by the Procurement Officer in accordance with generally accepted accounting principles, subject to the provisions of Title 11, Chapter 35, Article 17 of the S.C. Code of Laws.
- (2) Submission of Price or Cost Data. Upon request of the Procurement Officer, the contractor shall provide reasonably available factual information to substantiate that the price or cost offered, for any price adjustments is reasonable, consistent with the provisions of Section 11-35-1830.

  [07-7B160-1]

#### PRICING DATA-- AUDIT-- INSPECTION (JAN 2006)

[Clause Included Pursuant to Section 11-35-1830, - 2210, & -2220] (a) Cost or Pricing Data. Upon Procurement Officer's request, you shall submit cost or pricing data, as defined by 48 C.F.R. Section 2.101 (2004), prior to either (1) any award to contractor pursuant to 11-35-1530 or 11-35-1560, if the total contract price exceeds \$500,000, or (2) execution of a change order or contract modification with contractor which exceeds \$100,000. Your price, including profit or fee, shall be adjusted to exclude any significant sums by which the state finds that such price was increased because you furnished cost or pricing data that was inaccurate, incomplete, or not current as of the date agreed upon between parties. (b) Records Retention. You shall maintain your records for three years from the date of final payment, or longer if requested by the chief Procurement Officer. The state may audit your records at reasonable times and places. As used in this subparagraph (b), the term "records" means any books or records that relate to cost or pricing data submitted pursuant to this clause. In addition to the obligation stated in this subparagraph (b), you shall retain all records and allow any audits provided for by

11-35-2220(2). (c) Inspection. At reasonable times, the state may inspect any part of your place of business which is related to performance of the work. (d) Instructions Certification. When you submit data pursuant to subparagraph (a), you shall (1) do so in accordance with the instructions appearing in Table 15-2 of 48 C.F.R. Section 15.408 (2004) (adapted as necessary for the state context), and (2) submit a Certificate of Current Cost or Pricing Data, as prescribed by 48 CFR Section 15.406-2(a) (adapted as necessary for the state context). (e) Subcontracts. You shall include the above text of this clause in all of your subcontracts. (f) Nothing in this clause limits any other rights of the state. [07-7B185-1]

## **RELATIONSHIP OF THE PARTIES (JAN 2006)**

Neither party is an employee, agent, partner, or joint venturer of the other. Neither party has the right or ability to bind the other to any agreement with a third party or to incur any obligation or liability on behalf of the other party. [07-7B205-1]

### **TERMINATION FOR CONVENIENCE (JAN 2006)**

- (1) Termination. The Procurement Officer may terminate this contract in whole or in part, for the convenience of the State. The Procurement Officer shall give written notice of the termination to the contractor specifying the part of the contract terminated and when termination becomes effective.
- (2) Contractor's Obligations. The contractor shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination the contractor will stop work to the extent specified. The contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated work. The contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work. The Procurement Officer may direct the contractor to assign the contractor's right, title, and interest under terminated orders or subcontracts to the State. The contractor must still complete the work not terminated by the notice of termination and may incur obligations as are necessary to do so.
- (3) Right to Supplies. The Procurement Officer may require the contractor to transfer title and deliver to the State in the manner and to the extent directed by the Procurement Officer: (a) any completed supplies; and (b) such partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "manufacturing material") as the contractor has specifically produced or specially acquired for the performance of the terminated part of this contract. The contractor shall, upon direction of the Procurement Officer, protect and preserve property in the possession of the contractor in which the State has an interest. If the Procurement Officer does not exercise this right, the contractor shall use best efforts to sell such supplies and manufacturing materials in a accordance with the standards of Uniform Commercial Code Section 2-706. Utilization of this Section in no way implies that the State has breached the contract by exercise of the Termination for Convenience Clause.
- (4) Compensation. (a) The contractor shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data required by Section 11-35-1830 bearing on such claim. If the contractor fails to file a termination claim within one year from the effective date of termination, the Procurement Officer may pay the contractor, if at all, an amount set in accordance with Subparagraph (c) of this Paragraph.
- (b) The Procurement Officer and the contractor may agree to a settlement and that the settlement does not exceed the total contract price plus settlement costs reduced by payments previously made by the State, the proceeds of any sales of supplies and manufacturing materials under Paragraph (3) of this clause, and the contract price of the work not terminated;
- (c) Absent complete agreement under Subparagraph (b) of this Paragraph, the Procurement Officer shall pay the contractor the following amounts, provided payments agreed to under Subparagraph (b) shall not duplicate payments under this Subparagraph:
- (i) contract prices for supplies or services accepted under the contract;
- (ii) costs reasonably incurred in performing the terminated portion of the work less amounts paid or to be paid for accepted supplies or services;
- (iii) reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to Paragraph (2) of this clause. These costs must not include costs paid in accordance with Subparagraph (c)(ii) of this paragraph;
- (iv) any other reasonable costs that have resulted from the termination. The total sum to be paid the contractor under this Subparagraph shall not exceed the total contract price plus the reasonable settlement costs of the contractor reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and manufacturing materials under Subparagraph (b) of this Paragraph, and the contract price of work not terminated.
- (d) Contractor must demonstrate any costs claimed, agreed to, or established under Subparagraphs (b) and (c) of this Paragraph using its standard record keeping system, provided such system is consistent with any applicable Generally Accepted Accounting Principles.
- (5) Contractor's failure to include an appropriate termination for convenience clause in any subcontract shall not (i) affect the state's right to require the termination of a subcontract, or (ii) increase the obligation of the state beyond what it would have been if the subcontract had contained an appropriate clause.

  [07-7B265-1]

# VII. TERMS AND CONDITIONS -- C. DHEC'S SPECIAL CLAUSES

### PREVENTING AND REPORTING FRAUD, WASTE AND ABUSE (DHEC 2008)

- (a) Federal and state laws make it unlawful to submit false claims to the government for payment; provide for civil, criminal and administrative penalties; and protect individuals, including government employees, who make good faith reports of suspected violations.
- (b) SCDHEC has established procedures and policies concerning the prevention and reporting of fraud, waste and abuse (FWA) in agency-funded programs, including but not limited to those funded by federal grants such as Medicaid. No agency employee, agent, or contractor shall direct, participate in, approve, or tolerate any violation of federal or state laws regarding FWA in government programs. Any employee, agent, or contractor of SCDHEC who submits a false claim in violation of federal or state laws will be reported to appropriate authorities.
- (c) The federal False Claims Act provides civil penalties for submitting false claims or statements to a federally funded program and authorizes the U. S. Attorney General to enforce this law. Citizens may bring an action on behalf of the government within six years of submittal of the false claim, and may receive part of any damages. An individual who in good faith reports information about false claims submitted by others is protected by law from retaliation for making the report ("whistleblower" protection.) Federal law also allows certain agencies, including the Department of Health and Human Services, to hold administrative hearings to penalize persons for false or fraudulent claims.
- (d) Under State law, persons may be criminally prosecuted for false claims made to an insurer, HMO or any person, including state government, providing benefits for health care. Medicaid fraud statutes allow criminal prosecution of health care providers and Medicaid applicants or recipients who knowingly make false statements to the Medicaid Program, or conceal or fail to disclose material facts affecting entitlement to Medicaid reimbursement, payment, or benefits. Health care providers may also be liable for civil and administrative penalties and sanctions for Medicaid fraud. The State Attorney General has authority to prosecute persons for insurance fraud who make false statements and misrepresentations in order to obtain an undeserved economic benefit or to deny someone a benefit in connection with any insurance transaction. The State Computer Crimes Act authorizes criminal penalties for persons who use a computer to devise or execute any fraud scheme or to obtain money or services by false representations.
- (e) Anyone who becomes aware of the existence or apparent existence of FWA in agency funded programs is encouraged to report such matters by writing to the Office of Internal Audits, SCDHEC, 2600 Bull Street, Columbia, South Carolina 29201; or by calling the Agency Fraud, Waste and Abuse Hotline at 803-0896-0650 or toll-free at 1-866-206-5202. Reports will be handled confidentially.
- (f) The Contractor is required to inform contractor's employees of the existence of SCDHEC's policy prohibiting FWA and the procedures for reporting FWA to the agency.

# VIII. BIDDING SCHEDULE/PRICE-BUSINESS PROPOSAL

# **BIDDING SCHEDULE (NOV 2007)**

# A. ACCEPTANCE AND DELIVERY STATEMENT

set it of as dimet	days from date of open down forth for all sites as stated below. For the purpose cour, I certify that this company understands the national documented in the technical file and this solicitation though below are estimates and changes to those	equirements thereof, the Offeror agrees, if this bid is ing, to initiate the corrective action as specified at the prices of this submittal and acceptance of financial approval should ature of the release(s) and the geologic conditions at this site in. Any quantities listed in the corrective action e quantities or to the listed method(s) will not affect the inderstands that acceptance is based on total cost to treat the
Off	eror (Print)	UST Site Rehabilitation Contractor Certification #
Reg	gistered Professional Name (Print)	Registered Professional Signature (required)
P.G	P.E. (check appropriate box)	Professional Certification #
B. C	ORRECTIVE ACTION SOLICITATION RES	PONSE
Colu	e respond to the following questions for UST Penbia, SC and UST Permit # 07777 & UST Perm mbia, SC:	ermit # 07584, University Mart, 2367 Taylor St., nit # 12352, Cloud's Chevron, 1600 Two Notch Rd.,
1.	State and briefly describe the corrective action m the CAP to achieve completion in five years, sho necessary.	ethod(s) or technology(ies) that will be discussed in detail in uld financial approval occur. Attach an additional sheet if
2.	corrective action plan implementation until the fi	ths, to complete the corrective action from the date of nal corrective action goal has been achieved and maintained activities must be completed within 5 years of the date of ting by the Agency.
3.	technology applied, to treat the area of concern si exceed SSTLs at any point in the area of concern action verification; prepare all plans, reports, and all required permits and licenses; design, install,	gardless of the type, quantity, or duration of the permitted hown in the Appendix such that CoC concentrations do not; complete all associated monitoring and post-corrective correspondence; obtain and meet all terms and conditions of monitor, operate, maintain, and when completed, properly ctive action components; and complete other items outlined in
	\$	

# IX. ATTACHMENTS TO SOLICITATION

# ATTACHMENTS LIST [09-9002-1]

The following documents are attached to this solicitation:

- \*\* Site File
- \*\*\*Appendix Technical File (Two parts)
- \*\*\*Environmental Remediation Procurement Procedures
  Nonresident Taxpayer Registration Affidavit Income Tax Withholding
  Offeror's Checklist
- \*\* Available at http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm
- \*\*\*Listed in separate document

#### NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING

#### IMPORTANT TAX NOTICE - NONRESIDENTS ONLY

Withholding Requirements for Payments to Nonresidents: Section 12-8-550 of the South Carolina Code of Laws requires persons hiring or contracting with a nonresident conducting a business or performing personal services of a temporary nature within South Carolina to withhold 2% of each payment made to the nonresident. The withholding requirement does not apply to (1) payments on purchase orders for tangible personal property when the payments are not accompanied by services to be performed in South Carolina, (2) nonresidents who are not conducting business in South Carolina, (3) nonresidents for contracts that do not exceed \$10,000 in a calendar year, or (4) payments to a nonresident who (a) registers with either the S.C. Department of Revenue or the S.C. Secretary of State and (b) submits a Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to the person letting the contract.

The withholding requirement applies to every governmental entity that uses a contract ("Using Entity"). Nonresidents should submit a separate copy of the Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to every Using Entity that makes payment to the nonresident pursuant to this solicitation. Once submitted, an affidavit is valid for all contracts between the nonresident and the Using Entity, unless the Using Entity receives notice from the Department of Revenue that the exemption from withholding has been revoked.

Section 12-8-540 requires persons making payment to a nonresident taxpayer of rentals or royalties at a rate of \$1,200.00 or more a year for the use of or for the privilege of using property in South Carolina to withhold 7% of the total of each payment made to a nonresident taxpayer who is not a corporation and 5% if the payment is made to a corporation. Contact the Department of Revenue for any applicable exceptions.

For information about other withholding requirements (e.g., employee withholding), contact the Withholding Section at the South Carolina Department of Revenue at 803-898-5383 or visit the Department's website at: <a href="https://www.sctax.org">www.sctax.org</a>

This notice is for informational purposes only. This agency does not administer and has no authority over tax issues. All registration questions should be directed to the License and Registration Section at 803-898-5872 or to the South Carolina Department of Revenue, Registration Unit, Columbia, S.C. 29214-0140. All withholding questions should be directed to the Withholding Section at 803-896-1420.

PLEASE SEE THE "NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING" FORM (FORM NUMBER I-312) LOCATED AT:

http://www.sctax.org/Forms+and+Instructions/withholding/default.htm

[09-9005-1]

# **OFFEROR'S CHECKLIST (JUN 2007)**

# OFFEROR'S CHECKLIST -- AVOID COMMON BID/PROPOSAL MISTAKES

Review this checklist prior to submitting your bid/proposal.

If you fail to follow this checklist, you risk having your bid/proposal rejected.

- Do not include any of your standard contract forms!
- Unless expressly required, do not include any additional boilerplate contract clauses.
- Reread your entire bid/proposal to make sure your bid/proposal does not take exception to any of the state's mandatory requirements.
- Make sure you have properly marked all protected, confidential, or trade secret information in accordance with the instructions entitled: SUBMITTING CONFIDENTIAL INFORMATION. **DO NOT** mark your entire bid/proposal as confidential, trade secret, or protected! **Do not** include a legend on the cover stating that your entire response is not to be released!
- Have you properly acknowledged all amendments? Instructions regarding how to acknowledge an amendment should appear in all amendments issued.
- Make sure your bid/proposal includes a copy of the solicitation cover page. Make sure the cover page is signed by a person that is authorized to contractually bind your business.
- Make sure your Bid/proposal includes the number of copies requested.
- Check to ensure your Bid/proposal includes everything requested!
- If you have concerns about the solicitation, do not raise those concerns in your response! After opening, it is too late! If this solicitation includes a pre-bid/proposal conference or a question & answer period, raise your questions as a part of that process! Please see instructions under the heading "submission of questions" and any provisions regarding pre-bid/proposal conferences.

Appendix A

# **Distribution List for Plans and Reports**

Mr. Pete Overton Acme Petroleum and Fuel Company 543 Cox Rd. Ste. C Gastonia SC 28054

Mrs. Wallace Scott 76 Whiteford Way Lexington SC 29072

Mr. Mahesh Patel Fast Point Food Stores Inc 2811 Reidville Rd Ste 11 Spartanburg SC 29301 R11412-10-16, 2367 Taylor St.

Mr. Andrew Diggins

Providence Hospital

2345 Forest Dr.

Columbia SC 29204

R11412-09-14A, 1600 Block Two Notch Rd.

R11412-09-13, 2409 Forest Dr.

Ms. Bette Gordon Bateman &

Mr. John Bateman

c/o Trustees

PO Box 1026

Columbia, SC 29201

R11411-02-01, 2436 Taylor St.

2368 Taylor St LLC

200 Gauley Dr

Columbia SC 29212

R11411-01-02, 2368 Taylor St.

R11411-01-03, 1512 Heidt St.

Chang Moon Sueng

DBA Star Beauty Supply

2358 Taylor St.

Columbia SC 29204

R11411-01-01, 2358 Taylor St.

Mr. Solomon Addico

Benedict College

1600 Harden St.

Columbia SC 29204

R11408-10-31, 2361 Taylor St.

R11408-10-30, 1613 Waverly St.

R11408-10-29, 1617 Waverly.

R11407-06-01, 1616 Oak St.

R11407-06-03, 1604 Oak St.

R11407-06-02, 2305 Taylor St.

Allen University

1530 Harden St

Columbia SC 29204

R11408-10-12, 2315 Taylor St.

Sylvan Food Systems Inc.

R11408-10-32, 2349 Taylor St.

1245 Boston Ave

West Columbia SC 29170

Ms. Linda Warren c/o Douglas Harley

R11411-03-01, 1527 Lyon St.

1527 Lyon St.

Columbia SC 29204

R11411-03-02, 1510 Lyon St.

Gilbert Walker

R11411-04-01, 1505 Garden Plaza

**Public Housing Authority** 

Gonzales Gardens

PO Box 4307

Columbia SC 29240

R11411-2-02, 1527 Ontario St.

1500 Millwood Ave LLC 1330 Devonshire Dr Columbia SC 29204

John M Suddeth

1410 N Millwood Ave Columbia SC 29204 R11411-02-03, Ontario St.

Fung Lau

2300 Taylor St Ste D Columbia SC 29204 R11407-07-02, 2324 Taylor St.

**Table 1: Analytical Parameters** 

Analyte	Analytical Method*
BTEX	8260B
Naphthalene	8260B
MTBE	8260B
TAA, TAME, TBA	8260-OXY

<sup>\*</sup> See Programmatic QAPP for Reporting Limits.

The analyses listed in Table 1 are required for all sampling events.

**Table 2: Natural Attenuation Parameters** 

Analyte	Analytical Method*
Dissolved Oxygen	SM4500-O G
Ferrous Iron	SM3500-Fe D
Methane	Kerr Method
Nitrate	9056/9210
Sulfate	9038/9056

<sup>\*</sup> See Programmatic QAPP for Reporting Limits.

The analyses listed in Table 2 are required for verification sampling.

#### **Verification Wells**

Four verification wells may be installed during the post-corrective action monitoring period at locations and depths designated by the UST Management Division. Costs for the well installation are considered part of the approved Corrective Action Cost. The site-specific target levels (SSTLs) for the verification wells will be calculated by the UST Management Division and provided to the contractor in writing. During verification, all wells must be sampled for the analytical parameters listed above in Table 1 as well as the natural attenuation parameters listed in Table 2.

Table 3: Current CoC Concentrations in Groundwater

CoC concentrations requiring reduction in micrograms per liter (µg/l) based on May 9-10, 2013 sampling and gauging:

Well	Free Product Thickness (ft)	Benzene	Toluene	Ethyl- benzene	Xylene	MtBE	Naphth.	TAA	TAME	ТВА
MW-1 <sup>1</sup>		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-2		140	280	56	460	380	54	200	9.2	140
MW-3		3000	7400	260	4500	3300	260	2000	340	1300
MW-4		<5	<5	<5	<5	3.7	<5	<100	<10	<100
MW-5 <sup>1</sup>		<50	< 50	<50	30.5	946	<50	<1000	<100	<1000
MW-6		2.8	<5	3.6	3.3	70	<5	<500	<50	<500
MW-7		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-8		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-9		4100	27,000	2500	19,000	150	960	1600	<2000	<20,000
MW-10		740	7800	<2500	15,000	<2500	950	<50,000	<5000	<50,000
MW-11		7.6	2.4	6.2	2.8	17	<5	180	<10	15
MW-12		1.7	<5	11	<5	5.6	4.7	370	1.5	19
MW-13		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-15 <sup>2</sup>	0.23									
MW-16		<5	<5	<5	<5	<5	<5	65	<10	<100
MW-17		1400	26,000	2500	23,000	<1000	1000	9400	<2000	<20,000
MW-18 <sup>2</sup>	0.04									
MW-19 <sup>2</sup>	0.12									2000
MW-20 <sup>1</sup>		412	2930	728	8820	88.7	817	2850	<200	<2000
MW-22		3300	17,000	2900	20,000	<1000	640	6200	130	<20,000
MW-23 <sup>2</sup>	0.06		2000			.5000	-5000	1100.000	410.000	<100.000
MW-25		<5000	3000	1900	23,000	<5000	<5000	<100,000	<10,000	<100,000
MW-26 <sup>3</sup>		<5	<5	<5	<5	<5	3.2	<100	<10	<100
MW-27		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-28		<5	<5	<5	<5	<5	<5	<100	<10	<100 <100
MW-29		<5	<5	<5 <5	<5 <5	<5 <5	<5 <5	<100 <100	<10 <10	<100
MW-30		<5 57	<5		250	12	210	510	<50	<500
MW-31			90 4.3J	520 24	230	<5	18	200	<10	<100
MW-32		8,8	7200	1500	7200	<500	410	3200	<1000	<10,000
MW-33		520 17	150	1300	360	<25	100	65	<50	46
MW-34 MW-35		4400	2000	1700	3500	300	580	5300	51	<5000
MW-36		18	<25	120	<25	<25	69	160	<50	<500
MW-37	<u> </u>	240	34	270	240	11	220	850	<50	44
MW-38		<5	<5	<5	<5	<del></del>	<5	<100	<10	<100
MW-39		13	1300	460	4200	<250	330	<5000	<500	<5000
MW-40		290	2900	650	7100	<500	530	<10,000	<1000	<10,000
MW-41		260	<1000	1100	<1000	<1000	420	<20,000	<2000	<20,000
MW-42		<25	<25	36	<25	<25	60	<500	<50	<500
MW-43		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-44		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-45		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-46	<u> </u>	<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-48		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-49		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-50		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-51		<5	<5	<5	<5	<5	<5	<100	<10	<100

Richland County

Well	Free Product Thickness (ft)	Benzene	Toluene	Ethyl- benzene	Xylene	MtBE	Naphth.	TAA	TAME	ТВА
MW-53		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-54		<5	<5	<5	<5	<5	<5	110	2	14
MW-55		0.31	<5	3.6	<5	24	4.1	94	0.85	8.4
MW-56		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-58		4.8	<25	20	<25	93	11	1800	15	100
MW-59		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-60		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-62		6.2	<25	<25	<25	2.1	9.6	440	<50	<500
MW-63		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-65 <sup>1</sup>		420	398	234	262	16.4	168	648	<50	<500
MW-67		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-70		<5	<5	<5	<5	<5	<5	<100	<10	<100
MW-5aR		9200	1000	1400	4400	160	810	1300	<1000	<10,000
PW-1R <sup>2</sup>	0.03									
DW-1		<5	<5	<5	<5	<5	<5	<100	<10	<100
DW-2		<5	<5	<5	<5	12	<5	<100	<10	<100
DW-3		2600	19,000	2200	10,000	<1000	620	3600	<2000	<20,000
DW-4		0.23	<5	<5	<5	12	<5	<100	<10	<100
DW-5		5000	<250	<250	2000	920	180	3100	77	< 5000
DW-6		<5	<5	<5	<5	<5	<5	<100	<10	<100
DW-7		0.39	<5	<5	<5	1.1	<5	17	<10	<100
DW-8		<5	4.2	<5	<5	<5	<5	<100	<10	<100
DW-9		<5	<5	<5	<5	<5	<5	<100	<10	<100
SW-1		130	2.8	23	36	17	6.5	340	2.6	23

CoC concentations may vary due to seasonal fluctuations in the groundwater.

1 Monitoring well was dry and not sampled. Concentrations are from the previous sampling event.

2 Baseline CoC concentrations will be set at the levels detected after the removal of Free Phase Product.

3 Monitoring well was covered and not sampled. Concentrations are from the previous sampling event.

**Table 4: Site-Specific Target Levels** 

Site-specific target levels (SSTLs) for interim payment under this solicitation in micrograms per liter (µg/l).

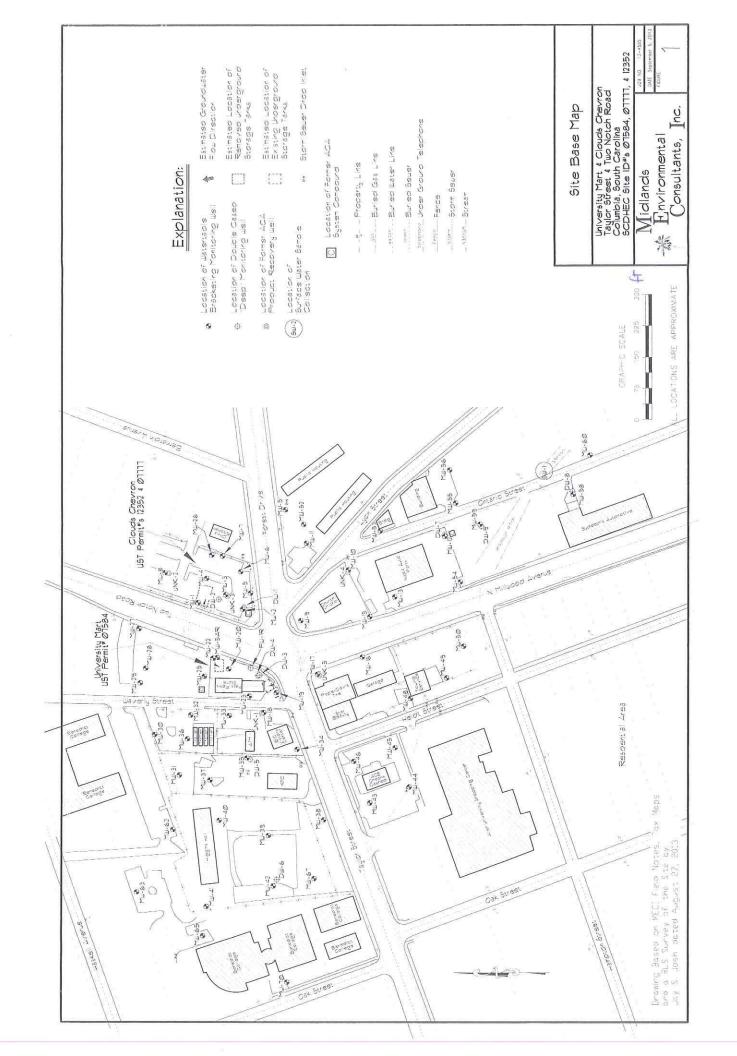
Well	Benzene	Toluene	Ethylbenzene	Xylene	MtBE	Naphth.	TAA	TAME	TBA
MW-2	77	280*	56*	460*	380*	54*	200*	9.2*	140*
MW-3	111	7400*	260*	4500*	1976	108	2000*	340*	1300*
MW-5	50**	50**	50**	30.5*	946*	50**	1000**	100**	1000**
MW-9	35	7134	2500*	19,000*	150*	68	809	270	15,628
MW-10	24	7800*	2500**	15,000*	294	53	793	707	11,042
MW-12	1.7*	5**	11*	5**	5.6*	4.7*	370*	1.5*	19*
MW-15	16	3198	3700	21,680	730	45	492	199	5838
MW-17	32	6631	2500*	21,680	1000*	66	773	263	14,286
MW-18	40	19,326	3700	21,680	4260	348	938	4989	54,462
MW-19	54	11,081	3700	21,680	16,080	86	1065	320	26,814
MW-20	83	2930*	728*	8820*	88.7*	108	1403	200**	2000**
MW-22	90	17,000*	2900*	20,000*	1000**	112	1469	130*	20,000**
MW-23	72	14,880	3700	21,680	33,368	100	1279	359	38,475
MW-25	104	3000*	1900*	23,000*	5000**	121	1612	415	60,494
MW-31	51*	90*	520*	250*	12*	210*	510*	50**	500**
MW-33	53	7200*	1500*	7200*	500**	410*	1136	1000**	10,000**
MW-35	56	2000*	1700*	3500*	300*	542	1181	51*	5000**
MW-37	90	34*	270*	240*	11*	220*	850*	50**	44*
MW-39	13*	1300*	460*	4200*	250**	330*	1607	500**	5000**
MW-40	113	2900*	650*	7100*	500**	530*	1876	1000*	10,000**
MW-41	257	1000**	1100*	1000**	1000**	420*	3234	2000**	20,000**
MW-54	5**	5**	5**	5**	5**	5**	110*	2*	14*
MW-58	4.8*	25**	20*	25**	51	11*	279	15*	100*
MW-65	326	398*	234*	262*	16.4*	168*	648*	50**	500**
MW-5aR	83	1000*	1400*	4400*	160*	108	1300*	381	10,000**
PW-1R	58	11,928	3700	21,680	290*	19,298	1114	330	29,344
DW-3	45	8470	2200*	10,000*	1000*	620*	3600*	2000**	20,000**
SW-1	5	2.8*	23*	36*	17*	6.5*	240	2.6*	23*

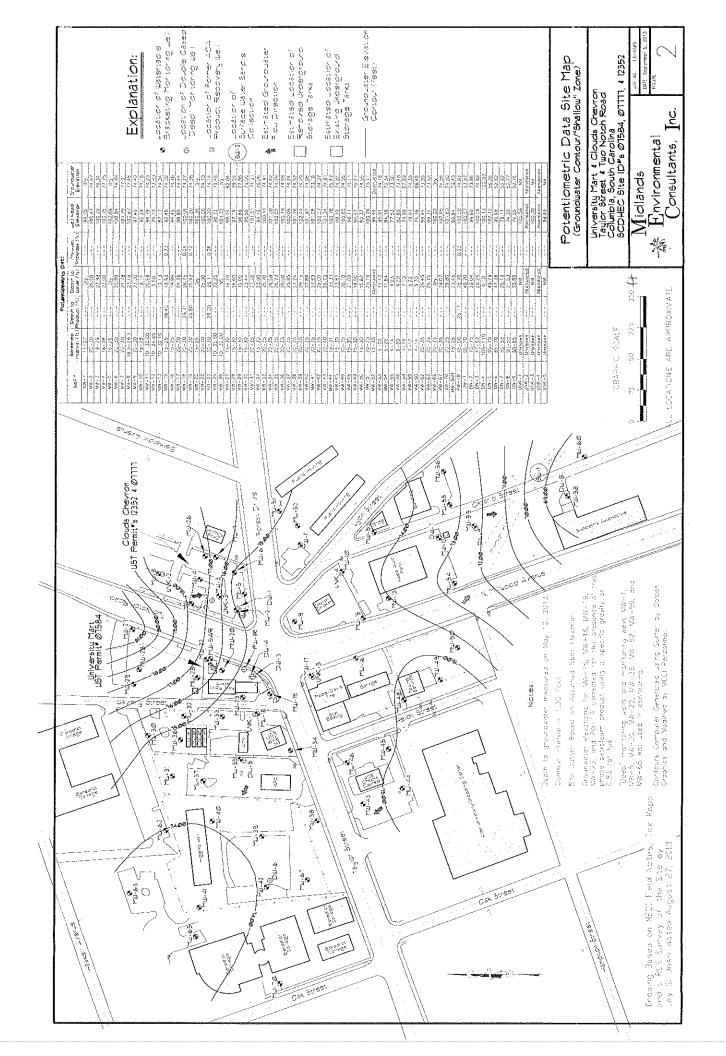
<sup>\*</sup> Laboratory analysis is less than calculated SSTL. SSTL is set equal to laboratory analysis.

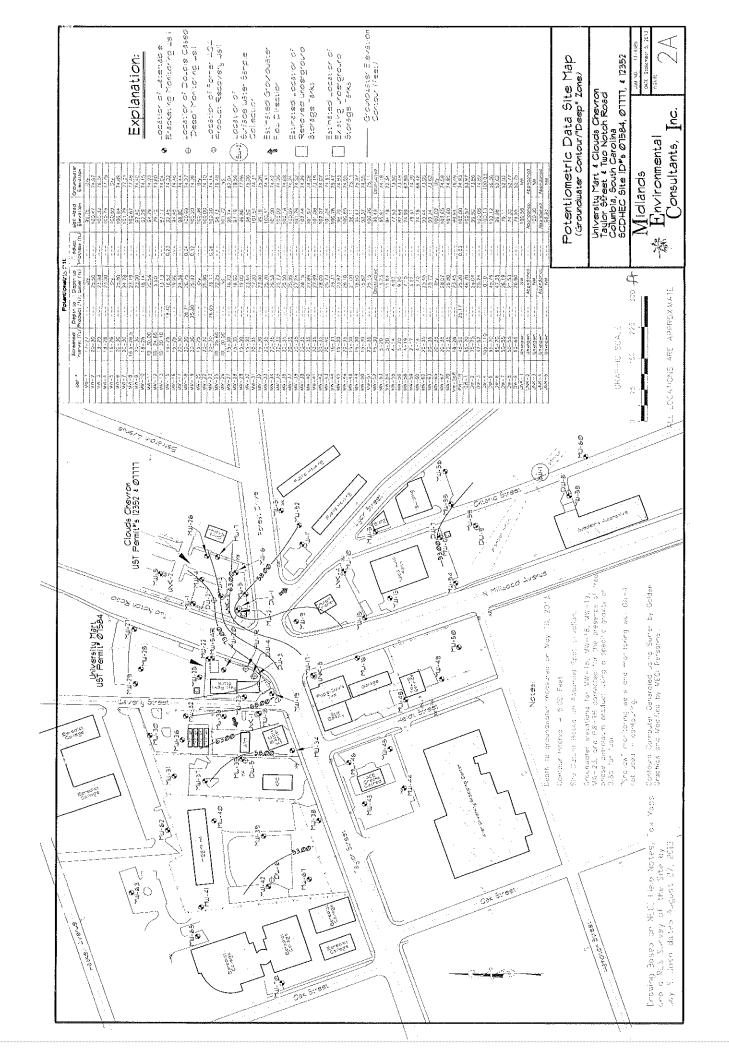
# **List of Nearby Facilities**

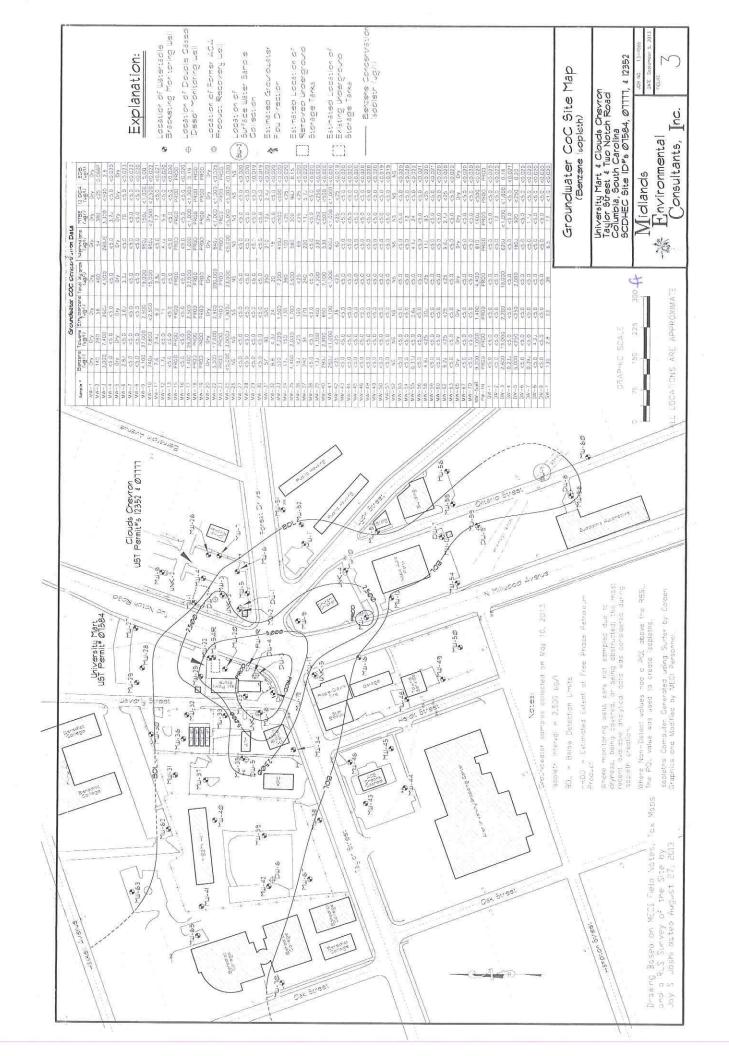
- The former Handy Pantry # 65 (UST Permit # 07584) is currently an operating facility under UST Permit # 18389, University Mart.
- UST Permit # 18184, Imports Only, Inc., 1300 N. Millwood Ave., Columbia, SC 2 Tanks last used before 1974 and empty.
   Release Reported June 25, 1988.

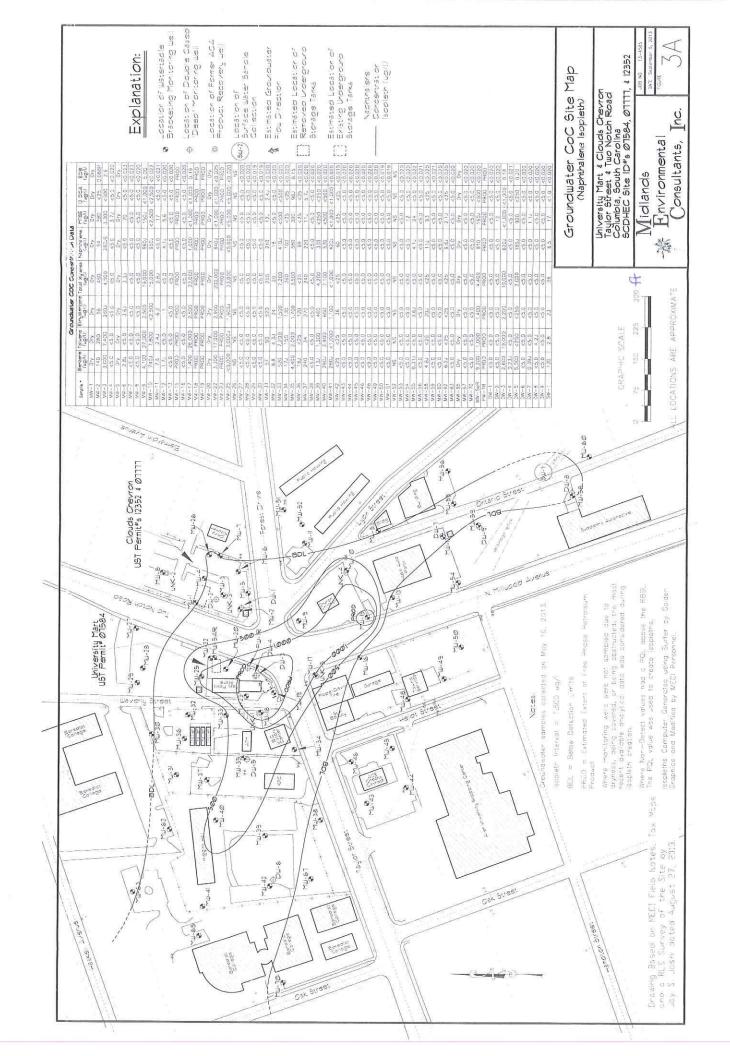
<sup>\*\*</sup> Laboratory analysis is below detection limit. SSTL is set equal to detection limit.

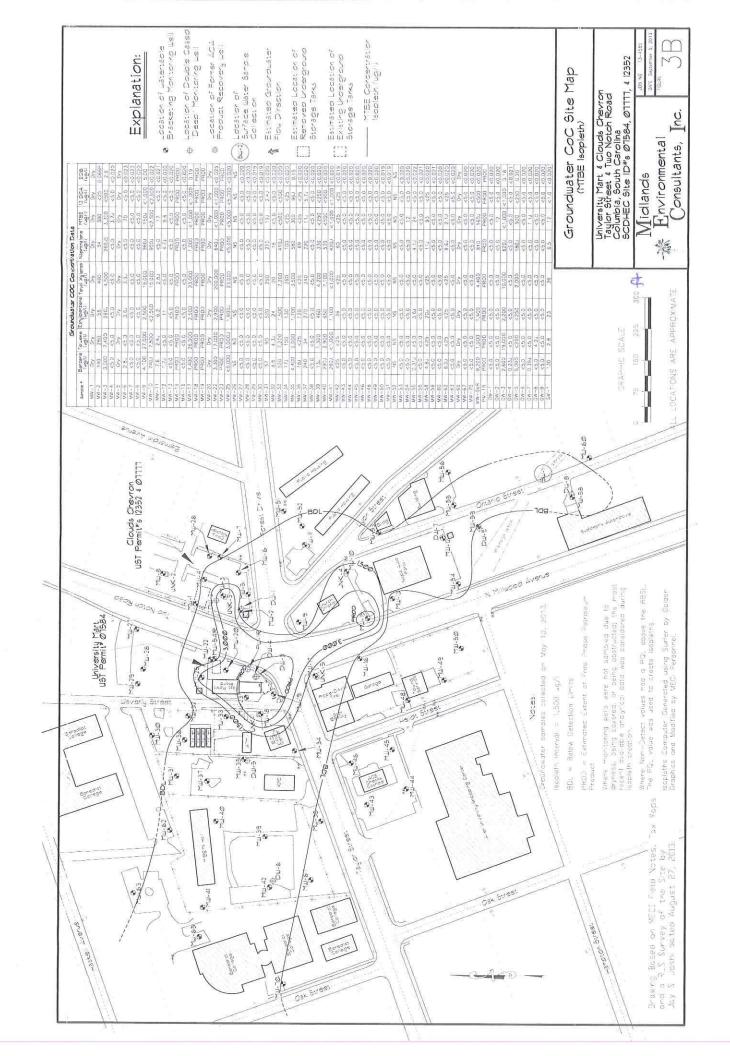


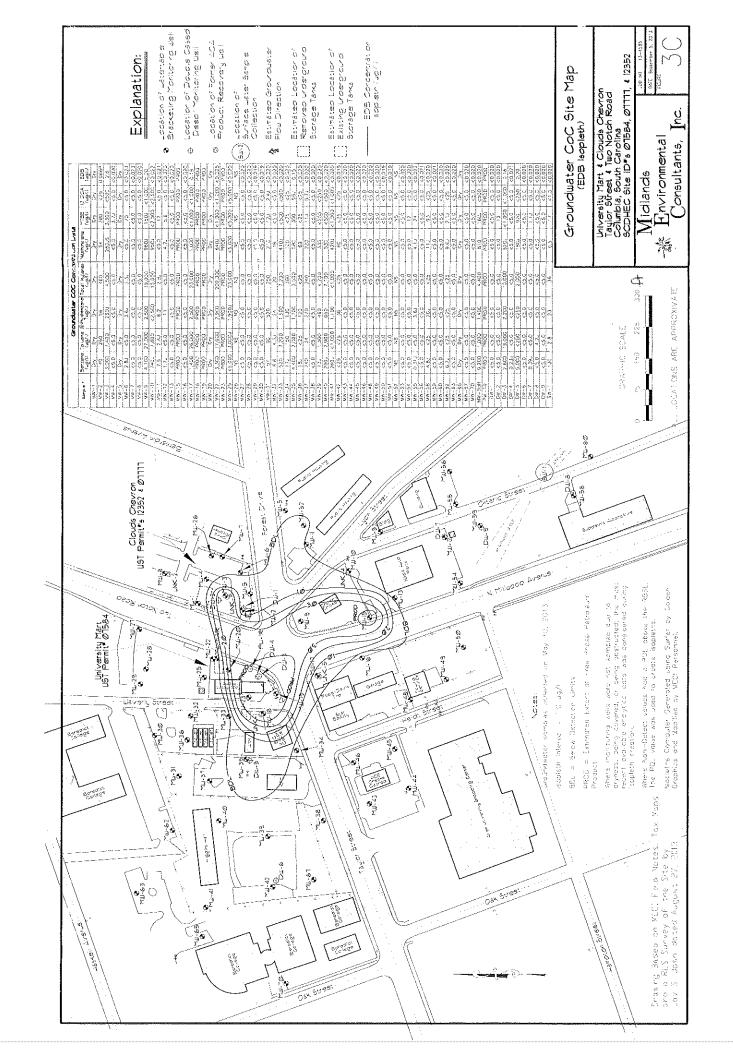


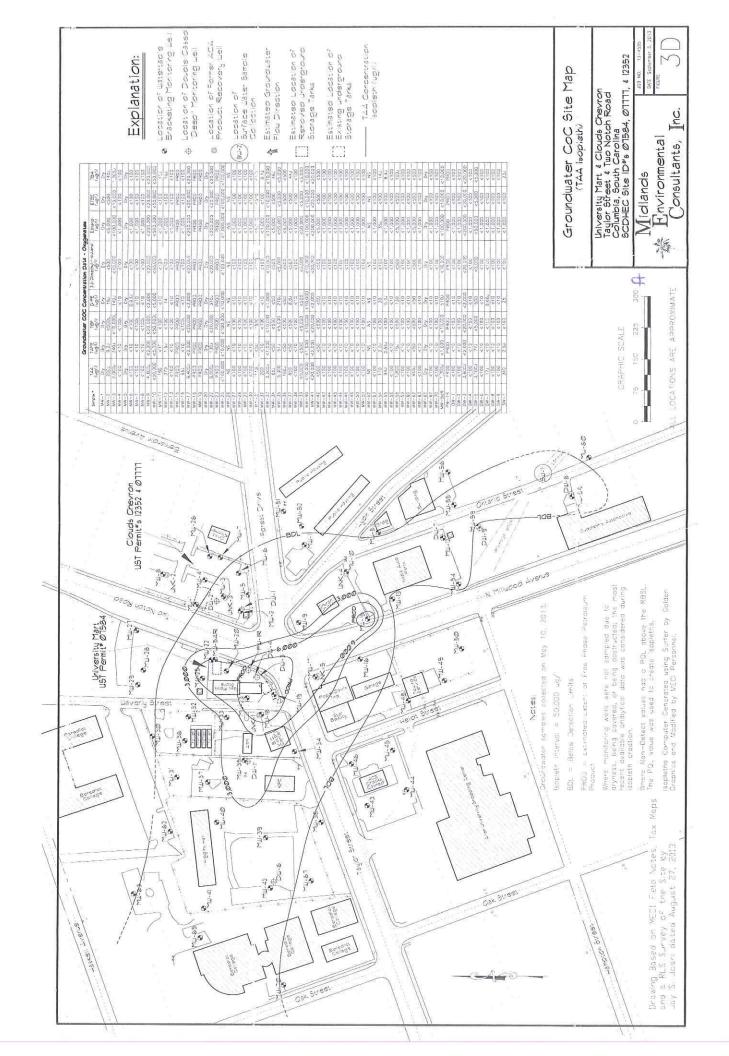




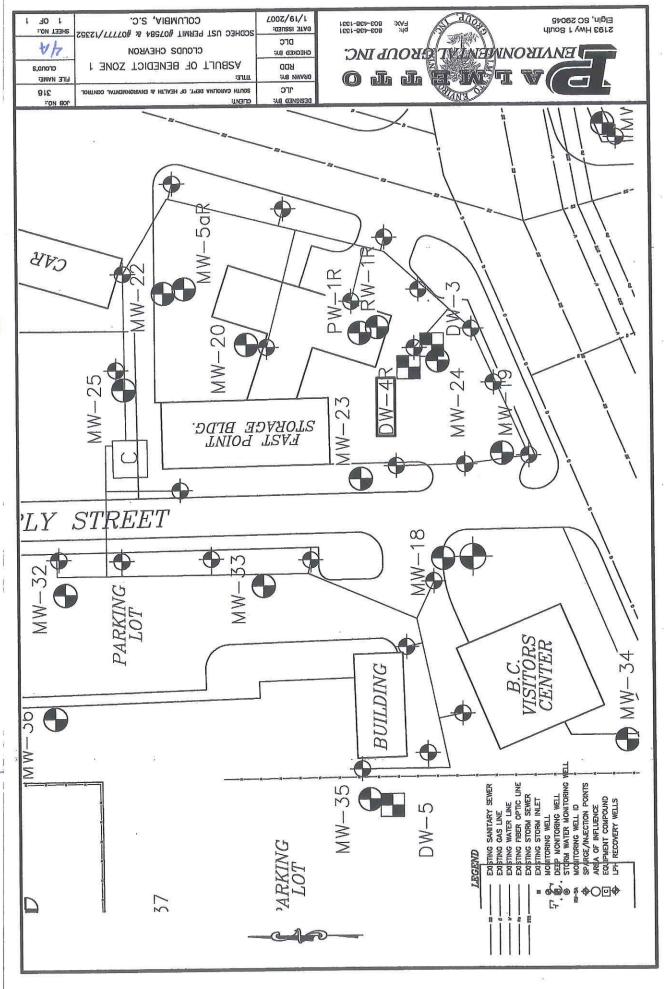




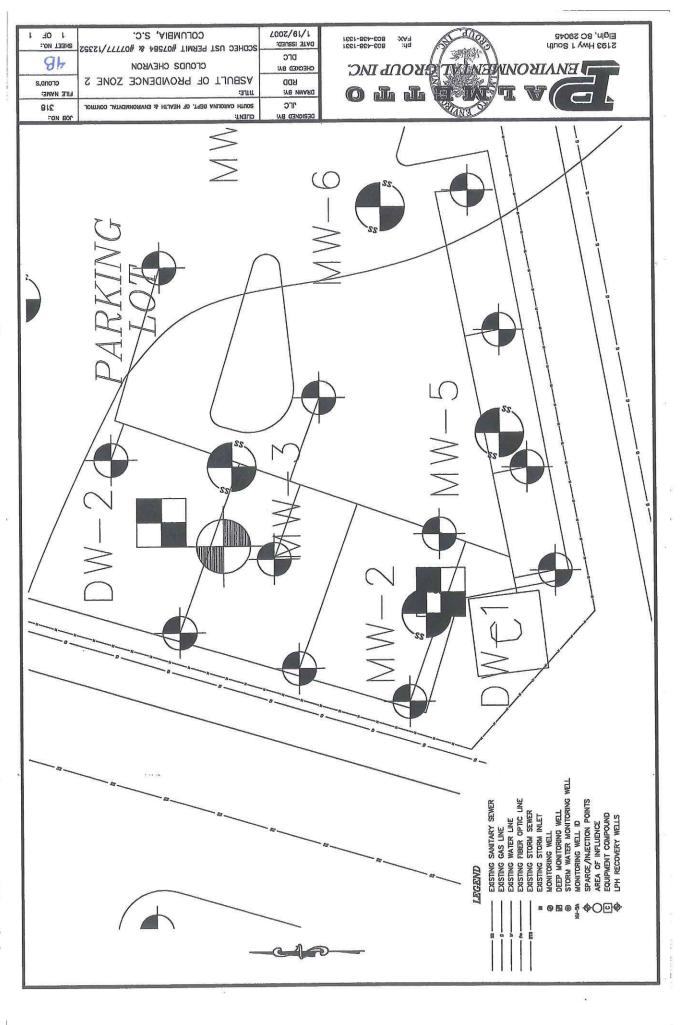




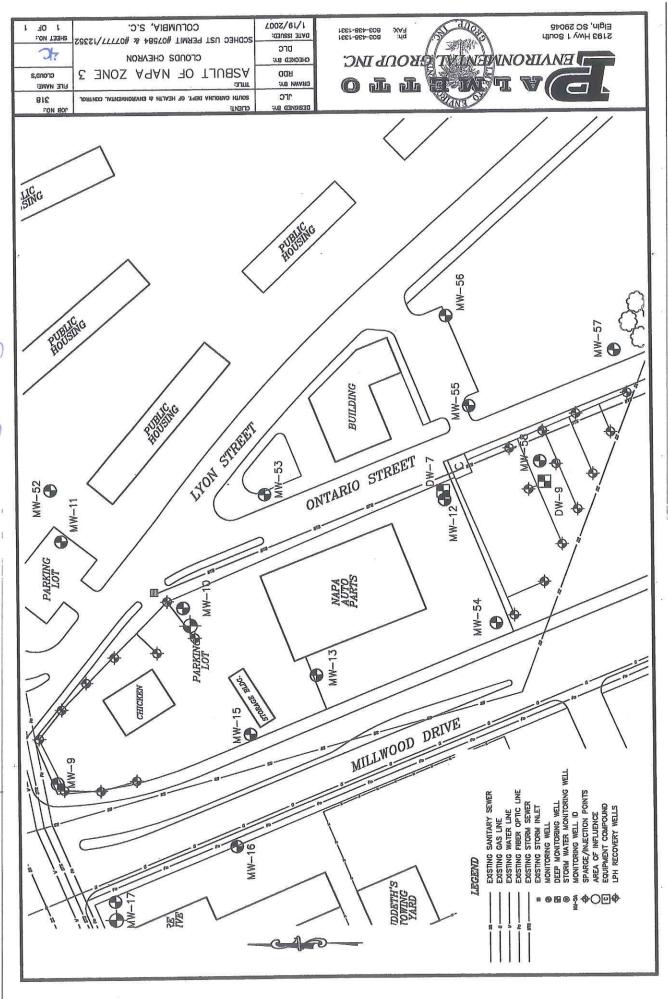
As Built for previous ACA. Remediation wells may or may not be functional

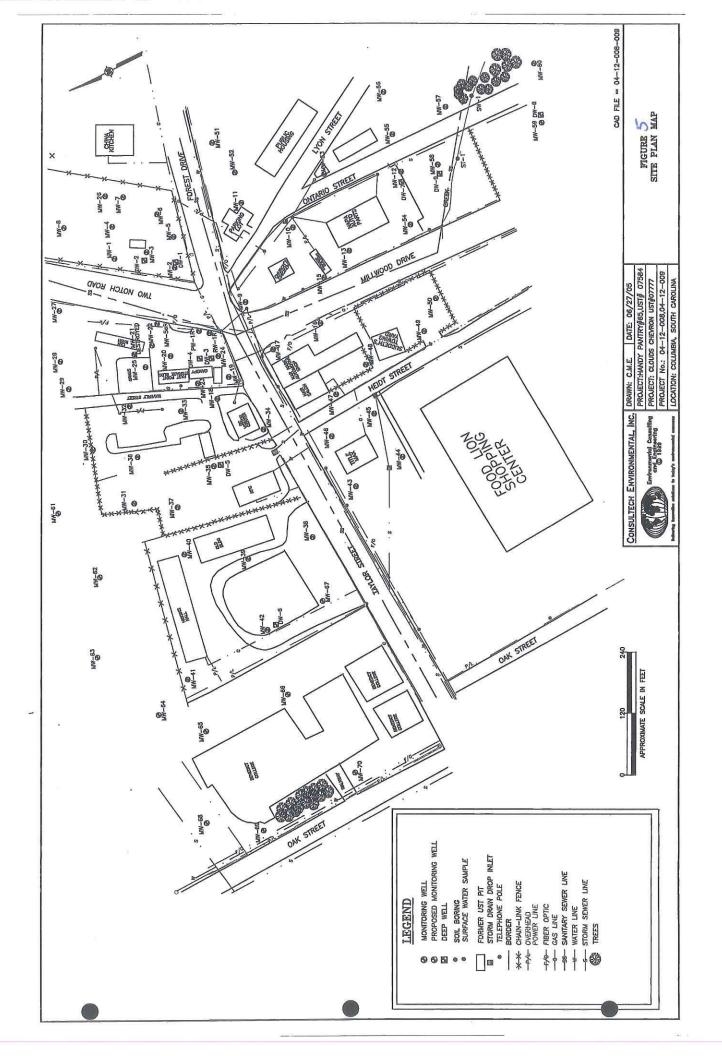


As Built for previous ACA, Remediation wells mayor may not be functional

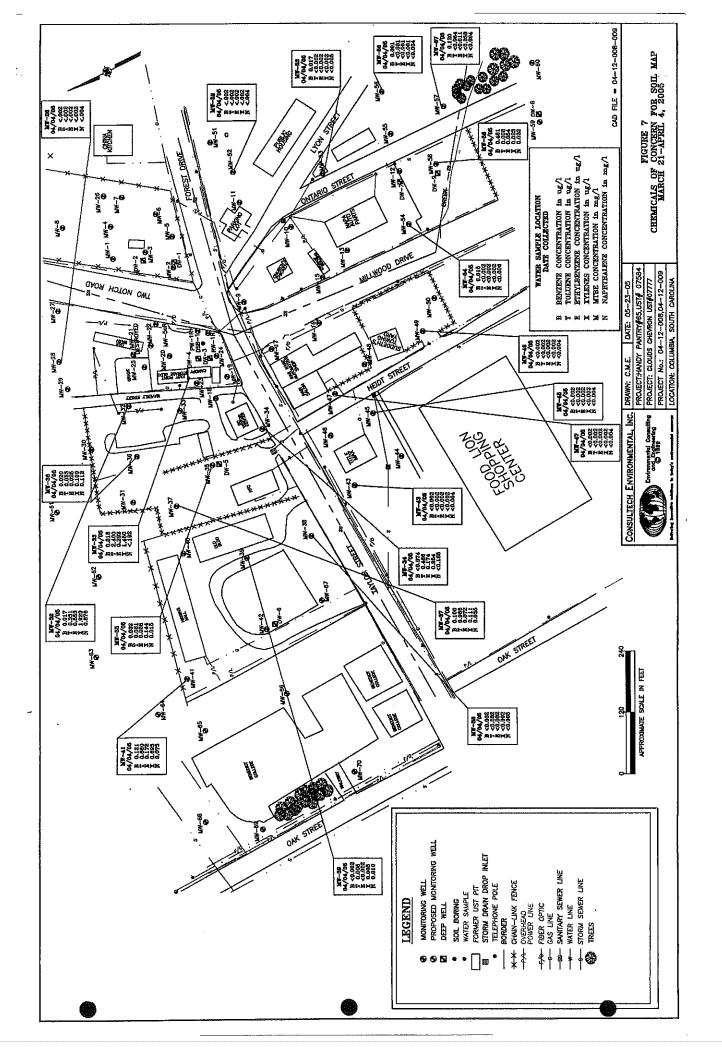


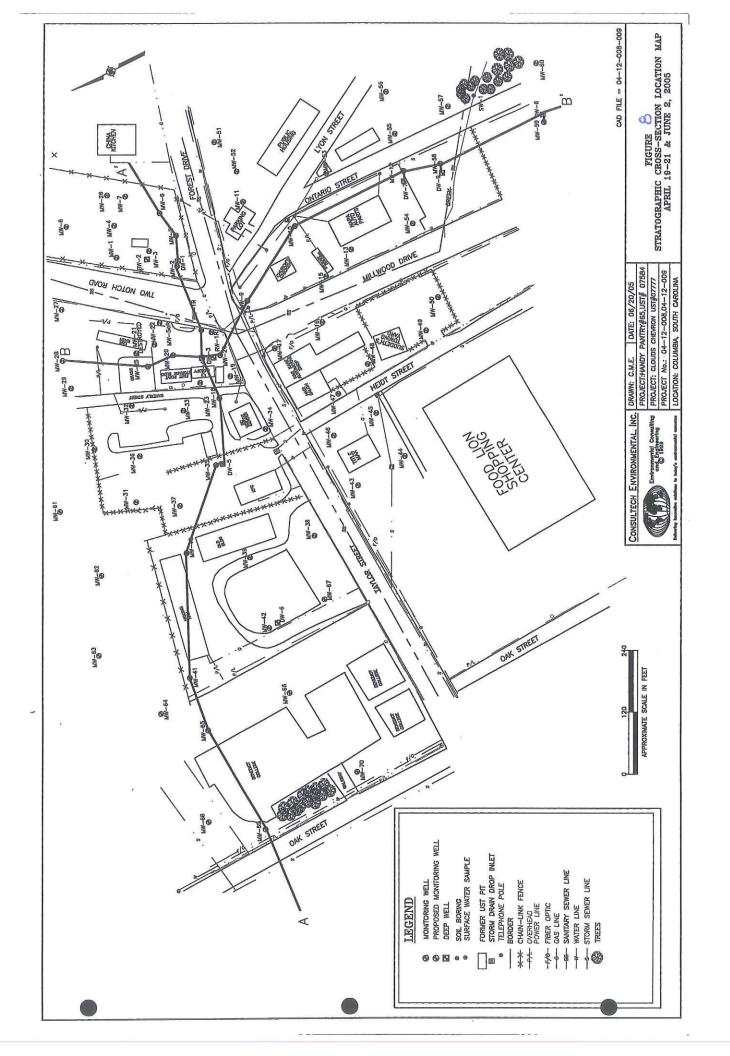
As Built for previous ACA, Remediation wells may or may not be functional

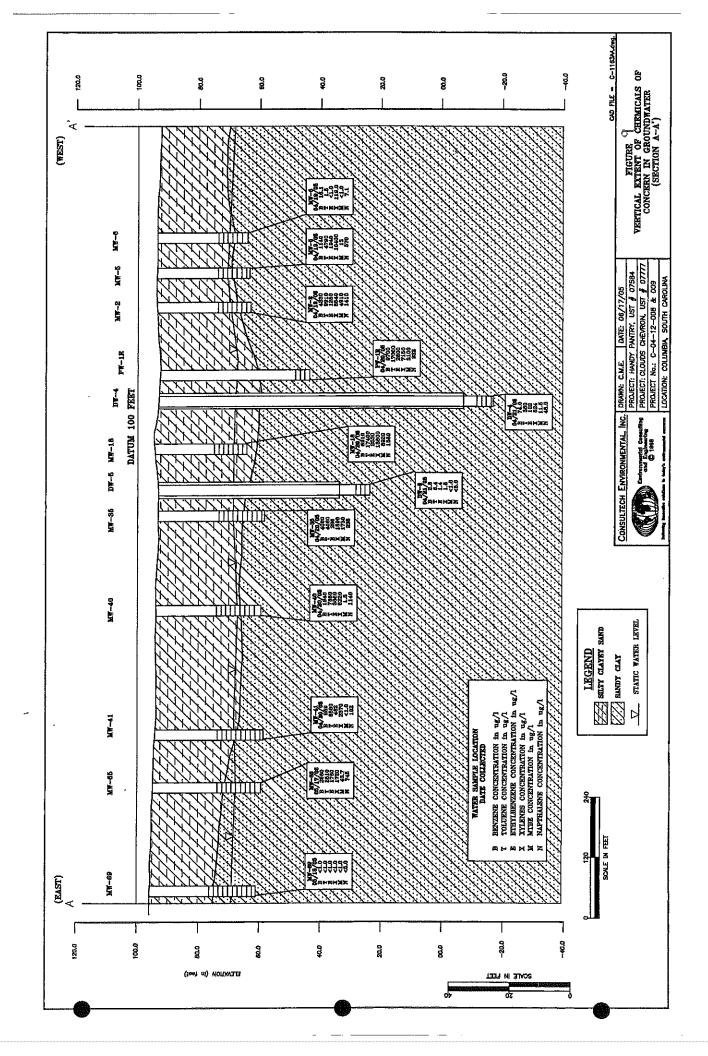


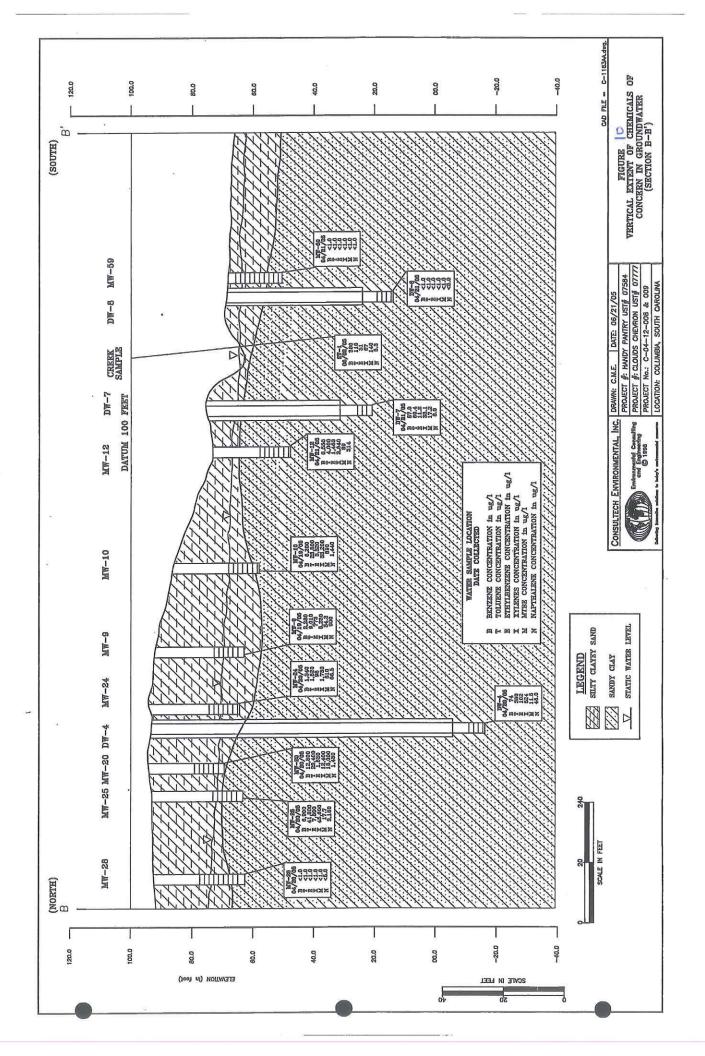


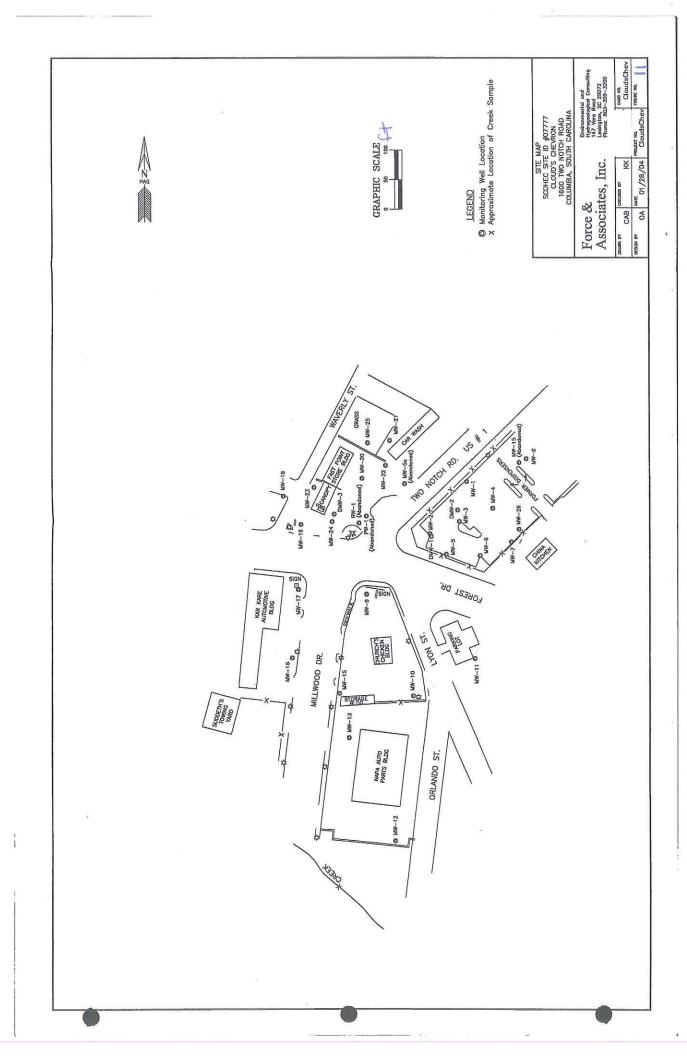


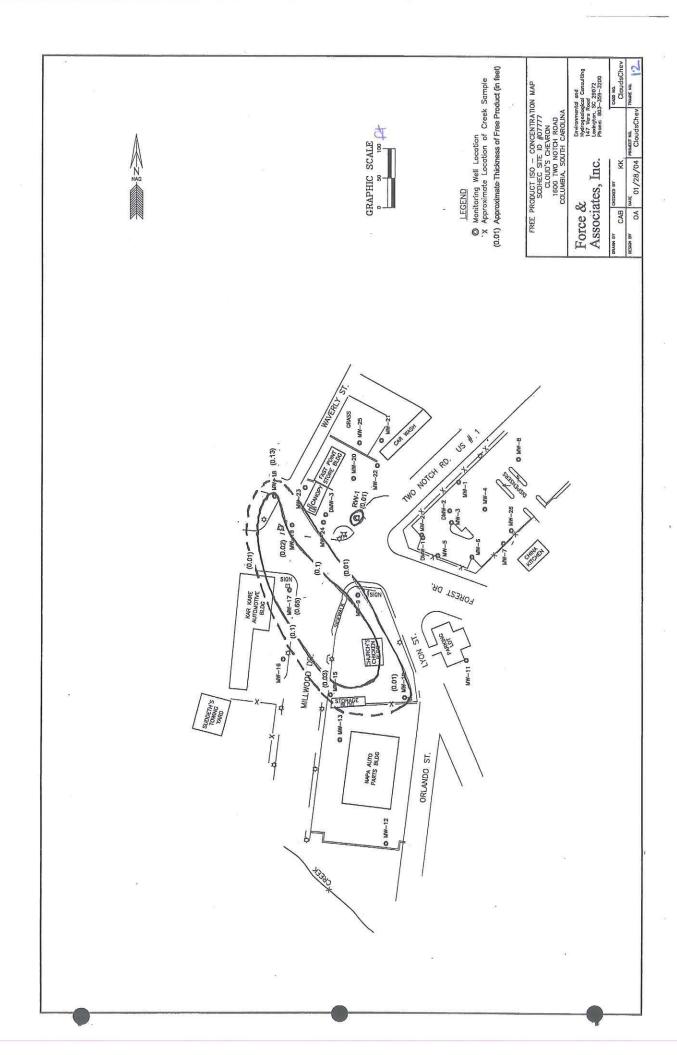


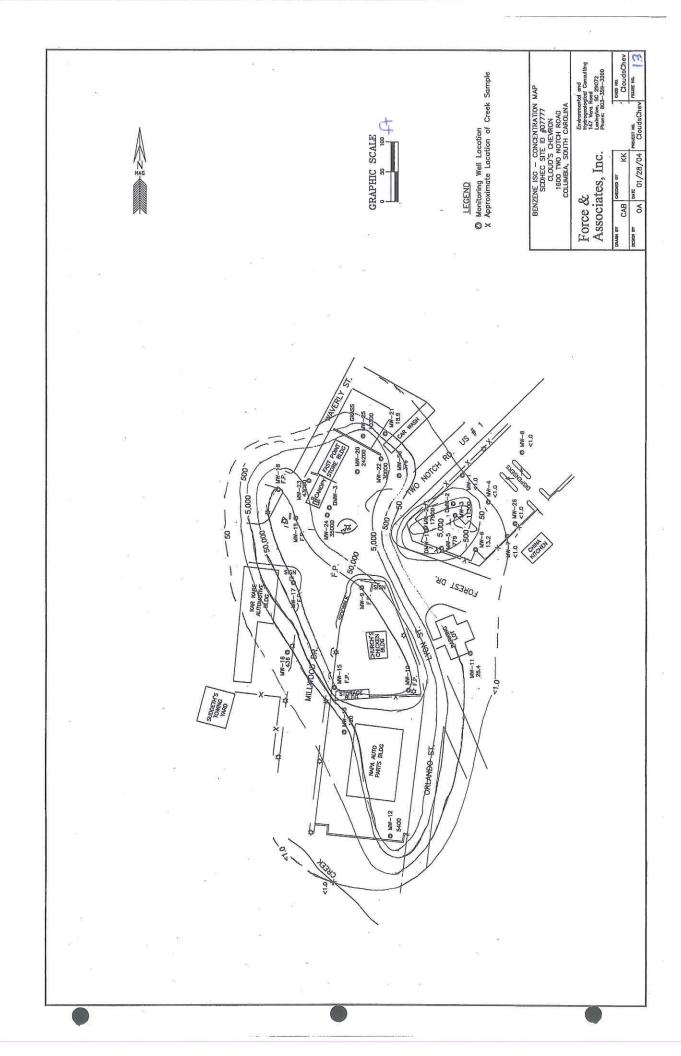


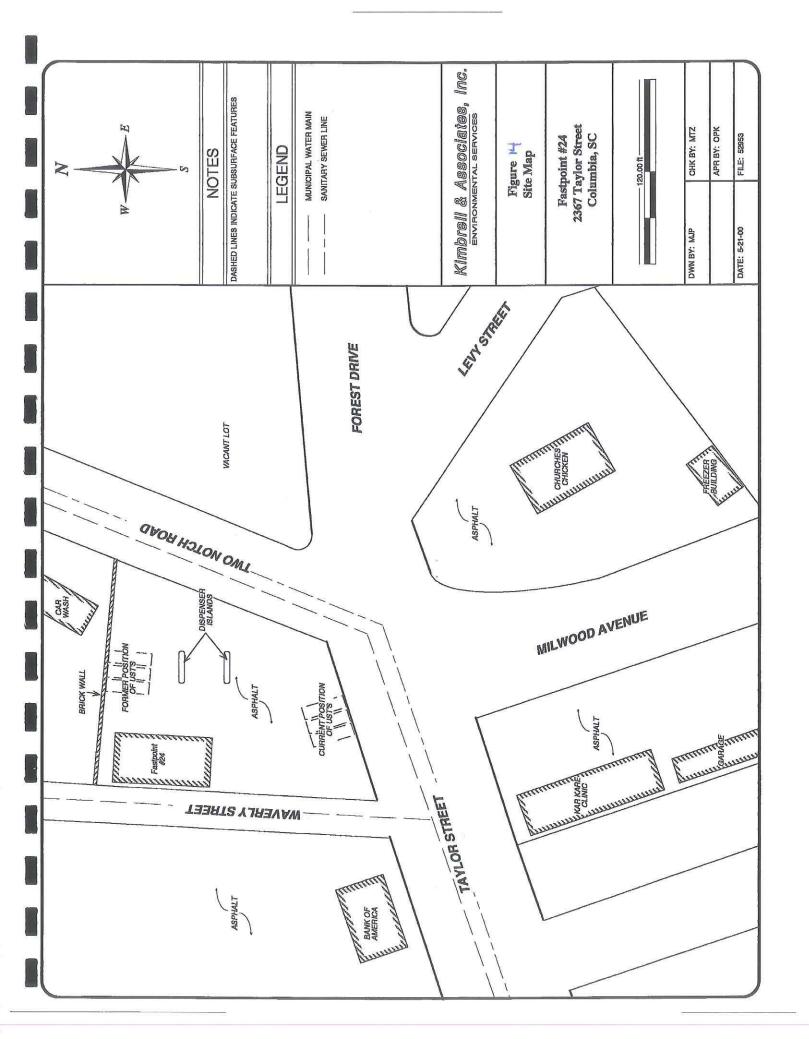


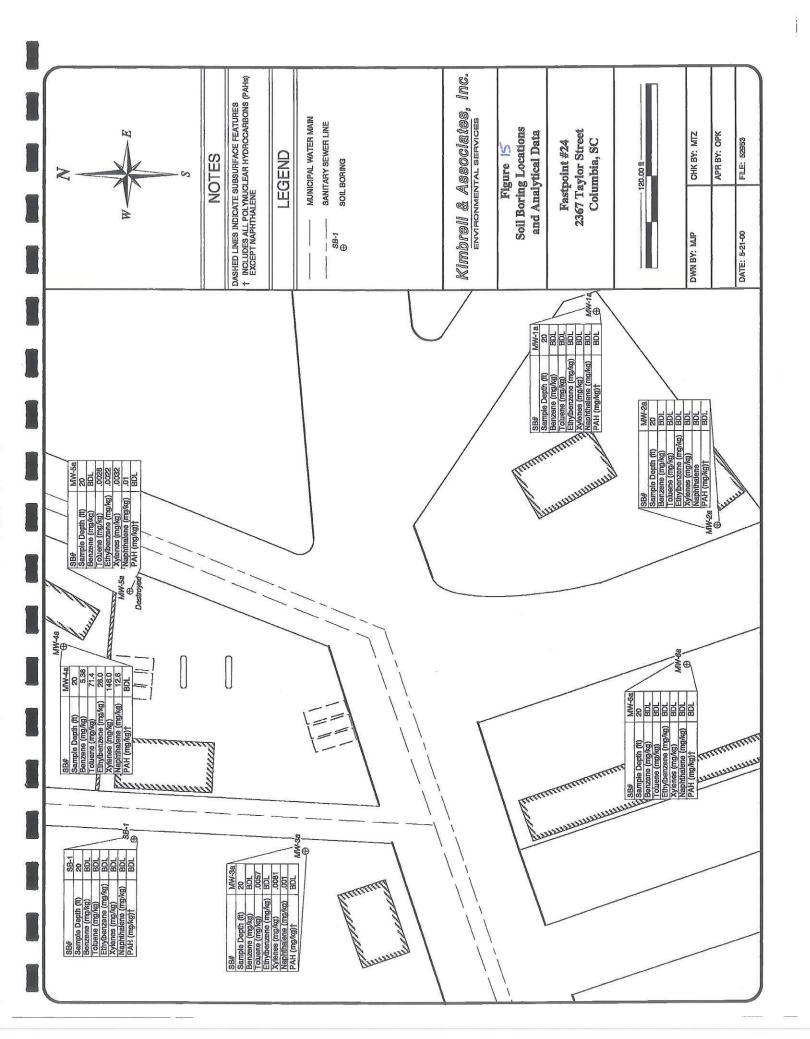


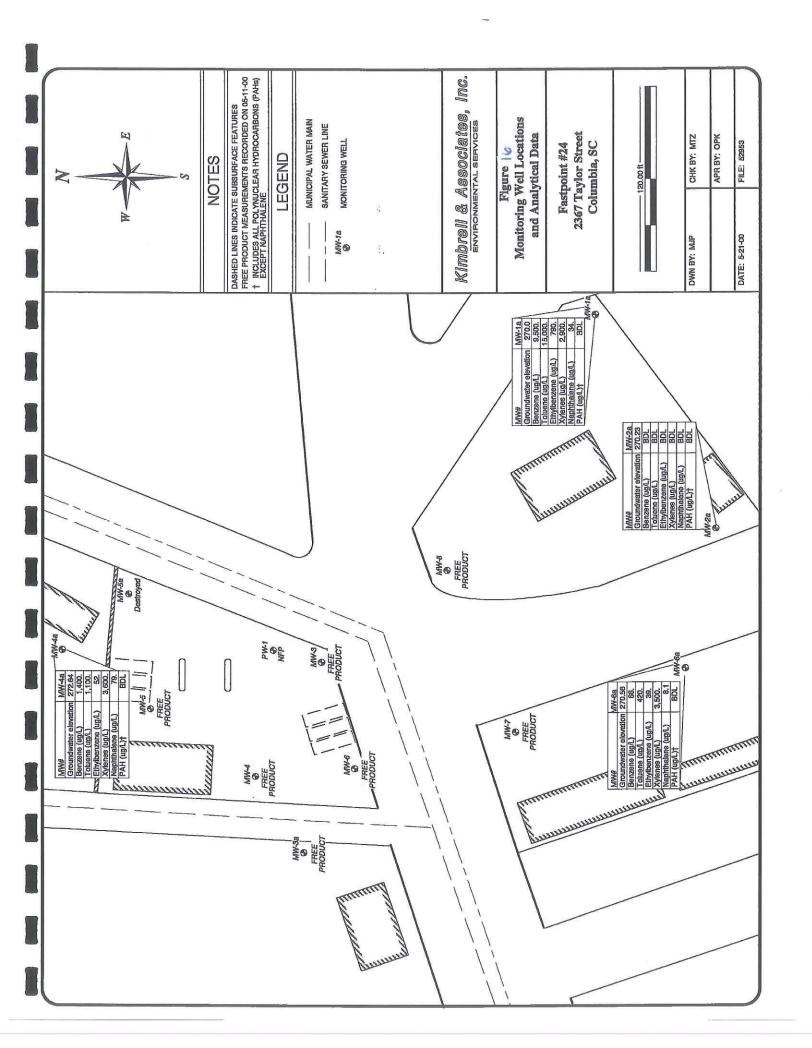


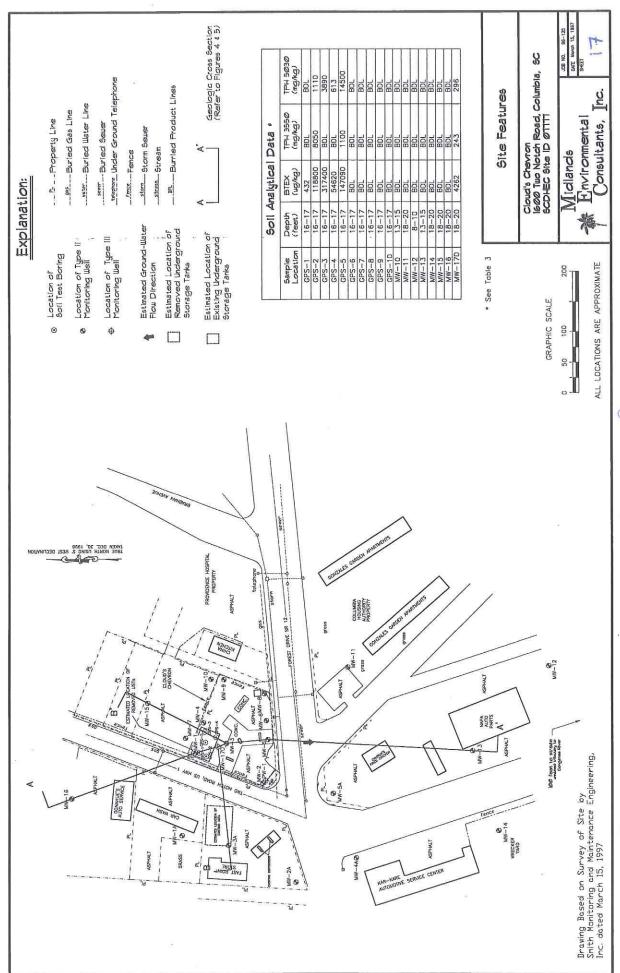




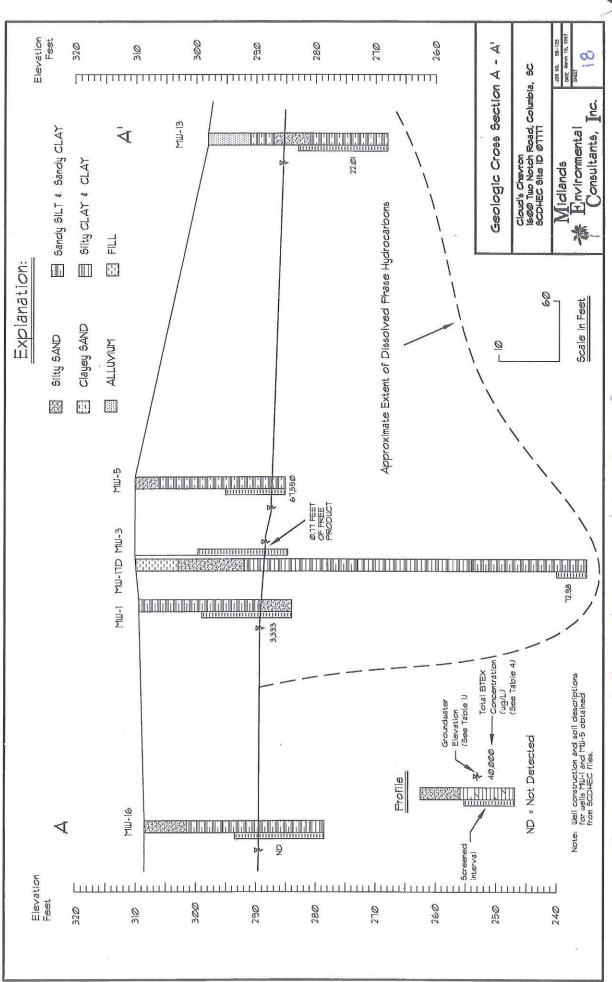




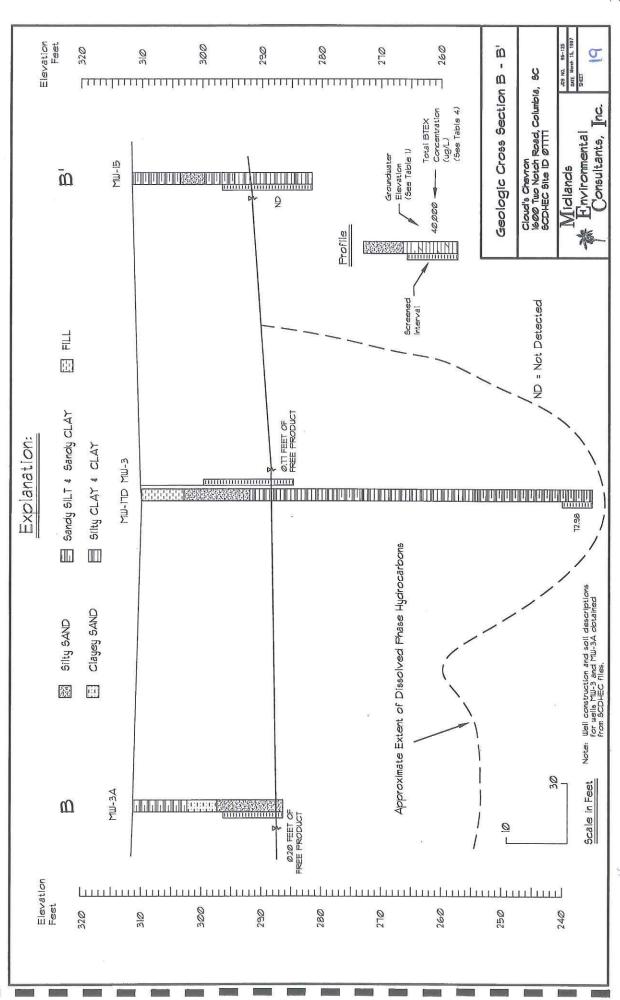




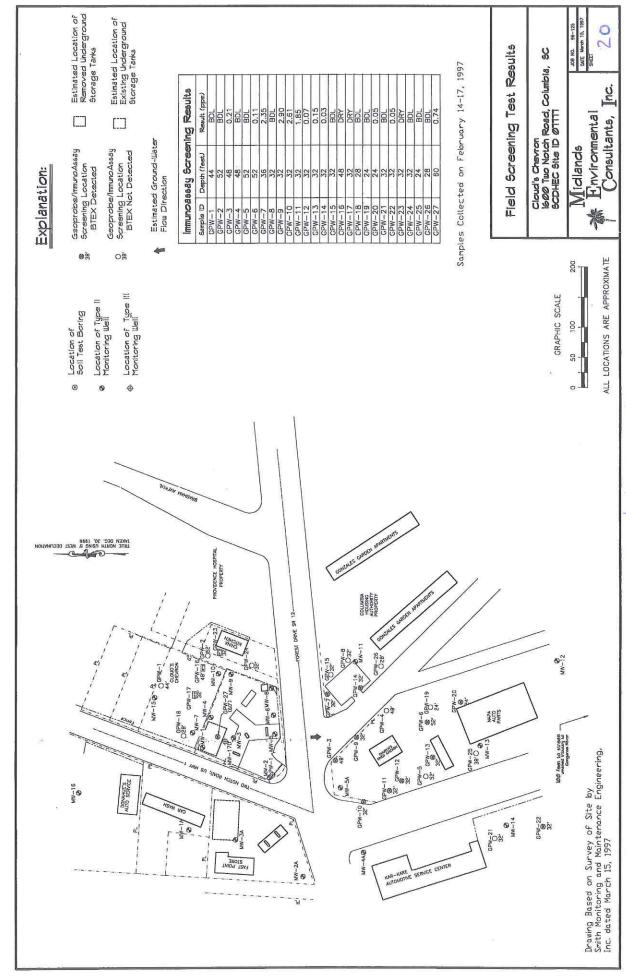
\*Note-some well numbers were later charged



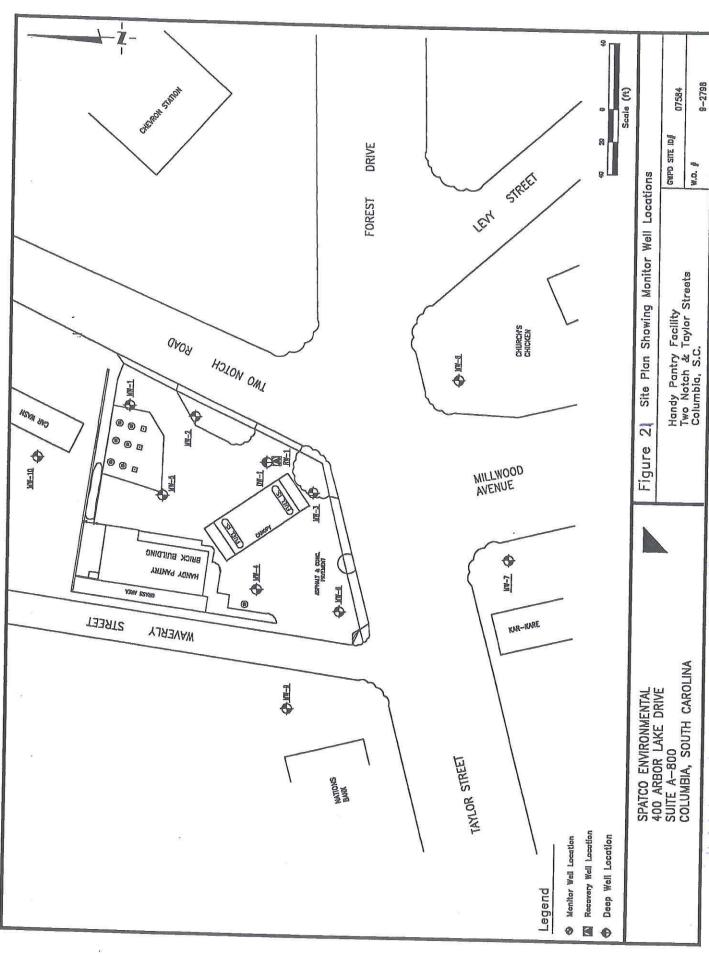
\* Note-Some well numbers were later charged.



\*Note - Some well numbers were later changed.



\* Note - Some well numbers were later charged



\* Note - these wells were later renamed or replaced

Clouds Chevron (UST # 07777 & # 12352) University Mart (UST # 07584)

CH4 mg/l			
իе ՠց//			
l\gm 4O8			
I\gm &OV			
АЯТ	45.4 <25 <10 <100	1380 <630 <20 <100 <100	1200 <1300 <100 <5000 <1000 <5000 <1000 <1300 1300 1300
3813	<1 <5 <10 <10 <10	<1 <130 <20 <10 <10 <10	<5 <250 <10 <500 <100 <500 <100 <100 <1000
Ethanol	<100 <100 <20 <200 <200	<100 <2500 <40 <200 <200 <5000	<pre>&lt;500 &lt;5 &lt;5000 &lt;5 &lt;5000 &lt;250 &lt;200 &lt;10 &lt;10000 &lt;500 &lt;10000 &lt;500 &lt;10000 &lt;100 &lt;2000 &lt;100</pre>
АЯТЭ	<10 <25 <10 <100 <100	1650 <630 <20 <100 <100	2490 <1300 <100 <5000 <1000 <1000 <1000
DIPE	\$ \$ \$	319 250 210 <5 22.1	810 1100 <5 1330 <50 <250 75.2 <50 140J
18F	<10 <25 <20 <50 <50	<10 <630 <40 <50 <50 <500	<50 <1300 <1300 <50 <500 <500 <500 <500 <10000
<b>BMAT</b>	\$\$ \$\$ \$\$ \$\$	114 <130 50 <10 <10 9.2J	120 540 <10 1760 <100 <500 160 <100
AAT	56.4 <25 <10 <100	11000 2800 1700 <100 178	15200 12000 12000 12000 12010 2210 2210
рвад	8.7	310	1050
1,2 DCA	<1	<1 11.8 <25	<5 <250 27.9 J <500 <500
ЕОВ	<0.02 <0.02 <0.02 <0.02 <0.02 <0.02	108 <0.02 39 94 <0.02 0.061	66.1 <0.02 230 70.5 229 6.2 42.2 2.8 2.6
Naphthalene	108 151 173 65 65 4.4 65 65 75 65	383 940 640 <250 1410 570 460 <5	940 870 910 1500 <5 537 713 254 91.1 <50
MtBE	1960 731 1600 <1 <1 <1 <5	2000 8380 9860 6150 4910 3200 1700 10 164 380	2E+05 20200 10900 37000 <5 66100 1890 1890 1540 1300 3300
уλјеие	2300 590 1753 1.6 <1 <1 19 <10	21600 7350 19170 17000 8540 12000 13800 <10 56.2	38700 John Markett Ma
Eţµλipeuzeue	607 2010 523 <1 <1 <1 <1 <5	4160 4410 3440 3630 1250 1800 2100 <5 <5	7370  ae Produc 3980  ae Produc 2940 2504  c5 657 657 657 <250 35.1J <50
euenlo_T	491 180 256 1.3 <1 <1 6.6 <5	41600 43400 37700 34600 9910 11000 22000 13.2 <5	A9300 72100 7370 38700 Not sampled- Free Product 11300 72500 3980 20800 Not sampled- Free Product 5620 14200 2540 19000 Not sampled- Free Product 5.5 14.2 <5 <10 9950 16500 657 8790 <50 <10 9950 16500 657 8790 <50 <10 333 <250 <10 39 <244 590 35.1J 1140 <26 <50 <50 <50 <50 <50 <50 <50 <50 <50 <50
Вепzепе	1120 1920 801 <1 <1 <1 <5 <5	12200 12300 16000 17900 4230 5900 12000 5.8 <5	49300 Not sam 11300 Not sam 5620 15000 Not sam 5.5 9950 <50 170 J 244 <50 3000
FP Thickness			0.77 6.74 0.43 0.19 3.58
GW Depth	1 1 2 2 2 1	22.27 23.30 24.08 23.30 22.91 19.80 23.00 25.50	21.93 23.44 30.04 24.13 23.30 24.88 16.50 23.20 23.00 18.60
TOC Elevation	93.89	94.70	94.45
Screened interval	17-27	20-30	19.29
Table 7	MW-1 11/20/1992 10/6/1993 3/12/1997 11/18/2003 4/19/2005 6/29/2006 8/14/2007 1/18/2007 1/18/2013	MW-2 11/20/1992 10/6/1993 3/12/1997 11/18/2003 4/19/2005 6/29/2006 8/21/2007 5/9/2010	MW-3 10/6/1993 3/11/1997 10/27/2003 2/8/2005 4/19/2005 6/29/2006 8/21/2007 3/3/2008 10/20/2008 1/1/18/2010 3/17/2010 5/9/2013

CH4 mg/l				
Fe mg/l				
1\gm 4O2				
NO3 mg/l				
ABT	<ul> <li>10</li> <li>25</li> <li>10</li> <li>100</li> <l></l></ul>	<10 <2500 <10 <100	38.5 <25 <100 <1000 <2500 <2000 <100 <100 <100	410 410 410 4100 4100 4100 4100
3813	45 40 40 40 40 40 40 40 40 40 40 40 40 40	<1 <500 <10 <10 <10	45 45 4100 4100 4250 6250 6250 6250 6100 6100	2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Ethanol	<100 <100 <20 <200 <200 <200 <200 <1000	<100 <10000 <20 275 <2000	<pre>&lt;100 &lt;100 &lt;100 &lt;200 &lt;200 &lt;200 &lt;4000 &lt;4000 &lt;200 &lt;200</pre>	<100 <100 <20 <200 <200 <200 <1000
A8T3	<ul><li>410</li><li>425</li><li>410</li><li>410</li><li>4100</li><li>4100</li><li>4100</li><li>4100</li><li>4100</li></ul>	558 <2500 <10 <100	104 <25 <100 <1000 <1000 <2500 <2500 <100 <100 <100 <100	755 7100 7100 7100 7100 7100
DIPE	\$ \$ \$ \$ \$ \$ \$ \$	<5 <500 <1 <5 <50	<5 <5 87 234 126 <100 <5 <5 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6	\$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$
<b>18</b> T	<10 <25 <20 <50 <50 <50 <50 <100	<10 <2500 <20 <50 <500	<10 <25 <200 <200 <500 <1000 <500 <100 <500 <500	<10 <25 <20 <20 <50 <50 <50 <50 <50 <50 <50 <50
<b>3MAT</b>	25 2 40 40 40 40 40 40 40 40 40 40 40 40 40	<1 <500 <1 <10 <100	41 45 33 4100 4250 4200 410 410 410 410 410 410 410 410	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
AAT	<ul><li>410</li><li>25</li><li>410</li><li>410</li><li>4100</li><li>4100</li><li>4100</li><li>4100</li><li>4100</li><li>4100</li><li>4100</li><li>4100</li></ul>	920 <2500 580 <1000	391 <25 1000 3190 <2500 <2000 <100 <100 <100 <500	425 410 4100 4100 4100 4100
резq	<5	289	φ	တ
1,2 DCA	₽ \$ \$	290 <1 <50		2 & &
EDB	0.15 <0.02 0.074 <0.02 <0.02 <0.02 <0.02 <0.02 <0.02	1.62 2.81 0.84 3.6 <0.02	0.02 0.02 0.02 2.4 68.9 0.97 0.16 0.02 0.02 0.02	60.02 60.02 60.02 60.02 60.02 60.02 60.02
Naphthalene	41 17.7 45 45 45 45 45 45	1220 896 1240 570 710 510 8.8	<5 7.1 2.10 775 7.75 <125 <100 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <6 <5 <6 <5 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <7 <6 <7 <7 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <7 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <7 <6 <6 <6 <p< th=""><th>8 8 8 4 8 8 8 8</th></p<>	8 8 8 4 8 8 8 8
MtBE	246 <1 165 11.2 2.6 7.9 2.3 10.8 5.4 3.7.J	3040 9910 <1 89.5 13 <100 <1 91.9 946	<ul> <li>&lt;1</li> <li>&lt;1</li> <li>3700</li> <li>1480</li> <li>4440</li> <li>2560</li> <li>119</li> <li>23.1</li> <li>70</li> <li>68</li> </ul>	2222222
χλ <sub>l</sub> eue	83 71 729.1 2.8 71 71 710 710 710 710 710 710	14600 24000 21950 2020 10400 8300 9800 <10	66.5 119 60 525 15600 <250 <200 <10 <10 3.3.1	2228455
Ετμλιρουzoue	6.8 10.8 1	5420 4690 3920 336 1940 2300 <1 <5	44 160 2290 425 400 45 3.6,1 45	2222222
Toluene	2 × 3 × 3 × 3 × 3 × 3 × 3 × 3 × 3 × 3 ×	13600 39000 35300 968 4790 3600 3600 <5	3.8 1.5 1.0 11000 11000 125 1000 1000 1000 1000 10	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
geuzeue	32.7 68.1 68.1 7 4 7 4 1.4 30.9 6.5 6.5	7150 9450 6380 779 1140 <100 670 <5	13.2 16.1 13 970 4620 137 <100 <5 5 2.8J	777777777777777777777777777777777777777
FP Thickness				
GW Depth	20.98 27.29 27.53 27.53 20.10 20.10 21.90 23.00	22.29 22.92 23.58 23.09 23.34 15.70 18.40	23.55 24.30 22.74 24.09 24.51 23.55 25.60 22.70 25.80	23.59 24.52 24.29 25.10 24.78
TOC Elevation	94.85	95.26	964.96	95.93
Screened interval	18-28	16-26	20-30	20-30
di ww	MW4 11/20/1992 3/12/1993 3/12/1997 11/18/2003 4/19/2005 6/29/2006 8/14/2007 3/3/2008 10/20/2008 1/1/18/2010	33 33 33 33 33 33 33 33 33 33 33 33 33	MW-6 11/18/2003 4/19/2005 11/16/2005 6/29/2006 8/21/2007 3/31/2007 1/18/2010 8/12/2010 5/9/2013	MW-7 11/18/2003 4/19/2005 11/16/2005 6/29/2006 8/14/2007 3/3/2008 10/20/2008 11/18/2010 5/9/2013

CH4 mg/l				
Fe mg/l				
1/gm 402				
I\gm EON				
A8T	<pre>&lt;10 &lt;25 &lt;10 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100</pre>	130 <250 <100 <20000	834 <630 <500 <20000 <1000 <1000 <50000	26.5 110 <200 <100 118 <100 <100
3873	<pre>&lt;1 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10 &lt;</pre>	<1 <50 <10 <20000	<20 <130 <50 <2000 <100 <100	<11 <10 <10 <10 <10 <10 <10 <10 <10 <10
[oned]	<ul><li>100</li><li>100</li><li>20</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li>200</li><li< th=""><th>463 &lt;100 &lt;250 &lt;1000 &lt;200 &lt;20000 &lt;200000 &lt;200000 &lt;200000 &lt;200000 &lt;200000 &lt;200000000</th><th>4180 &lt;2000 &lt;630 &lt;2500 &lt;500 &lt;1000 &lt;20000 &lt;40000 &lt;1000 &lt;2000 &lt;1000 &lt;2000 &lt;50000 &lt;50000</th><th>&lt;100 &lt;20 &lt;400 &lt;200 550 &lt;200 &lt;200 &lt;200 &lt;200</th></li<></ul>	463 <100 <250 <1000 <200 <20000 <200000 <200000 <200000 <200000 <200000 <200000000	4180 <2000 <630 <2500 <500 <1000 <20000 <40000 <1000 <2000 <1000 <2000 <50000 <50000	<100 <20 <400 <200 550 <200 <200 <200 <200
АЯТЭ	410 425 410 4100 4100 4100			176 <10 <200 <100 <100 <100 <100 <100 <100
DIPE	\$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$	120 71 <5 <2000	2280 1700 1130 <1000 <50 <500 <5000	<5 <1 12.8 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <6 <5 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <
<b>48T</b>	<10 <25 <20 <20 <50 <50 <50 <100	<10 <250 <50 <20000	<200 <630 <250 <10000 <500 <50000	<10 <20 <100 <50 <50 <50 <50 <50 <100
<b>3MAT</b>	2 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	17.3 <50 <10 <2000	300 230 118 <2000 <100 <100 <5000	2 2866666
AAT	410 410 410 410 410 410 410 410	3950 <250 <100 4600J	22400 <630 <20000 <20000 <1000 <1000 <50000	1540 2500 529 487 2330 143 <100
Lead	<b>^</b> 5	29	<5	\$5
450 Z,ſ	2 24	<1 <5 <1000 <1000	422 <50 <2500	2 888
EDB	<ul> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.03</li> <li>0.04</li> <li>0.05</li> <li>0.05<th>&lt;0.02 0.15 0.12 5 4</th><th>&lt;0.02 0.23 0.1 0.24 &lt;0.02 &lt;0.02</th><th>40.02 40.02 40.02 40.02 40.02 40.02 40.02 40.02</th></li></ul>	<0.02 0.15 0.12 5 4	<0.02 0.23 0.1 0.24 <0.02 <0.02	40.02 40.02 40.02 40.02 40.02 40.02 40.02 40.02
Naphthalene	2	687 900 1000 106 960J 600J	1440 990 681 <1000 559 180 950J	6.06 45 45 430 6.8 13.2 75 45 45
Wt8E	2 2 2 2 2 2 8 8 8 8 8 8	2040 34.3 <10 <5 150J	890 540 106 <1000 <50 <50 <2500	<ul> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> &lt;</ul>
ујепе	2.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7	17920 lct 5230 11000 ict 743 19000 16000	a33200 13000 12700 12700 11400 3980 2220 15000	61.6 9.3 8 <25 22.6 68.2 <10 <10 <10 <10 2.8J
Ethylbenzene	2 2 2 2 <del>1</del> 2 3 3 3 3 3 3	3180 se Produ 773 2100 se Produ 18.2 2500 2100	3320 2700 2420 9e Produ 2180 412 141 <2500	10.5 1.2 22 4.5 4.5 16.6 7.4 7.4 6.2
eneuloT	22222288888	WV-5A) 6850 26500 3180 11 6850 26500 3180 17 2280 9010 773 5 3100 9800 2100 1 Not sampled- Free Product 32.9 171 18.2 4100 21000 2100 18	Not sampled- Free Product 6200 23800 3320 3310 112000 17000 2700 121300 29500 2420 12143 1650 412 3 289 1930 121 2 2740.1 7800 <2500 11	11.7 46.4 20 230 35 225 <5 <5 <5 <5 <5
Benzene	MW-15)  41  41  41  41  42  43  45  45  45  45  45  45  45  45	MW-5A) 6850 Not sam 2280 3100 Not sam 32.9 4100 3400	Not sam 6200 12000 11300 Not sam 7870 143 289 240J	<1 28.4 34.5 <25 <25 43 149 18.5 30.9 <5 <5
FP Thickness	*	0.01 0.28	0.10 1.13 0.79 0.07	
GW Depth	19:55 19:55 20:28 21:30 19:50 21:80 21:50 20:15 23:19	(Well is old MEC! # MW-5A) 22.30 92.30 22.75 0.01 Not sai 23.54 22.80 32.9 22.80 22.90 3400	17.44 18.98 18.52 18.14 12.91 21.00 19.10 17.20 17.60	19.60 19.57 20.17 20.49 23.30 21.50 21.50 19.40 19.50
TOC Elevation	94.79	92.30	85.98	88.46
Screened interval		20-30		(TD 30)
MW ID	MW-8 3/17/1997 11/18/2003 4/19/2005 4/19/2005 6/29/2006 8/21/2007 3/3/2008 10/21/2008 1/1/18/2010 5/9/2013	MW-9 3/12/1997 11/18/2003 4/19/2005 7/11/2006 8/12/2013 5/9/13 DUP	3 0 0 0 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	MW-11 3/12/1997 11/18/2003 4/19/2005 11/16/2005 7/11/2006 8/14/2007 3/11/2008 1/12/2010 8/12/2010 8/12/2010

CH4 mg/l									
Fe mg/l									
I\gm 4OS									
I\gm EON					· · · · · · · · · · · · · · · · · · ·	-			
A8T	191	7 7 7 00 7 100 7 100 3 6.6 J	3 5	5 7 7 5 100 5 7 100 5 7	2 4 4 2 8 8 2 8 8	36.3	159 <2000 <2000 <500 <200	۷10	^20000 ^100 ^100 ^100 ^100
3813	∇	2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3		^10 ^100	⊽	<10 <200 <200 <50 <20	⊽	<2000 <10 <10 <10 <10 <10
Ethanol	<100	2200 2200 2200 2200 2200	50.5	420 4200 4200 4200	499 <200 <1000	<100	<200 <4000 <4000 <1000 <400	<100	<40000 <200 <200 <200 <1000
ETBA	730	6 6 6 6 6 6 6 6	\$ 5	6 <del>6 6 6</del> 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	4 4 100 4 100 4 100	192	<100 <2000 <2000 <500 <200	16.7	<pre>&lt;20000 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;10</pre>
DIPE	816	2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 &	. "	. ∠ & &	\$5 \$10	<5	31.1 <100 <100 <25 <10	<5	2222 <5 <5 <5 <5 <10
<b>18</b> F	<10	8 8 8 8 8 8	3 0	\$ 65 65	<50 <50 <100	<10	<pre></pre>	<10	<10000 <50 <50 <50 <50 <100
<b>JAME</b>	91.3	250 250 250 270 270 270 270 270 270 270 270 270 27	<u>;</u> 7	<b>₽ \$ \$</b>	<10 12.7 <10	₹	410 4200 4200 450 420	₹	72000 710 710 710 710
AAT	9840	421 421 150	3 8	5 5 5 5 5	2 4 4 2 8 8 2 8 8	957	3350 2350 <2000 <500 143J	171	<20000 <100 <100 139 <100 65J
реед	<5		r. /	}		, 5		, 5	
1,2 DCA	₽	\$ 95°			۸ ۸ ۸	2	<25 <10	2	\$ \$ \$ \$ \$ \$
EDB	0.04	\$ 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	40.02	60.02 60.02 60.02 60.02	40.02 40.02 40.02	<0.02		<0.02 <0.02 <0.02	5.4 <0.02 <0.02 <0.02 <0.02 <0.02
Naphthalene	30.7 <50 314	6.8 6.8 6.8 6.5 6.5 7.1 17.6	9.39	9.35 5.55 5.55 5.55	200	859	190 124 1150 621 238 174	8 8 2	1220 45 162 5.5 5.1 6.5
MtBE	<1 682 69 25	28.3 4.8 4.8 4.8 4.8	} ∇∞7	2 2 2 2 3	\$ \$ \$ \$ \$5	5.6	10.5 10.5 10.0 10.5 10.0 10.5 10.5	\$ ≥ ≥	4110 55 55 55 55 55 55
уλјеие	24.72 203 2640 25	3 = 6 0 0 14 6 0 0 0 14 8 0 0 14 8 0 0 14 8 0 0 14 8 0 0 14 8 0 0 14 8 0 0 14 8 0 0 14 8 0 0 14 8 0 0 14 8 0 0 14 8 0 0 14 8 0 0 0 14 8 0 0 0 14 8 0 0 0 14 8 0 0 0 0 14 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16.82	7 2 9 7 7	^10 ^10 %	uct uct 7360	720 343 10800 5790 1710 456	244 7.7 36	Jut 21300 <10 332 13.3 3.5J <5
Equilpenzene	3.51 489 1460 25	2.1 2.1 5 5 5 4.8 32.7	1.87	£ 5 \$ \$	\$ \$ \$	se Produ se Produ 617	230 129 2090 764 347 159	66 <1	99 Produ 3270 55 40.4 65 65 65
- Toluene	4.42 125 4000	8.2 8.2 6.5 13.8 10.4	3.32	. ↑ <del>1.</del> % %	8 % &	Not sampled- Free Product Not sampled- Free Product 565 1950 617 7	210 520 230 371 198 129 1232 372 376 2990 10.8 129 10.8 129 10.8 126.1 81.6 159 Annual Product Free Product	300 1.6	Not sampled- Free Product 12200   34200   3270   2.5.3   5.3   122   40.4   6.5   6.
Benzene	1.23 5400 8550 25	4.8 J	527	2 2 2 2 2	15.1 5.5 5.5	Not sam Not sam 565	210 372 372 312 10.8 J 26.1 Not sam	436	Not sam 12200 <5 5.3 <5 <5 <5
FP Thickness						0.03	0.23		0.02
су Depth	4.79 4.75 5.25	5.23 6.60 6.30 5.10		13.05 12.71 13.85	14.10 11.80 13.13	17.58 18.34 18.14	18.10 19.50 19.00 16.80 17.40 18.63		19:50 25:47 20:00 21:00 18:60 19:10
TOC Elevation	.65') 72.80		10°) 80.44			86.44		88.19	
Screened interval	4		(TD 30.10')			15-25		15-25	
di ww	- CO - C- W	7/13/2006 8/14/2007 3/11/2008 10/21/2008 1/18/2010 8/12/2010	<b>.</b>	11/16/2005 7/11/2006 8/14/2007 3/11/2008	10/21/2008 1/18/2010 5/9/2013	MW-15 11/18/2003 2/8/2005 4/19/2005	11/16/2005 8/14/2007 3/11/2008 10/21/2008 1/18/2010 8/11/2010 5/9/2013	MW-16 11/18/2003 4/21/2005 11/16/2005	7/11/2006 8/14/2007 3/3/2008 10/22/2008 1/19/2010 8/12/2010 5/9/2013

	······································				
CH4 mg/l					
Fe mg/l					
I\gm 4O2					
I\gm &ON					
A8T	97.8	<5000 <20000 <5000 <1000 <20000	1170 <5000 <20000 <1000 433 J	1740 <10000 <25000 <2000	3920 <500 <2000 <2000
3813	۲۰ ۵	<2000 <2000 <500 <100 <20000	<1 <500 <2000 <100	<1 <1000 <2500 <200 <200	<10 <500 <200 <200 <200
Ethanol	<100	<1000 <4000 <1000 <2000 <20000	<100 <10000 <40000 <2000 <2000	<100 <20000 <50000 <4000 <4000	<1000 <1000 <4000 <4000
А8ТЭ	1260	<2000 <2000 <5000 <1000 <20000	4900 <5000 <20000 <1000	4040 <10000 <25000 <2000	2950 <500 <2000 <2000
DIPE	55.1	<250 <1000 <250 <50 <2000	2040 1930 1740 229 576	2910 861 <1250 74.4 J	2200 2300 171 <100
<b>18</b> T	۲۰۰۷ م	<2500 <10000 <2500 <20000	<10 <2500 <10000 <500 <500	<10 <5000 <12500 <1000	<100 <1000 <1000 <1000 <1000
<b>BMAT</b>	₹ 5	<500 <500 <100 <2000	759 <500 <2000 154 189	607 <1000 <2500 <200	641 530 <200 261 <200
AAT	13800	<pre>&lt;&gt;000 &lt;20000 9780 &lt;1000 9400J</pre>	28800 15800 <20000 1410 6530	9730 <10000 <25000 <2000 1490J	14600 3500 6100 2620 2850
pead	20.1	····	131	190 85	222
1,2 DCA	ν	<250 <50 <1000	<10 <50 <50	< 100 < 100 < 100	^ 100 ^ 100
EDB	<0.02 <0.02	0.39 0.17 <0.02 0.19	11.2 1.6 5 6.3 0.64 2.4	24.1 1.7 35.3 40.5 13.2 2	<ul><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.061</li><li>&lt;0.01</li><li>&lt;0.068</li></ul>
Naphthalene	141 620 1800	1080 2370 784 991 1000	1580 1300 869 1770 796 684	800 1300 1300 869 1750 970	1050 1430 1400 1400 1090 102
MŧBE	28.7	<250 <250 <50 <1000	8920 6400 4170 4270 199 991	<dl 962 4200 5770 1750 153 194</dl 	6300 18000 7200 3000 198 47.0 J
χλιeue	451 let 23700 20000 let	14500 lct 32100 11400 5860 23000	Product Product Product 2.530   13800 3.200   17000 1700   16000 Product 3060   17200 108   3800 116   10300 Product	2150   10450 e Product 2980   16300 3600   20000 e Product 2590   16300 2590   16300 2540   20700 235   7070 e Product	12800 12400 12400 18000 17600 13100 3490 8820
Ethylbenzene	77.8 ee Produ 4440 se00 ee Produ	2480   14500 se Product 3580   32100 455   11400 179   5860 2500   23000	Pe Produ Pe Produ 2530 3200 1700 Pe Produ 3060 108 116	2150   2150   2980   2980   2590   2590   2540   2540   245	se Produ 2760 1630 3200 3500 1730 40.5
Toluene	10 pled- Fre 32600 28000 pled- Fre	9310   31000   101 sampled - Fre   2250   24800   873   6200   27.4   904   1400   26000	pled- Fre pled- Fre pled- Fre pled- Fre 17400   37000   21000   746   746   2990   pled- Fre pled- Fre pled- Fre	W-2A)         W-2A)         House         10450           3480         6160         2150         10450           Vot sampled- Free Product         18200         63600         2000           23000         48000         3600         2000           Not sampled- Free Product         17600         46700         2590         16300           Vot sampled- Free Product         2550         2590         16300           164         2520         235         7070           485         2650         245         7760           Vot sampled- Free Product         7760         485         7760           Vot sampled- Free Product         7760         245         7760	pled- Fre 38600 23400 36000 32000 19700 2220 2930
Benzene	M-4A) 24 10 77.8 About Sampled- Free Product 4720 32600 A440 23500 A440 23500 A440 A440 A440 A440 A440 A440 A440 A	9310   31000   2480   14 Not sampled- Free Product 2250   24800   3580	— F E E — — E — — E — —	W-2A   3480   6160   2150   10   3480   6160   2150   10   10   10   10   10   10   10	Not sampled- Free Product 24200 38600 2760 112800 23400 1630 118000 32000 3200 1730 118000 32000 1730 11730
FP Thickness	≥	0.20	0.13   0.24   0.31   0.02   0.03   0.10	0.02   0.02   0.34   0.12   0.12   0.12   0.12   0.12   0.13   0.	0.20
GW Depth	is old MEC! # 23.03	23.82 25.70 25.70 23.40 24.36	25.72 25.72 26.76 26.00 25.84 24.90 27.70 25.10 26.75	(Well is old MECI # MW-2A)  25.16 24.59 0.02 18200 25.00 25.89 0.19 17600 25.43 17600 25.50 0.34 Not said 24.50 1680 25.50 1680 25.50 1680 25.50 1680	23.75 23.05 23.51 22.76 27.70 22.10 24.00 Dry
TOC Elevation	(Well is		94.81	93.96	94.12
Screened interval	20-30		20-30	20-30	15-25
QI MW	MW-17 3/12/1997 11/18/2003 2/8/2005 4/21/2005 11/1/6/2005	8/14/2007 3/3/2008 10/22/2008 1/19/2010 8/11/2010 5/9/2013	MW-18 10/29/2003 12/30/2003 2/8/2005 4/20/2005 11/16/2005 8/16/2007 3/3/2008 11/8/2010 8/11/2010 8/11/2010	MW-19 3/12/1997 10/29/2003 4/20/2005 11/16/2005 7/11/2006 8/21/2007 3/3/2008 1/19/2010 8/12/2010 8/12/2010	MW-20 3/11/1997 10/29/2003 4/20/2005 6/29/2006 10/20/2008 1/18/2010 8/12/2010 5/10/2013

				<u> </u>	
CH4 mg/l					
Fe mg/l					
I\gm \$O&					
I\gm EON	:			***************************************	
ABT		484 <2500 <25000 <20000 <20000 <5000 <5000 <20000 <20000	<10 <500 <5000 <20000 <200 <200	2, 1, 00 00, 1, 00 0 0 0	<10 <100 <100 <500 <500 <50 <10000 <10000
ЕТВЕ		<20 <2500 <2500 <2000 <2000 <500 <500 <5	<1 <500 <500 <5000 <2000 <10	7 6 6 6 6 6	41 41000 410 500 50 50 425 6100000 6100000
Ethanol		<2000 <5000 <5000 <40000 <1000 <10000 <200000	<100 <1000 <10000 <100000 <4000 <400	<100 <200 <200 <200 <200 <200 <200	154   <10   <100   <1   <100   <1000   <2000   <1000   19.7   <100   <200   <10   <250   <5000   <10000   <500   <250   <5000   <10000   <500   <25   <250   <10000   <25   <10000  <10000  <10000   <25   <10000  <10000  <10000  <25   <10000  <10000  <25   <10000  <10000  <10000  <25
АВТЭ		872 <2500 <20000 <20000 <5000 <5000 <5000 <5000	777 <500 <5000 <2000 <200 <100	7150 7100 7100 7100 7100	<10 <1000 <1000 <5000 <500 <250 <100000 <100000
DIPE	,	2420 400 <1250 <1000 <1000 <250 <250 370J 410J	314 100 <250 <2500 1370 6.8 J	449 <5 6.8 <5 <5	154 <100 19.7 <250 <25 <12.5 <10000
181		<200 <5000 <12500 <10000 <10000 <2500 <20000 <20000	<10 <1000 <2500 <2500 <1000 <100 <50	<10 <50 <50 <50 <50 <50 <50	<pre>&lt;1 &lt;10 &lt;100 &lt;2000 &lt;10 &lt;50 &lt;50 &lt;50 &lt;250 &lt;25 &lt;125 &lt;1000¢&lt;100000</pre>
3MAT.		788 <250 <2500 <2000 <2000 <2000 130J 130J	83 <50 <500 <5000 <2000 <20	60 40 40 40 40 40 40 40 40 40 40 40 40 40	<pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre>&lt;</pre>
AAT		5540 17000 <25000 <20000 <5000 <5000 6000J 6200J	5210 4600 <5000 <20000 285 2450	4890 <100 <100 <100 <100 <73.1	<ul> <li>&lt;10</li> <li>&lt;1</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;2000</li> <li>&lt;2000</li> <li>&lt;50</li> <li>&lt;500</li> <li>&lt;500</li> <li>&lt;50</li> <li>&lt;50</li> <li>&lt;50</li> <li>&lt;50</li> <li>&lt;50</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;25</li> <li>&lt;12</li> <li>&lt;10000</li> <li>&lt;10000</li> <li>&lt;10000</li> </ul>
Lead	6.3	r.	26	123	106
1,2 DCA		<250 <250 <1000 <1000	410 410 55	\$\$ \$\$	<1 <25 <12.5 <5000 <5000
EDB	<0.02	0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02	3.51 40.02 1.3 0.21 40.02 0.3 0.47 <0.02 0.056	168 26.3 <0.02 <0.02 <0.02 <0.02	<ul> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.02</li> <li>60.03</li> &lt;</ul>
Naphthalene	127 116	3380 148 4600 2300 <1250 <1000 215 J 326 640J 760J	1140 140 140 220 220 2810 1490 58.4 259	595 66.5 65.5 65.5 65.8 5.8	1080 3180 260 1200 1130 1090 158 1080 <5000
Mt8E	54.9	1560 1800 780 7250 <1250 <1000 <250 <250 <1000 <250 <1000	5800 1390 1600 230 <250 <2500 1550 17.3 268	7750 610 <5 25.1 <5 <5 <5	80 17.7 17.7 <100 94.6 <250 <12.5 <5000
уλјеие	2531 3830	31900 760 27000 28600 11000 13800 27900 21800 20000 20000	85000 1650 9700 3800 1480 13300 18000 391 1790	12300 1730 <10 18.7 16.2 4.1 J 35.7	17600 45600 4400 17400 19900 15000 1620 11700 23000
Ethylbenzene	256 537	6550 126 5000 5700 1960 2660 5440 1650 1010 2900 3000	4140 195 1800 410 251 <2500 2940 8.9 J 31.4	2760 98 98 <5 <5 <5	3300 7800 850 2300 3370 2080 1700 1900J
Toluene	158 240	3640 39000 44000 28200 34900 3600 3650 5710	85500 1250 19000 5700 3560 29400 26000 73.5 1030	37600 1520 6.1 13.8 17.2 2.4 J 20.7	37400 41800 6200 11000 9370 2260 89.3 3730 3000J
Вепхене	<b>V-1A)</b> 40.8 18.9 Destroyed	30000 800 24000 16000 7710 2750 1100 582 3300	43000 855 1770 129 8100 190 2100 570 958 356 9840 294 9740 260 17 73 546 100	35000 37 1340 14 <5 6 17 1 2 22.2 2.2 2.2 Not located	10300 6900 1600 1400 <500 <25 69.6 <5000 <5000
FP Тһіскпеss	ECI MV	0.03 sheen	0.06		sheen
GW Depth	20.83     21.03	22.36 23.28 22.78 22.54 22.56 22.50 22.50 22.50	24.82 25.32 21.79 26.40 27.70 22.10 24.90 24.30	23.88 24.35 46.20 25.90 26.00 20.50 24.40	21.23 21.89 20.70 27.00 21.80 20.10 21.40
TOC Elevation	(Well is	94.25	94.43	93.94	93.09
Screened interval	15-25	20-30	20-30	20-30	(TD 25.6
al ww	MW-21 3/12/1997 10/29/2003 4/20/2005	MW-22 11/25/2003 2/8/2005 4/20/2005 11/16/2005 6/29/2006 8/21/2007 3/3/2008 1/20/2010 8/16/2010 5/10/13 DUP	MW-23 11/25/2003 4/20/2005 11/16/2005 6/29/2006 8/21/2007 3/3/2008 10/20/2008 1/19/2010 5/10/2013	MW-24 11/25/2003 4/20/2005 8/21/2007 3/3/2008 10/20/2008 1/18/2010 8/12/2010	MW-26 10/29/2003 4/20/2005 11/16/2005 6/29/2006 3/3/2008 1/19/20/2010 5/10/2013 5/10/13 DUP

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CH4 mg/l		<0.026	<0.026	<0.026	<0.026
1/6m a4		0.556	0.087	0.068	0.102
1/6m 4OS		61.2	33	4. 4.	8.8
I\gm EON		4.85	2.54	2.64	1.49
A8T	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4100 4100 4100 4100 4100	<pre>&lt;10 &lt;10 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;</pre>	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4100 4100 4100 4100 4100 4100
3813	2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2	^1 ^10 ^10 ^10 ^10 ^100	2	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
lonsft13	<100 <20 <200 <200 <200 <200	<100 <2000 <200 <200 454 <200 <1000	<100 <200 <200 269 <1000	4100 420 4200 4200 4200 4200 4200 4200	<100 <200 <200 <200 <200 <200 <1000
АЯТЭ	410 410 4100 4100 4100 4100	4100 4100 4100 4100 4100	410 410 4100 4100 4100	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	410 410 4100 4100 4100 4100
DIPE	£ 2 \$ \$ \$ \$	\$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	<pre>&lt;5 &lt;7 &lt;55 &lt;55 &lt;55 &lt;70 </pre>	\$ 5 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$5 \$5 \$5 \$5 \$7
<b>48</b> T	450 450 450 450	450 450 450 450 450 450 450	<10 <20 <50 <50 <50 <100	450 450 450 450 450 450 450	<10 <20 <50 <50 <50 <50 <50
<b>3MA</b> T	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 <del>6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6</del>	2 25 65 65 65 65 65 65 65 65 65 65 65 65 65	2 2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	2
AAT	410 4100 4100 4100	<pre>&lt;10 &lt;1000 &lt;1000 &lt;100 &lt;100 &lt;100 &lt;100 &lt;10</pre>	<ul><li>41</li><li>51</li><li>7100</li><li>7100</li><li>7100</li></ul>	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	410 410 4100 4100 4100 4100
реэд	స్ట	ر <del>ن</del> دن	<5	98	, S
1,2 DCA	۲ دی دی	ک کی کی کی کی کی کی کی کی کی کی کی کی کی		£ & &	<1 <5 <5
EDB	40.02 40.02 40.02 40.02 40.02 40.02 40.02	41.1 <0.02 <0.02 <0.02 <0.02 <0.02	5.17 <0.02 <0.02 <0.02 <0.02 <0.02	<ul><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li></ul>	<ul><li>6.02</li><li>6.02</li><li>6.02</li><li>6.02</li><li>6.02</li><li>6.02</li><li>6.02</li><li>6.02</li><li>6.02</li></ul>
Naphthalene	55 1.2 5.1.3 5.2.3 5.2.5	£ 8 £ £ £	<250 33 5 5 5 5 5 5 5 5 5 5 5 6	3500 3500 3500 3500 3500 3500 3500 3500	\$ \$ \$ \$ \$ <del>1.</del> \$ \$
MtBE	2 2 2 2 3 8 8 8 8	2 g & & & &	2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	20	2228888
хујеле	2 7 7 7 7 7 7 7 7 7 7 7 7 9 9 6 car	4840 11.5 11.5 <10 <10 <10	490 490 72 410 410 410 410	44 410 410 410 37.5 410 410 410 410	<ul><li>&lt;1</li><li>&lt;1</li><li>129</li><li>&lt;10</li><li>11.4</li><li>38.7</li><li>&lt;10</li><li>&lt;5</li></ul>
Ethylbenzene	4	<b>1</b>	45 8.7 8.7 8.7 8.7 8.7 8.7	2, 2, 00 2, 3, 8, 8, 2, 3, 3, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	22288088
enenloT	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	10000 45 45 45 45	44 44 45 45 45 45 45 45	200 mm	<ul> <li>&lt;1</li> <li>&lt;1</li> <li>&lt;28</li> <li>19.4</li> <li>5.7</li> <li>14.6</li> <li>&lt;5</li> <li>&lt;5</li> </ul>
Benzene		41 2670 45 45 45 45	45 360 45 45 45 45 45 45 45 45	4.100 4.100 4.55 4.55 4.55 4.55 4.55 4.55 4.55 4.	2
FP Thickness					
ем Depth	20.50 23.36 22.68 18.26 24.10 22.30 22.20	17.02 16.20 16.30 17.50 14.30	18.87 18.42 18.53 19.30 20.10 Dry 18.60	19.06 19.57 29.33 20.09 19.70 16.70	22.86 23.34 22.90 24.20 23.95 21.30 23.44
TOC Elevation	95.96	91.40	91.46	91.09	92.77
Screened interval		15-30	15-30	15-30	15-30
MW ID	200 40203	MW-27 4/20/2005 8/21/2007 3/3/2008 10/20/2008 1/18/2010 5/10/2013	MW-28 4/20/2005 11/16/2005 6/29/2006 8/15/2007 3/3/2008 10/20/2008 1/18/2010 5/10/2013	MW-29 4/20/2005 11/1/6/2005 6/29/2006 8/15/2007 3/3/2008 10/20/2008 1/18/2010	MW-30 4/20/2005 11/16/2005 6/29/2006 8/21/2007 3/3/2008 10/20/2008 1/18/2010 5/10/2013

CH4 m3\l	<0.026	<0.026	<0.026	<0.026	<0.026
Fe mg/l	12.8	0.923	66.6	1.69	5,3
l\gm 408	▼	21.9	24.2	5.85	2.01
Nos mg/l	<b>6</b> 0.1	0.12	0.3	V0.1	4.62
A8T	<ul><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li></ul>	202 7100 500 500 7100 7100	<10 <500 <2000 <2000 <2000 <100 <100	<10 <2000 <2000 <1000 <5000 341 <100 46J	536 <10000 <10000 <10000 <1000 <100 <100 <
3813	420 420 500 500	450 450 450 410 410 410	<pre>&lt;1 &lt;500 &lt;200 &lt;200 &lt;200 &lt;200 &lt;10 &lt;10 &lt;10 &lt;10 </pre>	<10 <200 <1000 <1000 <500 <10 <500	<pre>&lt;10 &lt;1000 &lt;1000 &lt;1000 &lt;1000 &lt;10 &lt;10 &lt;10</pre>
Fthanol	<100 <20 <400 <400 <200 <5000	<pre></pre>	<100 <1000 <4000 <4000 <4000 <200 <200 <10000	<100 <20 <4000 <20000 <1000 <400 <200 <5000	<1000 <20000 <20000 <20000 <200 <200 <20
A8T3	329 <10 <200 <200 <100 <500	347 <100 <500 <500 <100 <100	42000 42000 42000 42000 4100 4100 4100	<ul><li>779</li><li>&lt;10</li><li>&lt;2000</li><li>&lt;10000</li><li>&lt;5000</li><li>&lt;100</li><li>&lt;100</li><li>&lt;500</li></ul>	2010 <10000 <10000 <1000 <100 <100 <100
DIPE	\$ \frac{1}{2}\$	\$5 \cdot \cd	392 170 <100 <100 <100 <5 <5	34.1 47 <100 <500 <250 6.5 J <5	1200 2340 2030 1360 351 J <5 <5
<del>3</del> 81	<ul><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10&lt;</li></ul>	<pre></pre>	<pre>&lt;10 &lt;1000 &lt;10</pre>	<10 <20 <1000 <5000 <100 <50 <500 <500	<100 <5000 <5000 <5000 <500 <50 <50 <50
ЭМАТ	2	\$ 5000000000000000000000000000000000000	65.5 <50 <200 <200 <200 <10 <10 <10	410 4200 4200 420 420 420 410 410	286 <1000 <1000 <1000 1310 <10 <10
AAT	1100 1600 2030 369 <100 510	3220 4500 784 1860 <100 <100	13100 9100 3710 7970 5190 180 <100	<10 5400 <2000 <10000 <5000 710 <100 65J	11400 137000 19800 12700 13600 <100 5300
рвед	ς. Oπ	ې ئ	27	Ç2	36
ı,2 DCA	~10 ~10 ~5 ~5.	6. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5	45 45 4500	<pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre>&lt;</pre>	<10 <500 <5 96J
EDB	0.02 0.02 0.02 0.02 0.02 0.02 0.02	<ul><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li></ul>	0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02	40.02 0.16 0.18 40.02 40.02 40.02 40.02 40.02	0.03 3.2 3.7 0.91 0.96 0.44 <0.02
Naphthalene	82.9 51 <2 222 146 <5	176 170 160 88.2 88.2 510 21.9 <5	164 <100 650 280 340 473 <5 <5	1060 360 400 231 803 622 <10 <5	238 1200 1330 1260 1460 354 J 35.4 58.1
MtBE	222652	45 425 425 65 65 65	25.6 50 72 <100 <100 <100 <5 <5 <5	410 410 4500 6500 650 610 650 650 650 650 650 650 650 650 650 65	1730 1300 3120 2500 1770 382 J <5 <5
χλ <sub>l</sub> eue	450 260 380 586 55.9 <10 250	2440 18000 2180 2920 2570 67.1 5.9 J	4660 1400 12400 4610 5860 8420 9.3 J 2.8 J	10300 1700 7200 2700 8250 5870 5870 <10	1590 15000 15000 15100 15100 3590 285 386 3500
Ethylbenzene	261 2 2 298 275 3.0 J 520	406 520 370 216 512 23.3 11.2 J	938 290 1900 238 644 1310 <5 <5	1840 180 1500 570 1350 1350 130 <5	296 3200 9e Produ 1960 2180 1660 608 <5 627
eneuloT	251 280 97.9 15.3 <5	740 14000 850 1210 911 19.1 <5	7820 1600 18000 3870 3750 11000 4.3 J 4.6 J 7200	9180 870 12000 2710 14500 5930 166 <5	4060 22000 pled- Fr 13500 12500 7160 24 185
Benzene	227 20 100 91.3 20.2 <5	264 400 410 174 296 6.4 6.8	3860 410 5500 821 1080 2570 2.0 J 3.1 J	2020 250 1900 263 1490 648 100 <5	4090 4060 296 112000 22000 3200 114000 13500 13500 13500 13500 13500 14600 13100 12500 1660 8 37.4 24 24 24 24 24 24 24 24 24 24 24 24 24
FP Thickness	A CONTRACTOR OF THE CONTRACTOR				0.57
GW Depth	26.51 27.14 28.15 25.20 25.90 27.20	23.66 23.51 22.91 24.15 21.80 22.70 23.90	25.27 25.71 25.50 26.85 24.00 24.10 24.40 25.70	26.11 26.55 26.27 27.65 27.35 24.90 25.20 26.58	25.14 25.60 25.53 26.10 26.70 23.90 24.40 25.73
TOC Elevation	95.20	92.87	93.84	94.77	93.71
Screened interval	20-35	15-30	20-35	20-35	20-35
MW ID	MW-31 4/20/2005 11/1/6/2005 6/29/2006 3/11/2008 1/20/2010 8/11/2010	MW-32 4/21/2005 11/16/2005 6/29/2006 8/21/2007 10/20/2008 8/11/8/2010 8/11/2010	MW-33 4/20/2005 11/16/2005 6/29/2006 8/21/2007 3/3/2008 1/18/2010 8/11/2010 5/10/2013	MW-34 4/20/2005 11/16/2005 6/29/2006 8/21/2007 3/6/2008 1/18/2010 8/11/2010 5/10/2013	MW-35 4/20/2005 11/16/2005 7/11/2006 8/21/2007 3/6/2008 1/18/2010 3/11/2010 8/11/2010 5/10/2013

				1 40	1 0
CH4 mg/l	<0.026	<0.026	<0.026	<0.026	<0.026
Fe mg/l	4.63	8.11	1.03	<0.05	0.493
l\gm 4OS	20.5	1.88	5.02	16.9	1.28
I\gm £OV	40.1	<0.1	74.6	<0.1	V0.1
<b>А</b> ат	<pre>&lt;10 &lt;10 &lt;10 &lt;100 &lt;2000 &lt;200 &lt;100 &lt;100 &lt;1</pre>	<10 <200 <1000 <5000 <1000 <1000 <1000 <400	7, 70 0, 10 0, r>0, 10 0, 1	<200 <2000 <10000 <10000 <1000 <2000 <100	<10 <10000 <20000 <10000 <1000 <1000 <1000
3813	410 420 420 420 410 410 410 4500	<pre>&lt;1 &lt;200 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;10 &lt;10 &lt;10</pre>	<pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre>&lt;</pre>	<20 <2000 <1000 <1000 <1000 <10 <5000	<1000 <1000 <2000 <1000 <1000 <1000
Ethanol	<100 <20 <200 <4000 <400 <200 <200 <5000	<100 <400 <2000 <1000 <2000 <1000 <200 <5000	<100 <20 <200 <200 <200 <200 <1000	<pre>&lt;2000 &lt;2000 &lt;2000 &lt;2000 &lt;2000 &lt;2000 &lt;2000 &lt;4000 &lt;200 &lt;2</pre>	80 <20 <10000 <20000 <20000 <40000 <10000 <20000 <1000 <1000 <1000 <10000 <10000 <10000
АВТЭ	326 <10 <100 <2000 <200 <100 <100 <100 <500	1100 <200 <1000 <5000 <1000 <1000 <500 <100	410 410 4100 4100 4100 4100	1920 15000 <1000 <1000 <2000 <100 <100	
DIPE	\$ 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	14.2 <20 <50 <250 <250 <250 <250 <25 <25 <25 <25 <25 <25 <25 <25 <25 <25	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	<pre>&lt;100 &lt;200 &lt;500 &lt;500 &lt;500 &lt;100 &lt;100 &lt;500 &lt;100 &lt;500 &lt;100 &lt;1</pre>	183 71 <500 <1000 <500 <25 <5
<b>18</b> F	<pre>&lt;10 &lt;10 &lt;20 &lt;50 &lt;1000 &lt;1000 &lt;100 &lt;100 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 </pre>	<10 <400 <500 <2500 <500 <250 <50 <50	<10 <20 <50 <50 <50 <50 <100	<pre>&lt;200 &lt;4000 &lt;5000 &lt;5000 &lt;5000 &lt;1000 &lt;1000 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50</pre>	<ul> <li>17.7</li> <li>&lt;10</li> <li>&lt;1</li> <li>&lt;20</li> <li>&lt;2000</li> <li>&lt;2000</li> <li>&lt;2000</li> <li>&lt;1000</li> <li>&lt;500</li> <li>&lt;500</li> <li>&lt;10</li> <li>&lt;50</li> <li>&lt;10</li> <li>&lt;50</li> <li>&lt;10</li> <li>&lt;50</li> <li>&lt;10</li> <li>&lt;50</li> <li>&lt;10</li> <li>&lt;50</li> </ul>
3MAT	410 4200 4200 4200 410 410 450	2.4 <20 <100 <500 <100 <50 <10 <50	2	<20 <200 <1000 <1000 <1000 <200 <10	
ААТ	2000 5400 587 <2000 2400 <100 <100	1420 1700 <1000 <5000 2370 2400 <100 850	410 410 4100 4100 4100 4100	2180 <2000 <10000 14000 3000 <100 <100	630 6100 <10000 <20000 <10000 <500 <1000
Pead	<del>ر</del> ې	<b>\$</b>	\$	121	10
1,2 DCA		<1 <25 <5 5.7J	∑	<20 <100 <5 <250	<1 <500 <25 <5 <5
ED8	0.48 40.02 40.02 40.02 40.02 40.02 40.02 40.02 40.02	2.01 0.097 0.025 0.025 <0.02 <0.02 <0.02 <0.02 <0.02	60.02 60.02 60.02 60.02 60.02 60.02	<ul> <li>-0.02</li> <li>0.29</li> <li>0.13</li> <li>0.02</li> </ul>	<ul> <li>&lt;0.02</li> <li>0.22</li> <li>0.32</li> <li>0.14</li> <li>&lt;0.02</li> <li>&lt;0.02</li> <li>&lt;0.02</li> <li>&lt;0.02</li> <li>&lt;0.02</li> <li>&lt;0.02</li> </ul>
Maphthalene	29.4 120 280 87.1 <100 238 <5 <5	158 15 390 352 502 609 75.1 4.2 J	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2120 830 1400 683 1140 944 330 14.8	1140 500 630 <500 2630 <500 40.6 <5
aaıw	3.7 4.10 4.10 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5	<pre>&lt;1 160 &lt;20 &lt;250 &lt;250 &lt;250 &lt;250 &lt;250 &lt;450 &lt;450 &lt;451 </pre>	2 2 2 <b>3</b> 8 8 8 8	66 <255 <200 <500 <500 <500 <100 <100 <250	1.8 <1 <1 <1 <1 <1 <500 <500 <500 <500 <500
χλ <sub>l</sub> eue	427 1400 4300 280 247 320 <10 <10	1870 170 2550 2280 673 728 794 18.2 240	<ul><li>&lt;1</li><li>&lt;1</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li></li></ul>	16800 13000 14300 8320 12500 10900 4810 92.7	5220 1900 8900 6180 27200 <1000 870 <10
Ethylbenzene	165 320 730 103 273 397 <5 <5	780 44 1300 888 1380 1130 325 5.3	7.4 5.8 7.4 7.4 65 65	3050 2600 2000 1320 1980 1940 486 16.3	3880 690 1300 685 3920 <500 111 <5
Toluene	621 310 540 26.5 <100 136 <5 <5	1750 360 1900 808 625 459 417 2.3 J	<ul><li>41</li><li>23</li><li>22.9</li><li>45</li><li>2.6</li><li>3</li></ul>	23200 17000 19000 10300 10200 11400 2400 19.5	7660 740 15000 8340 16000 504 339 <5
Benzene	302 140 110 38.2 <100 35.8 <5 <5	764 360 410 135 519 454 353 <5	2 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3680 3100 1500 678 515 506 59.6 J <5	1940 840 2000 757 1010 <500 7.7 J <5
ғанұріц <b>4</b> 4					
GW Depth	24.96 25.28 24.85 24.90 26.05 23.70 24.20 24.20	25.25 25.78 25.53 26.90 26.80 24.01 24.01 25.85	26.78 27.20 28.30 28.20 25.30 27.24	27.65 27.92 29.45 29.35 26.50 28.15	27.31 27.88 29.10 25.90 27.30 27.89
TOC Elevation	93.89	93.78	95.53	96.19	95.69
Screened interval	20-35	20-35	20-35	20-35	20-35
MWID	MW-36 4/20/2005 11/1/6/2005 6/29/2006 8/21/2007 3/3/2008 10/20/2008 1/18/2010 8/11/2010	MW-37 4/20/2005 11/16/2005 6/29/2006 8/21/2007 3/6/2008 1/18/2010 8/16/2010	MW-38 4/20/2005 11/16/2005 7/11/2006 8/13/2007 3/3/2008 1/20/2010 5/10/2013	MW-39 4/20/2005 11/16/2005 7/11/2006 8/13/2007 3/6/2008 10/20/2008 1/20/2010 8/16/2010	MW-40 4/20/2005 11/16/2005 7/11/2006 8/13/2007 10/20/2010 3/17/2010 8/16/2010 5/10/2013

	926	926	926	926	026
CH¢ mâ\l	< <0.026	<0.026	2 <0.026	2 <0.026	5 <0.026
Fe mg/l	0.947	0.476	-0.05	0.212	<0.05
SO4 mg/l	70	7.05	1.92	V	13.6
I\gm EON	0.11	0.54	4.09	4.09	91.9
АЯТ	<10 <10 <500 <5000 <1000 <100 <100	<pre>&lt;10 &lt;10 &lt;1000 &lt;1000 &lt;200 &lt;200 &lt;100 &lt;100</pre>	<ul><li>&lt;10</li><li>&lt;100</li><li>&lt;100</li><li>&lt;100</li><li>&lt;100</li><li>&lt;100</li><li>&lt;100</li><li>&lt;100</li><li>&lt;100</li></ul>	4100 4100 4100 4100 4100	7100 7100 7100 7100 7100 7100
3813	<10 <10 <50 <50 <1000 <10 <10 <10 <10	4.00 4.00 4.00 4.00 6.00 6.00	7 7 7 7 7 7 7 7 7 7 7 7 9 7 9 9 9 9 9 9	2	2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Ethanol	<100 <20 <1000 <1000 <2000 <200 <200	<100 <20 <2000 <400 <400 <200 <200 <5000	<100 <20 1140 <200 <200 <200 <200	<100 <20 <200 <200 <200 <1000	<100 <20 <200 <200 <200 <200
АЯТЭ	130 <10 <500 <5000 <1000 <100 <100	82.4 <10 <1000 <200 <200 <100 <100 <100	7. 7.00 7.100 7.100 7.100 7.100 7.100 7.100	7 7 7 0 0 7 100 0 7 100 0 0 1 0 0 0 0 0 0 0	4100 4100 4100 4100 4100 4100
DIPE	19.3 <1 57.4 <250 57.8 <5 12.2 <2000	<pre>&lt;5 &lt;1 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10 &lt;10</pre>	\$ 233335	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ 7
<b>18</b> T	<10 <20 <250 <250 <250 <500 <50 <50 <50	<10 <20 <500 <100 <100 <100 <50 <50 <50	<10 <20 <50 <50 <50 <50 <50 <50 <50 <50	410 420 450 450 450 4100	<pre>&lt;10 &lt;20 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;5</pre>
ЭМАТ	1.6 4.0 6.50 6.500 7.100 7.10 7.10 7.10	2 7 100 7 7 7 7 7 7 7 7 9 9 9 9 9 9 9 9 9 9 9	2 2666666	2 266666	2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
AAT	<10 190 913 <5000 3520 <100 319 <200000	<pre>&lt;10 &lt;1000 284 627 &lt;1000 &lt;</pre>	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	410 410 4100 4100 4100 4100	<pre>&lt;10 &lt;10 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;</pre>
реэд	\$	κ	\$	\$	12
1,2 DCA	<pre>&lt;1 </pre> <pre>&lt;5 </pre> <pre></pre>	45 45 45	22 &&&	2.2 & &	45 55
EDB	4.98 40.02 60.096 60.096 60.02 60.02 60.02	4.15 40.02 40.02 40.02 40.02 40.02 40.02 40.02	40.02 40.02 40.02 40.02 40.02 40.02 40.02 40.02 40.02	40.02 40.02 40.02 40.02 40.02 40.02 40.02	<ul><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li></ul>
eneledidgeN	182 <5 93 56.1 483 608 <5 161 420J	124 5.4 270 293 154 282 <5 21.4 60	65 6.77 65 65 65 65 65 65	\$ \$ \$ 4.5 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	45 2.1 2.1 45 45 45 45 45 45 45 45 45 45 45 45 45 45 45 45 46 46 47 48 4
381W	<ul> <li>&lt;1</li> <li>&lt;1</li> <li>&lt;1</li> <li>93.2</li> <li>20.7</li> <li>&lt;50</li> <li>&lt;5</li> <li>&lt;10.5</li> <li>&lt;10.0</li> </ul>	45 45 45 45 45 45 45	2 2 2 2 2 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5	222288888	77755 555 555 555 555
уλјеле	2370 <1 860 <50 1900 1760 <10 <10	2980 <1 2900 3680 565 835 12.2 39.2 <25	12.9 12.9 12.9 11.4 11.4 12.4 13.4 14.7 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	<ul> <li>&lt;1</li> <li>&lt;1</li> <li>&lt;1</li> <li>&lt;1</li> <li>&lt;10</li> <li></li></ul>	2. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.
Ethylbenzene	462 <1 160 88.2 1380 1460 2.5 J 200 1100	546 <1 480 432 185 303 <5 16.6	2 2 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	222288888	22232325
Toluene	8580 <1 700 <25 1620 834 3.4 J 74.5 <1000	2460 <1 <1 860 718 91.8 110 <5 <25	20.1 20.1 20.1 20.1 20.1 20.1	2 2 2 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2.2 5.2 5.2 5.2 5.2 5.3 5.3 5.3
Benzene	869 <1 110 586 809 1160 4.6 J 168 260J	16 3.2 450 450 45 45 45 45 45 45	2 2 2 2 2 3 8 8 5 2 8 8	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2228888
FP Thickness					
GW Depth	26.68 27.31 25.70 28.60 28.60 25.30 26.20 27.89	27.53 29.98 29.30 29.30 26.10 27.00 28.00	26.28 26.61 26.45 27.70 24.80 25.00 25.00	25.03 25.29 24.88 26.50 26.30 23.10 25.31	23.39 24.72 23.41 25.10 24.90 22.20 23.87
TOC Elevation	94.85	95.81	95.15	94.57	92.51
Screened interval		20-35	20-40	16-31	15-30
GI WW	MW-41 4/20/2005 11/1/6/2005 7/11/2006 8/15/2007 3/6/2008 1/20/2008 1/20/2010 8/16/2010	MW 42 4/20/2005 11/16/2005 7/11/2006 8/13/2007 3/6/2008 1/20/2010 8/16/2010 8/16/2010	MW 43 3/24/2005 4/21/2005 11/16/2005 7/11/2006 8/21/2007 3/6/2008 10/20/2008 1/19/2010 8/11/2010	MW.44 3/24/2005 4/21/2005 11/16/2005 7/11/2006 8/14/2007 3/6/2008 10/22/2008 1/19/2010	MW-45 4/21/2005 11/16/2005 7/11/2006 8/14/2007 3/6/2008 10/22/2008 11/9/2010

CH4 mg/l	<0.026	<0.026	<0.026	<0.026	<0.026
l\gm 94	1.22	0.056	<0.05	<0.05	<0.05
l\gm 4O8	₹	6.15	126	20	51.5
I\gm EON	5.64	4.58	8.85	4. 4.	29.0
AST	\$ \frac{1}{2} \fra	54.2 <10 <100 <100 <100 <100 <100	410 410 4100 4100 4100 4100	<pre></pre>	410 410 4100 4100 4100
38T3	2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	7 70 710 710 710 710	4100	7. 710 710 710 710	7 710 710 710 7100
Ethanol	<pre>&lt;100 &lt;20 &lt;200 &lt;200 &lt;200 &lt;200 &lt;200 &lt;200 &lt;</pre>	<100 <20 <200 <200 <200 <200 <200 <200	<100 <20 <200 <200 <200 <200 <200 <1000	<100 <20 <200 <200 <200 <1000	<100 <20 <200 <200 <200
A8T3	5	369 <10 <100 <100 <100 <100 <100	410 410 4100 4100 4100 4100	4100 4100 4100 4100 4100	<10 <100 <100 <100 155
3410	8 28888	\$ \frac{1}{5} \frac{2}{5} \fra	\$	\$ 5 \$ \$ \$	\$ \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
<b>18T</b>	450 450 450 450 450	<10 <20 <50 <50 <50 <50 <50	<10 <20 <50 <50 <50 <50 <100	<10 <20 <50 <50 <50 <100	<10 <20 <50 <50 <50 <100
3MAT	2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 7 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
AAT	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	3710 410 4100 4100 4100 4100	49.9 410 4100 4100 4100 4100	4100 4100 4100 4100 4100	<10 <10 <100 <100 <100 <100
рвед	۸ ک	Ş.		\$	<5
1,2 DCA	^ ^55 ^55	^	£	2 5	₽ \$
EDB	0.02 0.02 0.02 0.02 0.02 0.03 0.03 0.03	0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02	<ul><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li></ul>	<ul><li>0.02</li><li>0.33</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li></ul>	<ul><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li></ul>
Naphthalene	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	<5 5.6 5.6 374 <5 <5 <5	\$ \$ 4.1 46.3 29 \$ \$ \$	\$5 \$5.6 \$5.6 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$6 \$5 \$6 \$5 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6	<5 <5 1.3 23.5 <5 262 <5
MEE	2 2 2 & & & & & & & & & & & & & & & & &	2228888	2 2 2 & & & & & &	222222	222222 <b>2</b>
Xylene	<ul><li>&lt;1</li><li>2.2</li><li>&lt;10</li><li>&lt;10</li><li>&lt;10</li><li>&lt;3.9 J</li><li>&lt;5</li></ul>	7.5 <1 4.2 4.2 254 <10 <10 <10 <10	4.8 4.8 22.2 <10 60.1 13.4	2.4 51.1 51.1 51.0 23.9 65	<1 <1 4.5 <10 <10 171
Ethylbenzene	2228888	2 2 2 <u>2</u> 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	222222	41 41 45 45 45 47.5
eneuloT	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	74 3.1 3.1 18 7.5 7.5 7.5 7.5 7.5 7.5 7.5	4.6 J	2.3 6 5.5 6.5 6.5 6.5	<1 13 2.2 7.7 <5 21.7 sible
Benzene	2	5.8 <1 3 <1  2 2 2 3 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	22228	<ul> <li>&lt;1 &lt;1</li> <li>&lt;1 13</li> <li>&lt;1 2.2</li> <li>&lt;5 7.7</li> <li>&lt;5 21.7</li> <li>Inaccessible</li> <li>&lt;5 &lt;5</li> </ul>	
FP Thickness					
GM Depth	25.71 25.96 25.48 25.00 27.10 24.40 26.10	23.61 23.91 23.40 25.00 25.00 22.50 22.50	20.75 20.90 20.40 21.50 29.05 19.70 21.00	18.39 18.56 18.40 19.80 19.60 Dry 18.50	15.15 14.72 15.43 16.70 17.40
TOC Elevation	94.50	92.44	89.95	88.18	84.09
Screened interval	20-35	20-35	15-30	15-30	15-30
di ww	MW-46 4/21/2005 11/1/6/2005 7/11/2006 8/14/2007 3/6/2008 1/19/2010 5/9/2013	MW-47 4/21/2005 11/16/2005 7/11/2006 8/14/2007 3/6/2008 1/19/2010 8/11/2010 5/9/2013	MW-48 4/21/2005 11/1/6/2005 7/11/2006 8/14/2007 3/6/2008 1/20/2008 1/20/2010	MW-49 4/21/2005 11/16/2005 7/11/2006 8/14/2007 3/6/2008 10/22/2008 1/19/2010	MW-50 4/21/2005 11/16/2005 7/11/2006 8/14/2007 3/6/2008 10/22/2008 1/15/2/2008 5/9/2013

CH¢ mð\l	<0.026	<0.026	<0.026	1.53	<0.026
ինա թച	<0.05	0.821	3.01	<0.05	1.68
1/6m 4OS	7:1	4.14	14.6	24.6	9.0
l\gm £OV	4.52	4.74	1.48		×0.1
AaT	410 410 4100 4100 4100 4100 4100	410 410 4100 4100	19.9 11 7100 7100 7100 7100 7100	410 6500 6500 6400 6400 6400 6400 6400	129 <100 <100 <100 <100 <100 <100 <100 8.4J
3813	7	12 C C C C C C C C C C C C C C C C C C C	2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	250 250 210 210 210 210 210	4.10 4.10 4.10 4.10 4.10 4.10 4.10 4.10 4.10 4.10 4.10 4.10 4.10
Ethanol	<pre>&lt;100 &lt;20 &lt;200 &lt;200 &lt;200 &lt;200 &lt;200 &lt;200 &lt;</pre>	<100 <20 <200	<100 <20 <200 <200 <200 <200 <200 <1000	4100 420 4200 4200 4200 4200 4200 4200 355	<100 <20 <200 <200 <200 <200 <200 <1000
∀8ТЭ	410 4100 4100 4100 4100 4100	<10 <10 <100	75.9 <10 <100 <100 <100 <100 <100 <100	17.5 90 5500 5500 5100 5100 5100 5100	59.2 <10 <100 <100 <100 <100 <100 <100
DIPE	\$ 25.65.65	& <u>2</u> &	\$ 25.55.55	29 63 59.1 38.3 33.9 21.8 11.4	63.4 55 84.7 34.5 11.4 4.1 J 17.7
381	<ul><li>4.0</li><li>50</li><li>50</li><li>50</li><li>50</li><li>4.0</li></ul>	420 450 450	450 450 450 450 450 450	<10 <25 <250 <50 <50 <50 <100	<10 <20 <50 <50 <50 <50 <50 <100
ЭМАТ	2 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	∇ ∇ <del>0</del>	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5.2 <1 <50 <10 <10 13.6 <10 2.0J	11.2 8.3 14.8 <10 <10 <10 <10 0.85J
AAT	40 40 40 40 40 40 40 40 40 40 40 40 40 4	< 40 < 40 < 40 < 40	533 7100 7100 7100 7100 7100 7100	263 700 <500 478 615 153 <100	724 610 1080 285 114 <100 574 94J
ревер	<b>S</b>	\$	Ą	09	ج ج
1,2 DCA	<u>۸</u> %	∇	2	2 & & &	18.6 <5 1.4 J
ED8	<ul><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li><li>&lt;0.02</li></ul>	<0.02 <0.02 <0.02 0.3	40.02 0.73 40.02 40.02 40.02 40.02 40.02 40.02	40.02 40.02 40.02 40.02 40.02 40.02 40.02 0.11	60.02 6.02 6.02 6.02 60.02 60.02 60.02 60.02 60.02
9nəlsdidqsV	55.0 55.0 55.0 55.0 55.0	8848	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.9 4.9 46.5 9.7 19.1 4.5 7 4.5 5 6 5	16.9 39 19 46.3 6.3 6.4 25.3 4.1J
MeE	22288888	<1 <1 <1 14.5	7778888888	14.8 1500 23 <25 19.5 16.2 9.7 6.9	329 410 190 369 145 72.7 33.5 191 24
хуlene	71 3.6 13.6 710 710 710 710	<1 <1 3.2 <10 cted at 2	193 193 193 100 100 100 100 100 100 100 100 100 10	2.8 2200 11.9 <50 <10 <10 <10 <10 <5	4.4 4.4 4.4 6.10 6.10 8.2 J
Ethylbenzene	22288888	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	41 29 29 55 65 25.7 65	255 255 255 255 255 255 255 255	5.8 27 18 24.8 <5 <5 <5 25.6 3.6J
eneuloT	52.1 52.1 55.0 55 55 55	<1 1.7 24.1	29 29 46.9 45 5 5 5 5 5 5	41 2900 5.1 425 45 45 45 2.0 J	2. 4. 4. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.
euezue <b>g</b>	74 74 73.9 75 75 75 75	<ul> <li>&lt;1 &lt;1 li></ul>	2. 1. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	139 970 650 650 150 152 4.6 J	213 440 130 544 <5 <5 6.2 88 0.31J
FP Thickness					
GW Depth	24.66 24.81 24.22 25.50 26.00 24.50 25.15	22.22 21.89 21.89 Dry Dry	11.55 11.92 11.45 12.40 12.70 10.90 11.01	12.31 12.30 12.80 11.08	4.88 4.43 4.80 2.50 3.60 4.03
TOC Elevation	93.91		79.60	77.58	71.22
Screened inferval		15-30		5-20	41-4
MW ID	2007880	MW-52 4/21/2005 11/16/2005 7/11/2006 8/14/2007 1/19/2010 5/9/2013	MW-53 4/21/2005 11/1/6/2005 7/11/2006 8/14/2007 3/11/2008 10/21/2008 1/19/2010 8/11/2010	MW-54 4/21/2005 11/16/2005 7/11/2006 8/14/2007 3/11/2008 1/19/2010 8/17/2010	MW-55 4/21/2005 11/16/2005 7/11/2006 8/14/2007 3/11/2008 1/0/21/2008 1/19/2010 5/9/2013

CH4 mg/l	0.076	2.62	0.293	<0.026	0.033
լ/ճա թ_լ	<0.05	2.22	2.76	<0.05	<0.05
I/6m ֆOS	36.4	5.21	65	21. 3.	18.2
l\gm £ON	4.25	<0.1	<b>60.1</b>	1.37	0.32
A8T	710 7100 7100 7100 7100 7100	<10 <100 <5000 <5000 <1000 <100	<10 120 <100 245 <200 112 100J	5 555555	1, 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,
3813	^1 ^10 ^10 ^10 ^10 ^100	<pre>&lt;1 &lt;100 &lt;100 &lt;500 &lt;500 &lt;1000 &lt;500 &lt;1000 &lt;10</pre>	20 7.00 20 7.00 20 7.00 20 7.00 20 7.00 20 7.00	2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
lons413	<100 <20 <200 <200 <200 <200 <1000	<100 <200 <10000 <10000 <10000 <20000 <2000	<pre>&lt;100 &lt;200 &lt;200 &lt;200 &lt;400 &lt;400 &lt;5000 &lt;5000 </pre>	<pre>&lt;100 &lt;20 &lt;200 &lt;200 &lt;200 &lt;200 &lt;200 &lt;200 &lt;</pre>	<100 <200 <200 <200 <1000
АЯТЭ	410 410 4100 4100 4100	344 <100 <5000 <5000 <1000 <100	288 <100 <100 <100 <200 <100 <100 <100 <100	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	7 7 7 7 7 7 7 9 9 9 9 9 9 9 9 9 9 9 9 9
DIPE	\$\$ \$\$ \$\$ \$\$	786 820 679 833 386 J 211 J	480 44.4 400 226 51.6	A 2 & & & & & & & & & & & & & & & & & &	\$ \$ \$ \$ \$ \$
. 48T	<10 <20 <20 <50 <50 <50 <50 <100	<10 <200 <2500 <2500 <5000 <500 <50	^10 ^200 ^200 ^50 ^50 ^50 ^50 ^50 ^50 ^50 ^50 ^50 ^50 ^50 <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup> <sup>60</sup>	<ul> <li>10</li> <li>10</li> <li>10</li> <li>10</li> <li>10</li> <li>10</li> <li>10</li> </ul>	<10 <50 <50 <50 <100
3MAT	2 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	129 110 <500 <500 <1000 <10	<1 67 <10 49.2 20.5 7.1 J	2 266666	2 6 6 6 6 6
AAT	<pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre>&lt;</pre>	<10 5100 5410 9120 <10000 <100	9900 5200 310 104000 2960 1170	10	5
реед	<5	۸5	17	22	۸5
1,2 DCA	^1 <1	<1 <500 <550 <5	410 45 45 425 425	2 2 2	
EDB	<ul> <li>40.02</li> <li>40.02</li> <li>40.02</li> <li>40.02</li> <li>40.02</li> <li>40.02</li> <li>40.02</li> </ul>	0.05 3.3 0.033 0.098 <0.02 <0.089	<ul> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> <li>0.02</li> </ul>	60.02 60.02 60.02 60.02 60.02 60.02 60.02 60.02	<ul><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li><li>0.02</li></ul>
Naphthalene	65 65.4 65.3 65.3 65 65 65 65 65	<pre>&lt;50 240 &lt;1000 290 489 681 517 172 J 3.8 J</pre>	218 490 300 24 776 36.3 65	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2 2 2 2 2
MŧBE	2 2 2 2 2 3 3 3 3 3 3 3	970 1590 2000 1300 1010 1210 746 461	442 630 490 34.5 452 199 76.4 93	2222488888	2 % % % %
уујепе	2.2 2.2 2.2 2.3 2.4 2.4 2.4 3.0 4.0 4.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	1400 4390 8200 4500 5250 6690 4570 4570	159 160 228 <10 64.9 <20 <15	2 2 2 8 6 6 6 6 6 6 8 4	2 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Eţµλjpeuzeue	777788888	360 1170 2000 1300 1270 1650 1180 791	380 960 480 63.2 161 2.4 J 1.7 J	2 2 2 2 8 8 8 8 8 8	2 & & & &
Toluene	2.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4	1900 5400 12000 8300 10600 10500 6700 3440 <5	162 110 87 <5 528.3 <10 <5	2 2 2 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2 % & & &
Benzene	2 6 2 2 2 3 3 3 3	2500 15 8390 5- 12000 12 8900 83 7570 10 9390 10 6390 65 410 65 45 4	5920 5300 5800 13.4 1890 4.3 J <5	22225688888	£ & & & &
FP Thickness					
GW Depth	8.90 9.13 9.55 9.90 7.50	1.41 15.60 1.70 24.40	10.65 7.10 7.70 5.30 7.00 7.10	4. 5. 4. 4. 6. 4. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	5.29 5.80 6.80 5.70
noitevel∃ OOT	76.39	67.20	76.37	68.02	67.94
Isvretni beneeroS	5-20	41-4	91-4	2-17	41-4
MW ID	MW-56 3/22/2005 11/16/2005 4/21/2005 7/13/2006 8/14/2007 3/11/2008 10/21/2008 1/19/2010	MW-57 3/22/2005 4/21/2005 11/1/6/2005 17/3/2006 8/14/2007 10/21/2008 1/19/2010 3/17/2010 8/11/2010 5/9/2013	MW-58 4/21/2005 11/1/6/2005 7/13/2006 3/11/2008 10/21/2008 1/19/2010 8/11/2010	MW-59 3/22/2005 4/21/2005 11/16/2005 7/13/2006 8/14/2007 3/11/2008 10/21/2008 1/19/2010 8/16/2010	MW-60 4/21/2005 3/11/2008 10/21/2008 1/19/2010 5/9/2013

			·····																			<del></del> ,
CH¢ mg/l																						
Fe mg/l																						
l\gm 4O8	***************************************																					
l\gm £ON																						
A8T	<10	9 <del>1</del> 50 5	<100	:	۲0 د	×10 ×100	<100	2 2 8 8	<500		×10	<10	, 100 100 100	7 700	×100	100	×100	<100	192 550	1180	0075	2007
<b>E18</b> E	<10	2 V	79		v.10	<del>2</del> <del>2</del>	45	2 7 7 9	<500		۲ <u>۰</u>	×10	2 0	7 7	, to	5	100	×10	\$ \$	750	2,50	7
lonshi	<20	750 750 750 750	<200		750	250 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$200 \$300	7500 7500 7500	<5000			<20	2, 2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	7500	<1000	0 ₹30	<200	<200	V500	400	<400 4000	2004
АЯТЭ	<10	₽ 000	<100		70	10 10 10	185 186	2 2 8 8	<500		۲ <u>0</u>	×10	V 79 V 79 V 79 V 79 V 79 V 79 V 79 V 79	7100	7 00 V	×40	1100	<100	7 20	<sup>2</sup> 200	<200 <200 <200 <200 <200 <200 <200 <200	2003/
DIPE	<5	Δ %	\$		<5	ጉ ሂ	5 €	გ გ	<50		<5	٧	& &	ۍ <u>۸</u>	7 €	100	130	Ą	°200	783		
<b>18T</b>	<20	<20 <50	×50		<sup>4</sup> 20	8 5	\$ \$	6 6 6 6	<500		<b>~</b> 20	<20	\$ \$	× 20	\$ <del>\</del>	05	<200	×50	8 8 8	, se s	×100 ×100 ×100	1000
<b>TAME</b>	<10	₽ €	410	!	£	∑ £	70 V	£ £	<50		₽	⊽	€ €	₹ ₹	95	23	28	٠ <u>۲</u>	150.4	111	250	7500
AAT	۸10	^ 100 ^100	102		۲ <u>۱</u>	<del>1</del> <del>1</del> <del>1</del> <del>1</del> <del>1</del> <del>1</del> <del>1</del> <del>1</del> <del>1</del> <del>1</del>	162	209 1 <b>4</b> 1	440		√ 10	40	\$ \$ 8 8	7 7 2	, <u>5</u>	1300	2200	×100	15200	4010	361	
реәq																						
1,2 DCA							********	\$	<25					Ų	7 \$					12.6	2 2	3
EDB		0.02 0.02 0.02 0.02	<0.02	<0.02	<0.02	40.02 0.02	<0.02	<0.02 <0.02	<0.02	<0.02	<0.02	<0.02	<0.02 <0.02	<0.02	<0.02	0.025	<0.02			0.13	0.16	
Naphthalene	, 55	3.8 5.85 5.	, <sub>2</sub>	<5	<b>^</b> 5	1.6 5.	λÅ	13.1 2.9 J	9.6	<5	\$	ဖ	<5 13.2	ω ή	7 🎖	151	56 170	14.4	<500 851	350	21.1	3
Mŧ8E	∇ .	v v %	\$ \$	₹	٧	۷ ک	δ. δ.	\$ \$	2.1J	₽	⊽	⊽	φ γ	ςς ų	7 \$7	444	100			1060	8 5	3
хујепе	₽.	1.1. €	410	7	7	6.4 4.0	2; S	₽ ₹	<25	₽	⊽	5.4	23 49	9 9	5. ₹	48.8	₽ 88	113	×1000 1300	1250	84.3 72.43	t 7 1
Ετμλιρουχουο	₽.	↑ 1.9 2.5	. rb	⊽	⊽	<del></del> 4	Ş Ç		<25	۲	٧	. △	6.8 6.8	Α,	7 \$	382	51 330	34.4	920	195	75 28 28 28	3
Toluene	₹ .	6.7	<5 sible ted	₹	٨	ბ "Հ	δ. Α.	φ. Υ	<25	₹	⊽	3.8	5.2	₹, 4	7 8	76.6	13	65.8	731	2020	16.4	- ted
Benzene	∇ `	Σ Σ ∜	<5 < <	⊽	⊽	Δ Α	δ. Α.	13.9 2.4 J	6.2	۲	₹	⊽	ç, δ,	5.5	7 %	2460	390	8.8	4080	3240	225	Not located
FP Тһісквеss																						
см Берth	21.25	20.89	23.05	24.99		24.49	26.20	27.10	25.45	26.41		25.78	26.00 27.05	28.50	25.72	26.74	27.08	27.90	28.50	25.20	28.00	70.07
TOC Elevation	91.00			94.05						94.65						94.36						
Screened interval	20-35			20-35						20-35						20-35						
di ww	MW-61 5/17/2005 7/14/2005	11/16/2005 7/11/2006 8/15/2007	3/6/2008 1/19/2010 5/9/2013	<b>MW-62</b> 5/17/2005	7/14/2005 11/16/2005	7/11/2006	3/6/2008	10/21/2008	5/10/2013	MW-63 5/17/2005	7/14/2005	7/11/2006	8/15/2007 3/6/2008	10/21/2008	5/10/2013	MW-64 5/17/2005 7/14/2005	11/16/2005	8/15/2007	3/6/2008	1/20/2010	3/17/2010	5/10/2013

CH¢ mg/l				
Fe mg/l	4	1.2		
SO4 mg/l	25	33		
I/Bm EON	0.35	5.1		
Аат	<100 <100 <100 <1000 <1000 <1000 <500	<pre>&lt;10 &lt;10 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;</pre>	<ul><li>&lt; 10</li><li>&lt; 100</li><li>&lt; 100</li><li>&lt; 100</li><li>&lt; 100</li></ul>	1
3813	<100 <10 <10 <100 <100 <100 <10	410 410 410 410 410 410	<10 <10 <10 <10 <10 <10	710 710 710 710 710
lonsrita	<200 <200 <200 <2000 <2000 <1000	<20 <200 <200 <200 <200 <200 <200	<20 <20 <200 <200 <200 <200 <1000	<20 <20 <200 <200 <200 <200 <200
А8ТЭ	<100 <100 <100 <1000 <1000 <1000 <1000 <1000 <1000	<pre></pre>	<pre>&lt;10 &lt;10 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;</pre>	<pre>&lt;10 &lt;10 &lt;10 &lt;100 &lt;100 &lt;222 &lt;100 &lt;100 &lt;10</pre>
DIPE	45 16.6 58.9 94.3 35.5 J 5	& 2 % % % % %	<pre>&lt;5 &lt;5 &lt;5 &lt;5 &lt;5 &lt;7 &lt;7 &lt;70 </pre>	გ 2 გ გ გ გ გ
181	<200 <50 <50 <500 <500 <500 <500 <500 <5	<20 <20 <50 <50 <50 <50 <50	<20 <20 <50 <50 <50 <50 <50 <100	<20 <20 <50 <50 <50 <50 <50
3MAT	<ul><li>100</li><li>11.1</li><li>137</li><li>16</li><li>16</li><li>16</li><li>17</li><li>18</li><li>18</li><li>19</li><li>19</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li><li>10</li></ul>	410 410 410 410 410 410	410 410 410 410 410	\$ 26665 \$6665 \$6665 \$6665
AAT	344 344 3010 10600 2570 88 J 648	<10 14 <100 <100 <100 <100	<pre>&lt;10 &lt;10 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;</pre>	<10 <10 <100 <100 327 178 <100
геза				
1,2 DCA	<50 <5 <25	\$\$	<5 <5	\$\$
EDB	0.26 <0.02 <0.02 <0.02 <0.02 <0.02 <0.02	<ul> <li>6.02</li> <li>6.02</li> <li>6.02</li> <li>6.02</li> <li>6.02</li> <li>6.02</li> <li>6.02</li> <li>6.02</li> <li>6.02</li> <li>6.02</li> <li>6.02</li> </ul>	<pre>&lt;0.02 &lt;0.02 /pre>	<0.02 <0.02 <0.02 <0.02 <0.02 <0.02 0.16 0.06
Naphthalene	745 45 19 <500 757 <50 3.9 J	80.1 8.6 7.5 <5 25.8 56.9 53.2	<5 <5 7.6 <7.6 <5 <8.1 <15.2 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <7 <6 <7 <6 <7 <6 <7 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <7 <6 <7 <6 <6 <7 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <th>&lt;5 &lt;5 6.8 58.6 3.9 J</th>	<5 <5 6.8 58.6 3.9 J
MtBE	4 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2 22 3 3 3 3 3	2 2288888	7 7 7 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Хуіепе	1720 88 <10 <1000 609 274 2.8 J 262	318 27 12.8 <10 59.9 24.2 3.9.1 <10	2.6 <1 20.2 <10 <10 <10 <10 <10	<1 41 18.2 410 12.2 317 <10
Еұµλіреихеие	78 21.3 1500 1510 21.6 J <5 234	5.2 <1 2.5 <5 49.7 1113 28.2 <5	23.2 3.2 5.5 5.5 5.5 5.5 5.5 5.5	2 2 6 8 8 8 8 8
eneuloT	2610 31 <5 505 626 530 <5 398	2.3 7.7 7.7 6.5 8.9 6.5 6.5 ted	202 202 203 203	41 41 41 41 41 41 41 41 41 41 41 41 41 4
Benzene	2860 140 48.4 1580 1630 748 <5 420 Dry	3.8 2 1.7 7 1.7 7 4.5 6 4.5 8 4.5 8 4.5 6 8 8 4.5 6 4.5 6 8 8 4.5 6 8 8 4.5 6 8 8 8 8 8 8 8 8 8 9 8 9 8 9 8 9	2 22 8 8 8 8 8	6.6 <
FP Thickness				
GW Depth	2 22 2	27.50 28.09 29.35 29.40 21.90 27.10	27.72 28.21 29.40 28.10 25.80 28.07	26.46 26.81 27.00 28.10 28.70 24.80 26.30
TOC Elevation	94.04	95.25	96.10	94.02
Screened interval	20-35	20-35	20-35	20-35
MW ID	MW-65 5/17/2005 7/14/2005 11/1/6/2005 8/15/2007 3/6/2008 1/20/2010 3/17/2010 8/16/2010	MW-66 5/17/2005 7/14/2005 11/16/2005 7/11/2006 8/15/2007 3/3/2008 1/20/2010 8/16/2010 5/10/2013	MW-67 5/17/2005 7/14/2005 1/11/6/2005 7/11/2006 8/13/2007 3/3/2008 1/20/2010 5/10/2013	MW-68 5/18/2005 7/14/2005 11/16/2005 7/11/2006 8/15/2007 3/3/2008 11/20/2010 8/16/2010 5/10/2013

CH4 mg/l				
իջ աց/լ	<0.5			
I\gm 408	13			
I/Bm £ON	4.			
A8T	1	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	608 <1000 <200 <2000 <10000 <10000 <10000 <10000	1470 <2000 <10000 <500 <100
3813	9 9 9 9 9 9 9	400 400 400 400 400 400 400 400 400 400	<20 <1000 <20 <200 <200 <1000 <1000 <1000 <1000 <1000	<20 <250 <1000 <50 <10
Ethanol	<pre>&lt;20 &lt;20 &lt;20 &lt;200 &lt;200 &lt;200 &lt;200 &lt;200 &lt;2</pre>	<20 <20 <200 <290 <200 <200 <1000	<2000 <2000 <400 <4000 <20000 <20000 <10000 <10000	<2000 <500 <2000 <1000 <200
A8T3	10 10 10 10 10 10 10 10 10 10 10 10	01	1100 <1000 <200 <2000 <10000 <10000 <10000 <10000	3320 510 <10000 <500 <100
DIPE	& <u>^</u> & & & & & & & & & & & & & & & & & & &	\$ 2 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	3240 3200 <10 650 1010 499 J 150 J 150 J 510J	3840 2000 <500 96.7 <5
<b>48T</b>	<pre>&lt;20 &lt;20 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 </pre>	<pre></pre>	<2000 <2000 <100 <1000 <5000 <5000 <5000 <10000	<200 <500 <5000 <250 <50
<b>BMAT</b>	\$ 26666	\$ 255555 5555 5555 5555 5555 5555 5555 5	1430 1200 <20 280 <1000 <1000 <500 <1000	1080 <25 <1000 <50 <10
AAT	710 7100 7100 7100 7100 7100	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	5120 <1000 <200 <200 <2000 <10000 <10000 1300J	14500 11000 17300 1420 <100
peaq			17	90
450 C.A	\$\$ \$5	κ <sub>λ</sub>	<20 <500 <250 <500 <500 <500	<20
803	<ul><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li><li>40.02</li></ul>	60.02 60.02 60.02 60.02 60.02 60.02	<ul> <li>-0.02</li> <li>-0.02</li> <li>-0.19</li> <li>-0.02</li> <li>-0.02</li> <li>-0.02</li> <li>-0.02</li> <li>-0.02</li> <li>-0.02</li> <li>-0.02</li> <li>-0.02</li> <li>-0.02</li> </ul>	4.32 0.54 4.5 <0.02 <0.02
Naphthalene	<ul><li>5</li><li>5</li><li>5</li><li>7.1</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>6</li><li>7</li><li>5</li><li>7</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>5</li><li>6</li><li>7</li><li>5</li><li>6</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li><li>7</li></ul>	<5 <5 <5 <5 <7  < <5 << >5  < <5  < <5  < <5  < <5  < <5  < <5  < <5  < <5	89.8 796 1000 75.6 522 1070 661 479 810	932 14 710 964 82.5 <5
MŧBE	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 22 8 8 8 8 8 8	<1 2500 9900 2700 2700 332 554 331 J <250 160J	3100 130 2600 <500 264 <5
уујепе	<ul> <li>&lt;1</li> <li>&lt;1</li> <li>&lt;10</li> <l>&lt;10 <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <li>&lt;10</li> <l></l></l></ul>	20.3 50.3 50.3 50.3 50.3	2560 7740 14000 13600 332 7290 13100 9700 5450 6060	7150 <10 10400 15600 720 <10
Ethylbenzene	2 2 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2	510 1500 2500 2500 13.4 971 2200 944 445 716	Not sampled- Free Product RW-1 Well Abandoned 9700   17000   2800   71000   16000   25000   1700   11000   16000   1700   11000   1600
Toluene	<pre>&lt;1 </pre> 4.2  4.2  5  5  5  5  65 65 65 65 65 65 65 65 65 70 8 8 70 8 8 70 8 8 70 8 8 70 8 70 8 70 8 70 8 70	7.2.7 7.2.7 7.2.7 7.3.5 7.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8	376 960 Well Abandoned 2250 3100 27000 31000 23000 30000 66.6 236 4750 10500 11200 19000 3720 8860 2120 6600 9200 1000	Not sampled- Free Proc RW-1 Well Abandoned 9700 17000 2800 1600 25000 1700 3450 27900 1630 509 591 63.2 <5 1.9 J <5
genzene	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	2	376 Well Abs 2250 27000 23000 66.6 4750 11200 9070 3720 2120 9200	Not sample RW-1 Well 9700 17 1600 25 3450 27 3450 27 509 11
<b>FP Т</b> Ыскиеss				0.01
GW Depth	26.85 27.18 27.40 28.75 29.10 25.30 25.90	27.30 25.88 27.40 29.20 22.50 24.80 26.80	20.00 22.68 22.35 22.35 22.65 22.65 22.60 21.00 21.20 23.45	22.63 ned) 24.69 25.67 22.45 26.60 24.10
TOC Elevation	94.36	95.49	94.18	93.66
Screened interval	20-35   MW Aba	20-35	18-28 (MW-5a) 20.00 (MW-5a Abandoned) MW-5al 94.18 22.6; 22.3; 22.6; 22.6; 22.6; 22.5; 21.01 21.21 21.21 23.44	(RW-1) 22. (RW-1 Abandoned) 9-29 93.66 24. 25. 25.
MM ID	MW-69 20-35 5/18/2005 7/14/2005 11/16/2005 7/11/2006 8/15/2007 3/3/2008 1/20/2010 8/16/2010	MW-70 5/18/2005 7/14/2005 11/16/2005 7/11/2006 8/15/2007 3/6/2008 1/20/2010 5/10/2013	000000	RW-1R 10/29/2003 11/25/2003 4/20/2005 11/16/2005 6/29/2006 8/21/2007 3/6/2008 1/18/2010 5/10/2013

		T	<u> </u>	· · · · · · · · · · · · · · · · · · ·	9
CH4 mg/l					<0.026
Fe mg/l					<0.05
I\gm 4OS					17.5
Ngm sov					0.75
A8T	<10 1300 5000 <20000 <100	64	4 4 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	1810 <1000 <100 <100 <100 190 <20000	<50 <10 <100 <100 <100
3813	<1 <100 <500 <2000 <10	7	410 410 410 410 410 410	4100 4100 410 410 410 410 420000	<5 <10 <10 <10 <10
Ethanol	<100 <200 <10000 76900 <200	<pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre>&lt;</pre>	<100 <20 <200 298 357 <200 <1000	<100 <2000 298 398 <200 <200	<500 <20 453 <200 <1000
A8T3	1210 <100 <5000 <20000 <100	6.	410 410 4100 4100 4100 4100	41000 41000 4100 4100 4100 4100 4100	<50 <10 <100 <100 <100
DIPE	636 360 1180 <1000 <5	17.4 17.4 17.4 17.4 17.4	\$ \press \chi \chi \chi \chi \chi \chi \chi \chi	1430 380 <5 <5 <5 118	<25 57 <5 <5 <10
<b>48T</b>	<10 <200 <2500 <10000 <50	4.10 4.20 4.50 4.50 4.50 4.100	<10 <20 <50 <50 <50 <50 <100	<10 <500 <50 <50 <50 <50 <50 <20000	<50 <20 <50 <50 <100
<b>BMAT</b>	171 <10 <500 <2000	2 2 6 6 6 6 6	2	360 <100 <10 <10 <10 <10 34.8	\$ \tau \tau \tau \tau \tau \tau \tau \tau
AAT	8380 9500 <5000 <100	2	4100 4100 4100 4100 4100	11700 6100 <100 <100 <100 3820 J 3600J	150 520 <100 <100
Lead	<5	رځ ک	230	<5	د ک
1,2 DCA	^> ^5	2 5 5	4.5 < 5 < 5 < 5 < 5 < 5 < 5 < 5 < 5 < 5 <	45 45 45 460 1000	9.5 <5 <5
EDB	<0.02 <0.02 7.6 0.082 3.4 5.7 <0.02	0.02 0.02 0.02 0.02 0.02 0.02 0.02	40.02 40.02 40.02 0.15 40.02 40.02 40.02	0.05 1.08 0.06 0.02 0.02 0.22 0.18	1.46 <0.02 <0.02 <0.02 <0.02
Naphthalene	290 250 770 160 160 1230	2 & & & & & & & & & & & & & & & & & & &	4.16 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	256 86.7 <5 895 <5 16.8 <5 178 620J	వే ది సి సిసి
Mise	1850 2040 290 1300 944 <1000 <5	222228888	40.7 4.6 4.8 4.8 4.3 3.3 6.5 6.5 6.5 7.5 7.5	2260 5350 230 62 62 62 65 65 65 211 J	11.5 110 <5 <5
уујеле	924 2460 8100 1710 16200 14300 54.7	5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28 1.6 5.8 5.8 117 10.2 <10 <10 10.9	2660 2400 220 11200 28.1 97.4 <10 2440	524 2.3 <10 <10 <5
Ethylbenzene	343 doned 732 1800 39 2450 1890 2.6 J	27:12.42.43.43.43	6.58 4.1 7.1 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5	1130 265 64 1900 <5 9.6 <5 451 2200	102 45 45 45 45
Toluene	3230 90 343 90 90 90 90 90 90 90 90 90 90 90 90 90	7. 1. 4. 4. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	27.3 1.6 6.7 <1 78 16.9 <5 <5 <5	5320 4600 360 31000 22.6 91.8 <5 3870 19000	380 41 55 8ible 55
Benzene	3230 PW-1 W 2740 8300 2500 14300 13400 4.3 J Not sam	<b>¥</b> -1. 128. 129. 129. 129. 149. 159. 159. 159. 159. 159. 159. 159. 15	(Well is old MECI # MW-17D)  44.18  44.67  2  44.55  3.1  45.23  22.60  6.1  47.20  45.90  55  46.90  56  65  66.1	7160 6350 350 8170 <5 22 <5 1810 2600	74 38 <1 < <1 < < < < < < < < < < < < < < <
FP Thickness	0.03	# 5	#		
GM Depth	28.60 ned) 25.16 24.61 25.50 23.50 25.20	12 12 14 15 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	8 old M 44.18 44.67 44.55 45.23 22.60 47.20 46.90 45.50 26.04	24.54 25.27 21.60 46.70 26.45 24.50 25.24	42.68 45.69 27.50 31.70 0.10
TOC Elevation	93.75	94.66	94.02	93.75	93.79
Screened interval	45-50 (PW-1) (PW-1		) 62-02	47-52	105-110
MW ID	PW-1R 10/29/2003 11/25/2003 4/20/2005 11/16/2005 6/29/2006 3/6/2008 10/20/2008 1/18/2010	DW-1 3/26/1993 10/27/2003 4/20/2005 11/16/2005 6/29/2006 8/21/2007 3/3/2008 1/19/2010 5/9/2013	DW-2 3/12/1997 10/27/2003 4/20/2005 11/16/2005 6/29/2006 8/21/2007 3/6/2008 10/20/2008 1/19/2010 5/9/2013	DW-3 12/30/2003 4/20/2005 11/16/2005 8/21/2007 3/6/2008 10/20/2008 1/19/2010 8/12/2010	DW-4 4/21/2005 6/29/2006 10/20/2008 1/19/2010 8/12/2010 5/10/2013

	726	126	126	126	
CH4 mg/l	¥	<0.026	<0.026	<0.026	
Fe mg/l	<0.05	<0.05	<0.05	<0.05	
l/gm 408	80.3	37.5	35	87.1	
Ngm £ON	44.0	0.36	0.51	0.72	
АЯТ	<pre>&lt;10 &lt;10 &lt;10 &lt;100 &lt;100 &lt;100 &lt;100 &lt;100 &lt;1</pre>	710 710 7100 7100 7100 7100 7100	410 410 4100 4100 4100 4100	410 410 4100 4100 4100 4100	7, 7, 00 7, 100 1, 100 1, 100 1, 100
3813	2	2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2	2 00 00 00 00 00 00 00 00 00 00 00 00 00	7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Ethanol	<100 <20 <200 <200 <200 <200 <200 <5000	<100 <20 <200 203 <200 <200 <200 <1000	<100 <20 <200 <200 <200 <200 <200 <200 <	<100 <20 <200 <200 <200 <483 <1000	<20 <200 <200 <200 <200 <1000
АЯТЭ	400 410 4100 4100 4100 4100 4100 4100	10 7 10 10 10 10 10 10 10 10 10 10 10 10 10	35.8 410 4100 4100 4100 4100	100 V V V V V V V V V V V V V V V V V V	7, 100 1,00 1,00 1,00 1,00 1,00 1,00 1,00
DIPE	<pre>&lt;5 &lt;1 &lt;1 5.2 10.1 325 &lt;5 &lt;6 </pre>	<pre>&lt;5 </pre> 45 55 55 55 55 55 55 57 65 710	14.5 2.1 <5 <5 <5 <5 <5 <5 <5	\$ 55 \$ 55 \$ 55 \$ 55	2
. 48T	<pre>&lt;10 &lt;20 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;5</pre>	<10 <20 <50 <50 <50 <50 <50 <100	<pre>&lt;10 &lt;20 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;5</pre>	<pre>&lt;10 &lt;20 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;50 &lt;5</pre>	<20 <50 <50 <50 <50 <50 <100
<b>3MA</b> T	2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3.3 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	2 266666	7 6 6 6 6
AAT	<ul> <li>&lt;10</li> <li>&lt;100</li> <li>&lt;100</li> <li>&lt;100</li> <li>&lt;100</li> <li>&lt;100</li> <li>&lt;100</li> <li>&lt;100</li> </ul>	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	410 4100 4100 4100 4100 417	100	4100 4100 4100 4100 4100
Lead	<u>۸</u>	23	∞	3.5 4.5	
1,2 DCA	1.9 1.4 J <5 <250	45 55 55 55	۸ مرم مرم مرم مرم مرم مرم مرم مرم مرم مر	۲, ۸, ۸, ۸, ۸, ۸, ۸, ۸, ۸, ۸, ۸, ۸, ۸, ۸,	<b>r</b> , r, r,
EDB	<ul> <li>6.02</li> <li>6.1</li> <li>6.02</li> <li>6.03</li> <li>6.04</li> <li>6.05</li> <li>6.05<th>0.11 40.02 40.02 40.02 40.02 40.02 40.02</th><th>0.02 0.02 0.03 0.03 0.03 0.03 0.03 0.03</th><th>0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02</th><th>40.02 40.02 40.02 40.02 40.02 40.02</th></li></ul>	0.11 40.02 40.02 40.02 40.02 40.02 40.02	0.02 0.02 0.03 0.03 0.03 0.03 0.03 0.03	0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02	40.02 40.02 40.02 40.02 40.02 40.02
Naphthalene	45 89 77 45 113 63.5 317 85 180J	<5 <5 <9.7 <5 <5 <5 <5 <9.1 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <5 <6 <5 <6 <5 <6 <5 <6 <5 <6 <5 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <6 <p< th=""><th>8 4 40 4 40 4 40 4 40 4 40 4 40 4 40 4</th><th>3.2 J</th><th>55 5.7 5.7 6.4 6.4 5 5 5 5 5 5 5 5 5 5 7 5 5 5 5 7 5 5 5 7 7 5 7 5 7 7 7 7 8 7 7 7 7</th></p<>	8 4 40 4 40 4 40 4 40 4 40 4 40 4 40 4	3.2 J	55 5.7 5.7 6.4 6.4 5 5 5 5 5 5 5 5 5 5 7 5 5 5 5 7 5 5 5 7 7 5 7 5 7 7 7 7 8 7 7 7 7
MtBE	<ul> <li>&lt;1</li> <li>&lt;1</li> <li>&lt;4</li> <li>&lt;5</li> <li>&lt;6.2</li> <li>&lt;18.9</li> <li>&lt;329</li> <li>&lt;5</li> <li>&lt;5</li> <li>&lt;6</li> <li>&lt;920</li> </ul>	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	17.2 20 2 2 65 65 65 65 65 2.6 J 1.1 J	2228888	2 2 2 <b>2 2 2 2 2</b> 2 2 2 2 2 2 2 2 2 2 2
χλ <sub>l</sub> eue	1.8 600 149 170 514 209 4340 <10	3.2 <1 17.3 <10 17.3 14.6 5.7 J	33.1 42.8 410 410 410 410 5	2 4.8 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	410 410 410 410 410 610 65
Ethylbenzene	1.4 160 28 <5 58 22.2 27.1 <5	2,5 2,5 3,5 3,5 3,5 3,5 4,5 5,5 5,5 5,5 5,5 5,5 5,5 5,5 5,5 5	2.8 2.8 2.8 3.0 3.0 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5	2 2 4 2 2 2 2	7 7 7 8 8 8 8 8
Foluene	6.4 240 97 6 184 73.5 7520 <5 <250	3.2 4.1 6.4 6.4 75 75 75 75 75	69 4.2 8.9 8.9 6.5 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	5.3 9.3 65 65 65 65 65	
Benzene	2.8 99 8 8 <5 34.5 55 3950 3.3 J	<u> </u>	87 40 3.5 55 55 55 2.1 J 65 0.39J	2 2 4 4 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8.4. 8.4. 8.5. 8.5. 8.5. 8.5. 8.5. 8.5.
FP Thickness					
GW Depth	43.77 12.43 45.80 45.70 46.50 20.10 45.10	46.38 46.81 47.75 48.30 46.80 22.00 47.36	24.71 23.30 26.35 28.80 25.70 25.40 26.19	21.21 22.30 22.90 23.60 22.00 21.53	28.78 27.00 27.70 26.40
TOC Elevation	93.74	95.90	72.79	68.63	76.47
Screened interval	· · · · · · · · · · · · · · · · · · ·	02-20	50-55	50-55 50-55	60-65
MW ID	DW-5 4/21/2005 11/1/6/2005 6/29/2006 8/21/2007 3/6/2008 11/19/2010 8/11/2010 5/10/2013	DW-6 4/20/2005 11/1/6/2005 7/11/2006 8/13/2007 3/6/2008 1/19/2010 8/16/2010 5/10/2013	DW-7 4/21/2005 11/16/2005 7/13/2006 8/14/2007 3/11/2008 1/19/2016 8/11/2016	DW-8 4/21/2005 11/1/6/2005 7/13/2006 8/14/2007 3/11/2008 1/19/2010 5/9/2013	DW-9 5/17/2005 11/16/2005 7/13/2006 3/11/2008 1/19/2010 8/11/2010 5/9/2013

	<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>		···-															
CH4 mg/l																		
Fe mg/l	***************************************	*****	*****															
I\gm 4OS									*******	•			*********	*******				
l\gm &OM																		
АЯТ		37			°20	21 20 20 20 20 20 20 20 20 20 20 20 20 20	×100	442	84.2 J	<250	23.1		×100	7100 V	×100		×100	۲۰ م
<b>3813</b>		7			<50 <	×10	×10	<20	<10	<25	<100		×100	×100	<100		<100	100
Ethanol		√ 100			√ 100	<200	<200	<1000	<200	<500	<1000		×1000	<1000	<1000		<1000	×1000
АЯТЭ		38.9			<b>~20</b>	۲100 م	۲ 100	<200	×100	<250	×100		۲100 د	×100	×100		×100	×100
DIPE		67.2			190	68.8	67.1	42.9	80	35	25		۲ <u>۱</u> 0	۷ <u>۲</u>	70		۸۲٥	۲۰ ۲0
∃8T		V-10			<100	<50	<b>2</b>	×100	<b>~20</b>	<125	<100		×100	×100	<100		<100	√ 100
<b>JMAT</b>		11			31	۲ <u>۰</u>	5	<sup>~</sup> 20	10.9	<250	2.6J		70	70	70		<10	70
AAT		422			2600	699	614	367	1180	653	340		<u>~100</u>	۲ 100	×100		<100	<100
реәд		₽																
1,2 DCA		4.7							<u>ې</u>	<12.5	⊽		ŝ	ŝ	\$		\$	ې دې
EDB		<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02		<0.02	<0.02
Maphthalene	<5	ς,	5.3	6	52	9.2	7.2	19.8	17.4	17.6	6.5		۸5	۸	\$		۸ 5	δ.
MtBE	-	143	140	160	470	97.2	84.5	54.3	123	86.5	17		<b>^</b>	\$	v 22		₹2	\$
хујепе	⊽	28.8	29	100	710	68.7	68.4	38.9	143	158	36		\$	\$	\$		<5	<5
Ethylbenzene	۲	11.7	31	4	190	13.1	35.2	22.2	99	53.5	23		\$	\$	လို		<5	<b>^</b> 2
eneulo T	۲	38.1	110	110	1000	36.2	43.9	22.9	135	39.4	2.8		\$	လို	\$		\$	<u>ې</u>
Benzene	1>	200	390	370	780	133	420	229	464	324	130		\$	\$	<b>~</b> 2		<b>~</b>	\$
<b>FP Т</b> Ыскиеss																		
С <b>М De</b> рŧh			d ST-1)															
TOC Elevation			labele															
Screened interval			(sample labeled ST-1)															
MW ID	<b>SW-1</b> 11/18/2003	4/21/2005	_	11/16/2005	7/13/2006	8/15/2007	3/11/2008	10/21/2008	1/19/2010	8/16/2010	5/9/2013	Trip Blank	5/9/13 1331	5/9/13 1420	5/10/2013	Field Blank	5/9/2013	5/10/2013

Table 8
New Monitoring Well Numbering System

New Force	Old Midlands	Old Kimbrell	General Property	Comments
& Associates	Environmental	& Associates	Location	
MW No.	Consultants MW No.	MW No.		
MW-1	Replaced MW-1	_	Providence Hosp. Parking Lot	
MW-2	Replaced MW-2		Providence Hosp. Parking Lot	W W
MW-3	Replaced MW-3		Providence Hosp. Parking Lot	
MW-4	Replaced MW-4	-	Providence Hosp. Parking Lot	
MW-5	Replaced MW-5		Providence Hosp. Parking Lot	
- New York Control of the Control of	Replaced MW-8		Providence Hosp. Parking Lot	
MW-6	Replaced MW-9 & MW-10	_	Providence Hosp. Parking Lot	
MW-7	Replaced MW-15		Providence Hosp. Parking Lot	
MW-8 MW-9	MW-5A	MW-8	Church's Fried Chicken	Free Product on 11/18/03
MW-10		MW-1a	Church's Fried Chicken	Free Product on 11/18/03
N/337 11	MW-11		Gonzales Garden Apts.	
MW-11	MW-11 MW-12	-	NAPA Auto	
MW-12			NAPA Auto	
MW-13	MW-13		Suddeth's Towing	Not Located
MW-14 MW-15	MW-14	MW-2a	Church's Fried Chicken	Free Product on 11/18/03
		MW-6a	Kar-Kare Auto.	11/18/03
MW-16 MW-17	MW-4A	MW-7	Kar-Kare Auto.	Free Product on 11/18/03
MW-18	-	MW-3a	Bank of America	Free Product on 10/29/03
MW-19	MW-2A	MW-6	Fast Point	Free Product on 10/29/03
2 477 00	NAME OF THE PARTY	MW-5	Fast Point	
MW-20	MW-3A MW-1A	MW-4a	Car Wash	
MW-21		Replaced MW-5a	Fast Point	
MW-22		Replaced MW-4	Fast Point	
MW-23		Replaced MW-3	Fast Point	
MW-24			Car Wash	Sampled as PW-2
MW-25	1.007.10	-	Providence Hosp. Parking Lot	
MW-26	MW-10	H40	Providence Hosp. Parking Lot	
DMW-1	Replaced PW-1		Providence Hosp. Parking Lot	
DMW-2	Replaced MW-17D	Devlaced DW/ 1	Fast Point	
DMW-3		Replaced PW-1	Donahue Auto	Not Located
- (Not Located)	MW-16	 NOV 2	Fast Point	Not Located
- (Not Located)		MW-3 MW-5a	Fast Point	Abandoned 11/25/03
-	-	PW-1	Fast Point	Abandoned 11/25/03
-	-	RW-1 4" diameter	Fast Point	Abandoned 11/25/03
-	MW-15	- manneter	Providence Hosp. Parking Lot	Abandoned 11/25/03

## \* Note-Some well numbers may have changed.

OV Seed

### TABLE 9 SOIL ANALYTICAL RESULTS CLOUD'S CHEVRON SERVICE STATION COLUMBIA, SOUTH CAROLINA MECI PROJECT NUMBER 96-125 SCDHEC SITE ID NUMBER 07777

~ Dr. 1006 by

١	SOUTHER SITE ID NOMBER STITT								70					
	Boring Number	Sample Date	Depth (feet)	Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Xylenes (ug/kg)	Total BTEX (ug/kg)	Naphthalene (ug/kg)	TPH 3550 (mg/kg)	TPH 5030 (mg/kg	TOC mg/kg	Benzo (a) anthracene (ug/kg)	Benzo (b) fluoranthene (ug/kg)
	GPS-1	2/16/97	16-17	432	BDL	BDL	BDL	432	142	BDL	BDL	NT	BDL	BDL
Ì	GPS-2	2/16/97	16-17	BDL	14600	15200	89000	118800	17700	8050	1110	NT	BDL	BDL
	GPS-3	2/16/97	16-17	BDL	27000	42400	248000	317400	16300	BDL	3890	NT	BDL	BDL
	GPS-4	2/16/97	16-17	170	4380	6670	43400	54620	3450	BDL	613	NT	BDL	BDL
	GPS-5	2/16/97	16-17	1190	27400	19000	99500	147090	9460	1100	14500	NT	BDL	BDL
	GPS-6	2/20/97	16-17	BDL	BDL	BDL,	BDL	BDL	BDL	BDL	BDL	NT	BDL	BDL,
	GPS-7	2/20/97	16-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NT	BDL	BDL
	GPS-8	2/20/97	16-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NT	BDL	BDL
	GPS-9	2/20/97	16-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NT	BDL	BDL
	GPS-10	2/20/97	16-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NT	BDL	BDL
	MW-1	11/18/92	19-21	2050	1330	1390	5530.0	10300	NT	NT	3.29	NT.	NT	NT
	MW-2	11/18/92	24-26	1050	2740	512	2750	7052	NT	NT	2.4	NT	NT	NT
	E-WM	11/18/92	19-21	979	1820	935	4980	8714	NT	NT	3.09	NT	NT	NT
	MW-4	11/18/92	19-21	BDL	13.6	9.3	59.8	88.7	NT	NT	BDL	NT	NT	NT
	MW-5	11/18/92	24-26	40200	94600	56300	251000	442100	NT	NT	131	NT	NT	NT
	MW-6	11/18/92	19-21	BDL	BDL	BDL	BDL	BDL	NT	NT	BDL	NT	NT	NT
	TW-6	11/18/92	24-26	38.1	855	604	1840	3337.10	NT	NT	0.86	NT	NT	NT
	TW-8.	11/18/92	24-20	43.7	444.0	544.0	578	1609.70	NT	NT	0.53	NT	NT	NT
	MW-10	3/6/97	13-15	BDL	BDL	BDL	BDL	BDL	BDL.	BDL	BDL	NT	BDL	BDL
	MVV-11	3/3/97	18-20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NT	BDL	BDL
	MW-12	3/3/97	8-10	BDL	BDL	BDL	BDL.	BDL	BDL	BDL	BDL	NT	BDL	BDL
	MW-13	3/6/97	13-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NT	BDL	BDL
	MW-14	3/8/97	18-20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NT	BDL	BDL
	MW-15	3/6/97	18-20	BDL	BDL	BDL	BDL.	BDL	BDL	BDL	BDL	NT	BDL	BDL
	MW-16	3/6/97	18-20	NT	NT	NT	NT	NT	NT	NT	NT	424	BDL	BDL
	MW-17D	3/6/97	18-20	100	123	509	3530	4262	16500	243	296	NT	1490	1430

Notes:

- BDL = Below Sample Detection Limit
   mg/kg = milligrams per kilogram
- 3. ug/kg = micrograms per kilogram
- TPH = Total Petroleum Hydrocarbons (Method 5030 and 3550)
   Analytical Results for Water Samples from Wells Dated in 1992 were Obtained From SCDHEC Files.
- 6. NT= Not Tested

See Figure 17.

## \* Note-some well numbers may have charged.

### TABLE 10

### SOIL ANALYTICAL RESULTS- 8 RCRA METALS CLOUD'S CHEVRON SERVICE STATION COLUMBIA, SOUTH CAROLINA MECI PROJECT NUMBER 96-125 SCDHEC SITE ID NUMBER 07777

Borin Numb		Depth (feet)	Mercury (mg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Silver (mg/kg)
MVV-1	0 3/6/97	13-15	BDL	1.8	1.3	BDL	7.09	BDL	8.81	BDL
MVV-1	1 3/6/97	18-20	BDL	0.76	1.8	BDL	4.98	BDL	3.52	BDL
MVV-1	2 3/6/97	8-10	BDL	0.54	2.5	BDL	7.24	BDL	5.77	BDL
MW-1	3 3/6/97	13-15	BDL	8.5	3.3	1.4	13.3	BDL	18	BDL.
MW-1	4 3/6/97	18-20	BDL	0.62	19.6	BDL	23.4	BDL	3.79	BDL
MW-1	5 3/6/97	18-20	BDL	BDL	2.1	0.52	2.62	BDL	2.56	BDL
MW-1	7 3/6/97	18-20	BDL	BDL	4.7	BDL	10.6	BDL	4.02	BDL

Notes:

- 1. BDL = Below Sample Detection Limit
- 2. mg/kg = milligrams per kilogram

Discuss the horizontal and vertical extent of CoC in the soil:

Based on the field screening and laboratory analytical reports, soils impacted at the site occur from approximately 15 feet below the surface grade to the top of the water table, which averages 18 to 25 feet below the surface. Soils with the highest concentrations of contaminants were found in borings MW-3a, MW-4a, and MW-5a. Boring MW-4a and MW-5a were proximate to the source area of the release at a distance of approximately 20-30 feet. Boring MW-3a is located approximately 80 feet west of the source area.

## F. Chemicals of Concern - Groundwater Defection Limit for Soils Provide well installation in the table below. 2.00 ug/kg

MW Number	Installation Date	Development Date	Sampling Date
MW-1a	03-30-99	03-30-99	06-11-00
MW-2a	03-31-99	03-31-99	06-11-00
MW-3a	03-31-99	03-31-99	Not Sampled
MW-4a	04-02-99	04-02-99	06-11-00
MW-5a	04-05-99	04-05-99	Not Sampled
MW-6a	04-05-99	04-05-99	06-11-00
MW-2	Unknown	Unknown	Not Sampled
MW-3	Unknown	Unknown	Not Sampled
MW-4	Unknown	Unknown	Not Sampled
MW-5	Unknown	Unknown	Not Sampled
MW-6	Unknown	Unknown	Not Sampled
MW-8	Unknown	. Unknown .	Not Sampled

## Enter the soil analytical data for each monitoring well for all CoC in the table below.

©oC .	MW-1a	MW-2a	MW-3a	MW-4a	MW-5a	MW-6a
Depth of Sample (ft.)	18	20	20	20	20	20
Benzene	BDL	BDL	BDL	5.38	BDL	BDL
Toluene	BDL	BDL	.0057	71.4	.0028	BDL
Ethylbenzene	BDL	BDL	BDL	28.0	.0022	BDL
Xylenes	BDL	BDL	.0081	146.0	.0032	BDL
Total BTEX	BDL	BDL	.0138	250.78	.0082	BDL
Naphthalene	BDL	BDL	BDL	12.6	.01	BDL
Benzo(a)anthracene	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(b)flouranthene	BDL	BDL	BDL .	BDL	BDL	BDL
Benzo(k)flouranthene	BDL	BDL	BDL	BDL	BDL	BDL
Chrysene	BDL	BDL	BDL	BDL	BDL	BDL
Dibenz(a,h)anthracene	BDL	BDL	BDL	BDL	BDL .	BDL -
Lead	NT	NT	NT	NT	NT	NT
EDB	NT	NT	NT	NT	NT	NT

See Figure 15

CoC	RBSL	MW-1a	MW-2a	MW-3a	MW-4a	MW-5a	MW-6a
Lead	Site Specific	130.	27,000.		66.	NA	45.
Nitrates	NA	8,200.	14,000.		8,400.	NA	4,400.
Sulfates	NA	96,000.	250,000.		140,000.	NA	62,000.

Additional Comments: All analytical data for groundwater results are reported in parts per billion (ug/L). Monitoring well MW-5a was not accessible because of a layer of concrete covering the well manhole which stemmed from concrete resurfacing at the subject site.

### G. Aquifer Characteristics

*Hydraulic Conductivity:* The hydraulic conductivity at the subject site ranges from 5.06 x 10<sup>-7</sup> cm/sec. to 1.91 x 10<sup>-6</sup> cm/sec.

Hydraulic Gradient: The hydraulic gradient at the subject site was determined to be 2.1 ft per 300 ft. or 0.007 ft/ft.

*Porosity:* The effective porosity at the site has been estimated to be 35% based on the results of a sieve analysis of soil collected from boring MW-5a.

Estimated Seepage Velocity: The estimated seepage velocity at the site ranges from 0.12 ft./yr. to 0.40 ft./yr.

The slug test data and the corresponding graphs are presented in Appendix D.

## Table 12 PID Field Readings Handy Pantry #65 & Clouds Chevron

Columbia, SC - USTs #07584 & #07777 Sample Date 4 8 12 16 24 28 32 36 20 40 44 48 52 56 60 64 PID SB-1 02/08/05 0.0 0.0 0.0 0.0 13.6 436 436 SB-2 02/08/05 0.0 0.0 1.4 2.0 45.6 370 370 SB-3 02/08/05 0.0 0.8 1.3 3 10.6 17.1 17.1 SB-4 02/08/05 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 SB-5 02/08/05 0.0 0.0 0.0 4.5 6.8 2.3 2.3 SB-6 02/08/05 0.0 0.0 0.0 0.0 0:0 0.0 0.0 SB-7 02/08/05 1.8 2.4 5.0 26 126 211 211 SB-8 02/09/05 1.2 2.7 6.0 19.2 26.9 32.4 40.1 32.4 SB-9 02/09/05 0.5 3.1 6.2 12.1 12.4 26.9 26.9 SB-10 02/09/05 0.2 0.3 0.9 5.1 6.0 8.8 8.8 SB-11 02/09/05 1.3 2.1 2.9 62.6 222 232 232 SB-12 02/09/05 2.5 5.1 5.7 57.5 39.4 19.4 19.4 02/09/05 SB-13 0.3 0.6 1.2 1.8 9.7 13.5 13.5 SB-14 02/09/05 1.3 2.5 5.3 11.2 22.1 0.0 46 45.5 SB-15 02/10/05 0.5 3.2 5.2 8.0 9.2 21.3 21.3 SB-16 02/10/05 1.4 2.4 2.7 4.6 3.0 5.1 129.0 11.9 SB-17 02/10/05 0.0 0.0 1.2 1.0 1.2 2.3 0.0 2.0 SB-18 02/10/05 0.0 8.0 2.4 2.4 2.5 6.0 152 152 SB-19 02/10/05 0.0 0.0 10.8 53.4 10.2 60.2 7.2 60.2 SB-20 02/10/05 0.0 0.0 6.4 20.4 35.1 40.3 2.3 19.4 SB-21 02/10/05 0.0 1.2 1.6 8.3 18.6 40.2 63.4 63.4 SB-22 02/11/05 0.0 0.0 1.2 10.3 31.2 4.9 90.2 90.2 SB-23 02/11/05 3.4 12.3 85.2 6.2 275 353 196 196 SB-24 02/11/05 1.2 4.9 6.4 10.3 18.6 35.4 818 818 SB-25 02/11/05 0.0 1.1 8.3 22.7 387 402 402 SB-26 02/11/05 1.3 15.2 109 115 232 173 60.1 60.1 SB-27 02/15/05 0.0 0.0 0.9 12.5 53.9 102 303 303 SB-28 02/15/05 0.0 0.0 3.3 31.9 41.2 92.1 397 397 SB-29 02/15/05 0.0 0.0 1.2 12.1 34.6 76.2 356 356 SB-30 02/15/05 0.0 0.0 5.6 25.9 31.4 77.7 418 75 SB-31 02/15/05 0.0 1.8 3.2 50.0 18.8 10.1 12.8 SB-32 02/15/05 0.0 0.0 0.0 0.0 4.4 14.8 10.8 SB-33 02/15/05 0.0 0.0 21.2 81.9 542 28.7 127 SB-34 02/15/05 0.0 0.0 0.0 43.5 40.4 245 SB-35 02/16/05 0.0 0.0 0.0 21.6 122 122 SB-36 02/16/05 0.0 0.0 47.9 58.0 1.2 1,2 SB-37 02/16/05 0.0 0.0 3.4 14.2 6.1 6.1 SB-38 02/16/05 0.0 0.0 0.0 0.0 SB-39 02/16/05 0.0 0.0 0.0 0.0 0.0 6.2 0.0 6.2 SB-40 02/16/05 0.0 0.0 0.0 0.0 0.0 0.0 SB-41 02/16/05 0.0 0.0 0.0 0.0 2.8 13.4 10.4 SB-42 02/16/05 0.0 0.0 0.0 1.2 20.6 80.4 303 303 SB-43 02/16/05 0.0 0.0 0.0 6.3 91.4 80.4 274 274 SB-44 02/16/05 0.0 0.0 0.0 1.4 6.3 21 101 54.2

44.7 13.2 630 23.6 sample Date 8 12 40 44 48 52 64 16 24 28 32 360 56 60 wooder

378

Sample

95.1

378

PID

See Figure 6

0.0

0.0

0.0

0.0

0.0

0.0

3.9

0.0

10.1

6.2

6.2

95.1

7.4

SB-45

SB-46

SB-47

02/16/05

02/17/05

02/17/05

0.0

0.0

Sample Date 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 PID

	OLUM STORY	dimension and	1 Commence	Transaction .	No. de la constanta		-		J-	20		1 1	10				4	PID
Sample	Date	4	8	12	16	20	24	28	32	36	40	44	48	52	56.	60	64	vvater Samp PID
SB-48	02/17/05	0.0	0.0	0.0	0.0	2.7	6.3	27.9					A State Singular		de leganesiane	The state of the s	· ·	4.7
SB-49	02/17/05	0.0	0.0	0.0	0.0	0.0	0.0	4.0					10 105					4.0
SB-50	02/17/05	0.0	0.0	0.0	0.0	0.0	0.0					1						0.0
SB-51	02/17/05	0.0	0.0	0.0	0.0	0.0	0.0	15							-			0.0
SB-52	02/17/05	0.0	4.6	94.7	60.7	12.3		-										12.3
SB-53	02/17/05	0.0	0.0	0.0	0.0	0.0								T-				0.0
SB-54	02/17/05	0.0	0.0	0.0	0.0	0.0	0.0				<b> </b>							0.0
SB-55	02/17/05	0.0	0.0	0.0	0.0	0.0	1.2	2.3								1		1.5
SB-56	02/22/05	0.0	0.0	0.0	0.0	1.2	3.4	5.3										4.5
SB-57	02/22/05	0.0	0.0	-10.2	12.5	22.5	29.2	914		1	1		,					914
SB-58	02/22/05	0.0	0.0	0.0	3.2	5.6	7.9	12.7			1	1		1		<b>†</b>		12.7
SB-59	02/22/05	0.0	0.0	0.0	1.4	4.6	7.2	10.1										10.1
SB-60	02/22/05	0.0	0.0	0.0	.0.0	1.1	1.2	2.3			1.							2.3
SB-61	02/22/05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									0.0
SB-62	02/22/05	0.0	0.0	0.0	0.0	5.1	6.8	37.9										37.9
SB-63	02/22/05	0.0	0.0	0.0	0.0	0.0	0.0								201.1311112			0.0
SB-64	02/23/04	0.0	1.5	8.1	10.8	15.6	41.4	1015							0 221			1841
SB-65	02/23/04	0.0	0.0	1.3	3.4	8.4	18.8	60.7										83.1
SB-66	02/23/04	0.0	0.0	0.0	1.2	2.5												2.5
SB-67	02/23/04	4.1	6.2	14.5														6.2
SB-68	02/23/04	4.0	4.4	13.9														6.0
SB-69	02/23/04	0.8	5.0	3.2														3.2
SB-70	02/23/04	3.5	5.9	13.7														13.7
SB-71	02/23/04	1.2	0.0	13.7														13.7
SB-72	02/23/04	0.0	0.0	0.0	0.0	5.6	12.4	104										104
SB-73	02/23/04	0.0	0.0	0.0	1.2	4,2	6.4	6.5										6.5
SB-74	02/23/04	0.0	0.0	0.0	0.0	1.2	5.2	36.8								12.5		36.8
SB-75	02/23/04	0.0	0.0	0.0	0.0	0.0	0.5	3.2										1.4
SB-76	02/23/04	0.0	0.0	0.0	0.0	0.0	6.2	7.4										7.4
SB-77	02/23/04	0.0	0.0	2.7	6.3	12.0	25.1	105										105
SB-78	02/23/04	0.0	0.0	0.0	4.5	7.9	62.3	205										184
SB-79	02/24/05	0.0	0.0	0.0	0.0	0.0	0.0	0.0										0.0
WS-1	02/24/05																	31 ft
WS-2	02/24/05						•											26 ft
WS-3	02/24/05																	24 ft
WS-4	02/24/05																	14 ft
WS-5	02/24/05																	14 ft
WS-6	02/24/05						8206-											24 ft
WS-7	02/24/05																	28 ft
WS-8	02/24/05																	28 ft
WS-9	02/24/05			- 0,-		-												28 ft
WS-10	02/24/05																-	14 ft dry
WS-10a DSB-1	02/24/05	10		0.1	-10										*			16 ft
	02/24/05 borings are d	4.3	6.5		12.4	20.1	60.7	387	1923	1975	1342	1219	987	875	912	443	195	

WS borings are direct-push groundwater samples only

See Figure 6

Table 13
BTEX and PNA Analytical Results (mg/kg)
Handy Pantry #65 & Clouds Chevron
Columbia, SC - USTs #07584 & #07777

Sample	Date :	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
RBSL		0.007	1.45	. 1.15	14.5	0.036
MW-57	03/21/05	0.120	0.064	0.011	0.038	<0.004
MW-58	03/22/05	0.481	0.008	0.054	0.023	0.032
MW-56	03/21/05	<0.001	<0.001	<0.001	<0.001	<0.004
MW-54	03/22/05	0.015	< 0.002	<0.002	< 0.002	<0.006
MW-53	03/22/05	0.017	<0.002	<0.002	< 0.002	<0.005
MW-52	03/23/05	< 0.002	< 0.002	<0.002	< 0.002	<0.004
MW-45	03/24/05	< 0.002	< 0.002	<0.002	< 0.002	<0.004
MW-43	03/24/05	< 0.002	< 0.002	<0.002	<0.002	<0.004
MW-47	03/31/05	< 0.002	<0.002	<0.002	<0.002	<0.004
MW-49	03/31/05	<0.002	<0.002	<0.002	< 0.002	<0.004
MW-28	03/31/05	< 0.002	< 0.002	<0.002	< 0.002	<0.004
MW-33	03/30/05	0.818	2.400	0.292	1.450	<0.192
MW-32	03/30/05	0.017	0.331	0.553	1.920	0.876
MW-35	03/30/05	0.032	0.081	0.058	0.144	0.015
MW-36	03/30/05	0.020	0.053	0.025	0.100	0,112
MW-34	04/01/05	<0.074	0.466	0.174	0.954	<0.185
MW-37	04/01/05	0.100	0.066	0.072	0.111	0.035
MW-38	04/04/05	< 0.002	<0.002	<0.002	<0.002	<0.005
MW-39	04/04/05	<0.002	0.006	<0.002	0.005	0.010
MW-41	04/04/05	0.121	0.660	0.172	0.693	0.073

Sample Date Benzene Tollene Ethylbenzene Xylene Naporthalene

See figure 7

Table (4
Groundwater Field Parameter Measurements
Handy Pantry #65 & Clouds Chevron
Columbia, SC - USTs #07584 & #07777

Control of the contro			- CD13 #07304 & #07777						
Well Number	Date	Dissolved oxygen .mg/l	рН	Temperature Degrees Celcius	Conductivity us/em				
MW-1	11/18/03	NA	5.3	23.5	101				
	04/19/05	3.1	5.4	18.1	183				
, MW-2	11/18/03	NA	5.2	23.8	95				
	04/19/05	3.2	4.8	19.0	125				
MW-3	10/27/03	NA	7.1	22.6	134				
	04/19/05	1.1	4.9	17.1	845				
MW-4	11/18/03	NA	5.6	24.7	114				
13	04/19/05	3.6	6.0	19.1	246				
MW-5	10/27/03	NA	7.9	21.8	184				
	04/19/05	2.9	6.0	19.8	84				
MW-6	11/18/03	NA	5.1	24.5	124				
	04/19/05	2.0	5.4	20.0	762				
MW-7	11/18/03	NA	4.9	24.3	105				
	04/19/05	3.4	5.8	20.1	146				
MW-8	11/18/03	NA	4.9	24.6	85				
66	04/19/05	4.0	7.0	19.5	113				
MW-9	11/18/03	LPH	LPH	LPH	LPH				
	04/19/05	1.8	5.2	20.2	794				
MW-10	11/18/03	LPH	LPH	LPH	LPH				
	04/19/05	1.3	5.1	20.1	1243				
MW-11	11/18/03	NA	4.8	22.8	65				
	04/19/05	2.4	7.2	20.8	346				
MW-12	11/18/03	NA	5.5	25.7	229				
	04/21/05	3.2	6.4	19.4	107				
MW-13	11/18/03	NA	4.6	23.8	192				
	04/21/05	3.6	6.0	18.3	336				

MW

Date

Dissolved

PH

(°C) Liston

(mg/l)

MW

Date

Dissolved pH oxygen(mgll) PH Temperature Conductivity

1322 (0) 61 1/234	PER PER STATE OF	e Kololeste Jis	TELEVICE CONTROL	T.E. War	27.5 7.5 <u>1</u>	
Well Number	Date	Dissolved oxygen mg/I	рE	Temperature Degrees: Celcius	Conductivity us/cm	
MW-15	11/18/03	LPH	LPH	LPH	LPH	
	04/19/05	1.4	5.4	17.9	813	
MW-16	11/18/03	NA	6.9	23.1	353	
	04/21/05	1.8	5.1	18.6	722	
MW-17	11/18/03	LPH.	ĹPH	LPH	LPH	
	04/21/05	1.4	4,9	19.2	694	
MW-18	10/29/03	LPH	LPH	LPH	LPH	
	04/20/05	1.0	5.2	19.6	988	
MW-19	10/29/03	LPH	LPH	LPH	LPH	
	04/20/05	1.2	5.1	19.6	617	
MW-20	10/29/03	NA	4.7	21.1	568	
	04/20/05	3.6	6.3	18.4	139	
MW-21	10/29/03	NA	5.5	20.2	580	
	04/20/05	Destroyed	Destroyed	Destroyed	Destroyed	
MW-22	11/25/03	NA	5.5	23.1	255	
	04/20/05	4.1	6.8	18.3	97	
MW-23	11/25/03	NA	5.5	23.1	97	
	04/20/05	2.9	6.5	19.6	86	
MW-24	11/25/03	NA	4.7	24.3	102	
	04/20/05	3.2	6.4	20.1	72	
MW-25	10/29/03	NA	6.1	19.6	589	
	04/20/05	2.4	6.0	18.4	804	
MW-26	11/25/03	NA	4.5	24.1	89	
	04/21/05	2.4	6.2	. 19.2	83	
MW-5a	11/25/03	NA	6.7	22.9	95	
MW-5aR	04/20/05	3.4	5.2	18.3	143	
PW-1	10/29/03	NA	5.9	21.2	571	
PW-1R	04/20/05	3.2	5.3	19.2	119	
RW-1	10/29/03	LPH	LPH	LPH	LPH	
RW-1R	04/20/05	2.0	6.0	18,1	72	
MW-27	04/20/05	3.1	6.4	18.4	94	
MW-28	04/20/05	3.6	7	19.1	105	
MW-29	04/20/05	3.7	7.4	18.4	83	
MW-30	04/20/05	3.1	6.3	17.8	41	

MW Date Dissolved pH Temperature Conductivity oxygen myld pH °C uslan

		Oxygen myla			Ms/an
Well Number	Date	Dissolved oxygen mg/l	Hq	Temperature Degrees Celcius	Conductivity us/cm
MW-31	04/20/05	3.0	6.4	16.1	125
MW-32	04/21/05	2.8	6.9	18.4	215
MW-33	04/20/05	2.9	6.4	19.2	. 106
MW-34	04/20/05	3.1	7.1	18.3	113
MW-35	04/20/05	3.4	7.3	19.4	162
MW-36	04/20/05	3.8	6.1	20.1	168
MW-37	04/20/05	3.9	6	18.1	149
MW-38	04/20/05	2.4	6.7	20.0	131
MW-39	04/20/05	3.1	6.0	18.3	189
MW-40	04/20/05	3.0	6.7	17.9	174
MW-41	04/20/05	3.3	6.3	19.4	93
MW-42	04/20/05	3.0	6.3	19.3	62
MW-43	04/21/05	2.6	6.1	19.7	110
MW-44	04/21/05	2.8	6.7	18.6	234
MW-45	04/21/05	2.4	6.2	19.4	185
MW-46	04/21/05	3.0	6.3	18.3	106
MW-47	04/21/05	3.2	6.9	18.1	115
MW-48	04/21/05	2.5	7.0	18.5	245
MW-49	04/21/05	3.0	6.1	19.8	210
MW-50	04/21/05	3.1	6.4	18.7	116
MW-51	04/21/05	3.1	6.7	20.1	. 84
MW-52	04/21/05	3.0	6.5	18.8	135
MW-53	04/21/05	3.4	6.5	18.9	72
MW-54	04/21/05	2.9	6.7	18.1	64
MW-55	04/21/05	2.8	6.4	18.9	74
MW-56	04/21/05	3.4	6.3	19.2	81
MW-57	04/21/05	2.0	6.2	18.4	76
MŴ-58	04/21/05	2.1	6.1	19.1	84
MW-59	04/21/05	3.6	6.3	18.3	115
MW-60	04/21/05	3.6	6.4	17.2	96

MW Date

Dissolved Oxygen mgll

PH

Temperature conductivity

		mgix			· Justica	
Well Number	Date	Dissolved oxygen -mg/l	Hq	Temperature Degrees Celcius	Conductivity us/cm	
DW-I	10/27/03	. NA	10.9	21.0	1150	
	04/20/05	3.1	7.8	18.3	484	
DW-2	10/27/03	NA	9.7	20.7	. 147	
	04/20/05	3.0	7.9	16.9	42	
DW-3	12/30/03	NA	10.8	22.1	1232	
	04/20/05	1.4	7.7	18.1	796	
DW-4	04/21/05	2.9	6.3	18.6	142	
DW-5	04/21/05	3.1	6.3	18.7	64	
DW-6	04/20/05	3.6	6.4	19.0	52	
DW-7	04/21/05	2.9	6	19.3	144	
DW-8	04/21/05	4.0	5.7	19.1	131	
Creek	11/18/03	NA	NA	NA	NA	
SW-1	04/21/05	1.9	5.1	22.4	319	
DW-9	05/17/05	5.0	6.6	22.2	68	
MW-61	05/17/05	4.0	5.3 ·	24.6	142	
MW-62	05/17/05	3.9	4.8	24.2	398	
MW-63	05/17/05	4.1	5.1	23.5	169	
MW-64	05/17/05	. 2.9	5.6	23.9	143	
MW-65	05/17/05	2.0	5.4	24.8	217	
MW-66	05/17/05	3.2	5.9	24.2	29	
MW-67	05/17/05	4.1	5.3	25.0	68	
MW-68	05/18/05	3.9	6.2	25.4	112	
MW-69	05/18/05	2.4	5.7	27.1	85	
MW-70	05/18/05	3.5	5.9	26.4	69	

Note:

<sup>1)</sup> The temperature was measured in degrees Celcius

<sup>2)</sup> NA - Not available

Table 15

Water Level Data, Handy Pantry - Taylor St. Columbia, South Carolina.

<u> </u>		1000000		1000000	81	*****							
easured 6/93	WTE	273.94	273.45	272.32	272.10	273.40	272.08	271.98	272.05	272.05	274.17	272.60	
Date Measured 8/26/93	DTW	21.18	21.96	23.92	24.88	23.00	24.14	22.79	22.45	24.64	20.73	22.62	!
easured /93	WTE	274.27	273.77	272.66	272.42	273.76	272.45	272.34	272.37	272.45	274.52	272.98	270.51
Date Measured 8/5/93	DTW	20.85	21.64	23.58	24.56	22.64	23.77	22.43	22.13	24.24	20.38	22.24	24.79
Measured 7/28/93	WTE	274.42	273.91	272.84	272.68	1	ŀ	1	ŀ	1	-	1	
Date Measured 7/28/93	DIW	20.70	21.50	23,40	24.30	I	l	l	I	1	ļ	1	
feasured 7/92	WTE	273.09	272.71	271.66	271.53	1	I	1	1		!	1	
Date Mo 2/7	DTW	22.03	22.70	24.58	25.45		I	1		1	ļ	1	-
Measuring Point	Elevation	295.12	295.41	296.24	296.98	296.40	296.22	294.77	294.50	296.69	294.90	295.22	295.30
Measured	Total Depth	36.0	33.0	30,0	34.0	23.0	29.0	29.2	29.4	30.0	28.0	29.0	50.0
Well	Number	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	RW-1	DW-1

These results correspond to well locations in Figure 21.

Notes:

s: Measuring Point Elevations Estimated from USGS Topographic Map
Fluid Levels Measured with Hydrocarbon Interface Probe
Measuring Point Elevation is Top of Well Casing
DTW - Depth to Water
WTE - Water Table Elevation

Table 16

Ground - Water Sample Laboratory Analytical Results. Handy Pantry Site, Taylor St., Columbia, S.C.

		8/8/03	and the fa	DW-1
		8/5/93		RW-1
		8/5/93		MW-9
		8/5/93	T CARL	MWIG
	201210	6/2/93	B. CTT. 73	/ AM TAT
	016/00	のころろう	NAW A	D AA YAY
ation	0/5/02	56/5/5	MWLS	2 444
ple Identific	277/00	1010	MW-4	
Water Sam	277/92	1	MW-3	
- Ground	27/92 27/92		MW-2	
J	_			

1,000 1,600 2,400 8,300 13,300 BDL BDL 100 K 2 BDL 4,000 14,000 32,000 18,000 68,000 BDL 8 1,600 6,500 BDL 8,300 BDL 4,400 17,000 18,000 4,000 43,400 BDL 150 9,500 4,600 19,000 33,250 350 860 4,500 1,600 14,000 20,960 NA 1,300 19,000 8,900 14,000 43,200 NA (parts per billion - ug/l) 2,600 2,800 1,100 7,500 14,000 Z 2,100 450 2,800 5,650 NA EPA Method 602 Ethylbenzene Total BTEX Benzene **Xylenes** Toluene MTBE

500

Notes: BDL - Below Detectible Limits of the Analytical Laboratory NA - Not Analyzed

These results correspond to well locations in Figure 21

Table 17

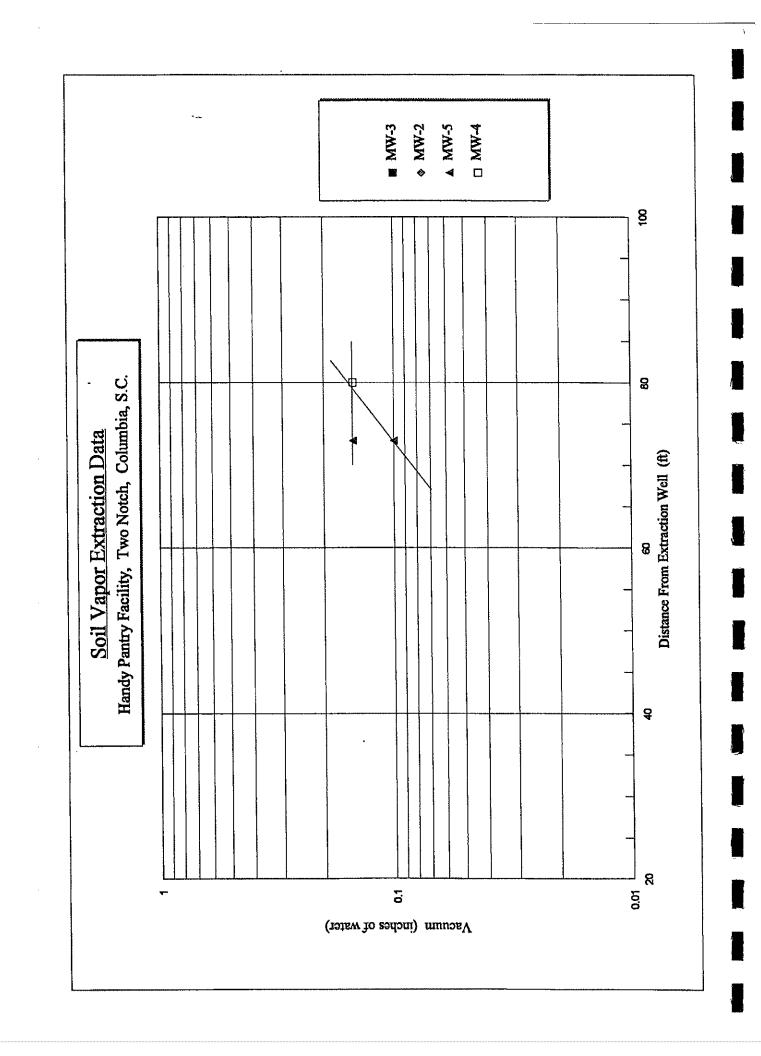
## Soil Vapor Extraction Test Data

Site: Handy Pantry Facility - Taylor St., Columbia

Extraction Well:

RW-1

Date: 8/27/93



{adjusted from API Pub. No. 4410, Sept 1985}

 $Vr \{lb/hr\} = (Vc \{mg/m\}) (2.2x10 lb/mg) (Q\{cfm\}) (28.3x10 m /cfm) {}^{3} (60 m/hr)$ 

Where: Vr = Volatile Organics Removal Rate in pounds per hour

Vc = Total Volatile Petroleum Hydrocarbons in mg per cubic meter

Q = Air Flow Rate in cubic feet per min

 $Q = ((F\{ft/min\}) (r\{ft\})(r\{ft\})(3.1416)) (60\{min\})$ 

Where: F = Air Velocity in feet per minute

R = Radius of Vacuum Extraction Equipment Pipe

Air Velocity = F =  $\frac{500}{0.17}$ Diameter of SVE Pipe = 0.17 R = 0.08333 $Q = \frac{654.50}{0.08333}$ 

 $Vc = \underline{0.2}$ 

Calculated Removal Rate

Vr = 0.0005 lb/hr

Vr = 0.01 lb/day

{adjusted from API Pub. No. 4410, Sept 1985}

 $Vr \{lb/hr\} = (Vc \{mg/m\}) (2.2x10 lb/mg) (Q\{cfm\}) (28.3x10 m /cfm) (60 m/hr)$ 

Where: Vr = Volatile Organics Removal Rate in pounds per hour

Vc = Total Volatile Petroleum Hydrocarbons in mg per cubic meter

Q = Air Flow Rate in cubic feet per min

 $Q = ((F{ft/min}) (r{ft})(r{ft})(3.1416)) (60{min})$ 

Where: F = Air Velocity in feet per minute

R = Radius of Vacuum Extraction Equipment Pipe

Air Velocity = F =  $\frac{700}{0.17}$ Diameter of SVE Pipe = 0.17 R = 0.08333 Q =  $\frac{916.30}{0.00}$ 

 $Vc = \underline{1.7}$ 

Calculated Removal Rate

Vr = 0.0058 lb/hr

Vr = 0.14 lb/day

{adjusted from API Pub. No. 4410, Sept 1985}

 $Vr \{lb/hr\} = (Vc \{mg/m\}) (2.2x10 lb/mg) (Q\{cfm\}) (28.3x10 m /cfm) (60 m/hr)$ 

Where: Vr = Volatile Organics Removal Rate in pounds per hour

Vc = Total Volatile Petroleum Hydrocarbons in mg per cubic meter

Q = Air Flow Rate in cubic feet per min

 $Q = ((F\{ft/min\}) (r\{ft\})(r\{ft\})(3.1416)) (60\{min\})$ 

Where: F = Air Velocity in feet per minute

R = Radius of Vacuum Extraction Equipment Pipe

Air Velocity = F =  $\frac{900}{0.17}$ Diameter of SVE Pipe = 0.17 R = 0.08333 Q =  $\frac{1178.10}{0.08333}$ 

Vc = 1.6

Calculated Removal Rate

Vr = 0.007 lb/hr

Vr = 0.17 lb/day

{adjusted from API Pub. No. 4410, Sept 1985}

 $Vr \{lb/hr\} = (Vc \{mg/m\}) (2.2x10 lb/mg) (Q\{cfm\}) (28.3x10 m /cfm) (60 m/hr)$ 

Where: Vr = Volatile Organics Removal Rate in pounds per hour

Vc = Total Volatile Petroleum Hydrocarbons in mg per cubic meter

Q = Air Flow Rate in cubic feet per min

 $Q = ((F{ft/min}) (r{ft})(r{ft})(3.1416)) (60{min})$ 

Where: F = Air Velocity in feet per minute

R = Radius of Vacuum Extraction Equipment Pipe

Air Velocity = F = 1300Diameter of SVE Pipe = 0.17

R = 0.08333

Q = 1701.70

Vc = 8.1

Calculated Removal Rate

Vr = 0.0515 lb/hr

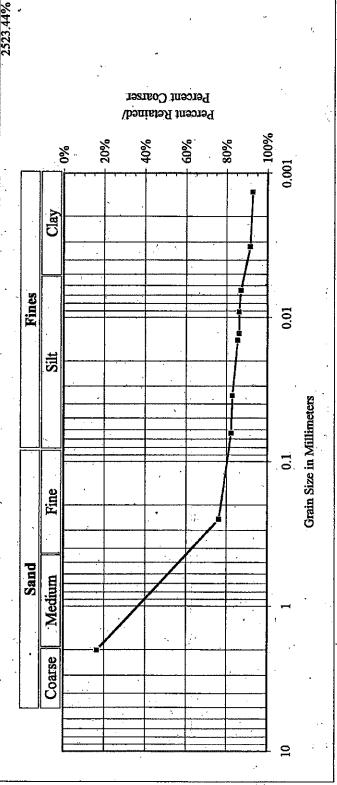
Vr = 1.24 lb/day

# Smith Monitoring Maintenance Engineering, Inc.

## GRAIN-SIZE DISTRIBUTION TEST REPORT

Date: 16-Mar-97	Sample No.: MW-11 (28'-30')		Wt Dry 80.50	%aı
Project: Cloud's Chevron - Columbia	MEC Job Number: 96-125	Site Number 7777	Soil Description:	White clayey medium sand

	1.0045	Percent	Coarser	82.99%	85.62%	86.34%	86.34%	87,30%	91.61%	92.81%	1000 0000
•	Sp. Gravity	, A		0.035	0.014	0.013	0.009	0.006	.0003	0.001	
	READINGS	H	CIII	13.2	13.5	13.6	13.6	13.7	14.2	14.3	
	OMETER REA	L1	CER	7.4	7.7	7.8	7.8	7.9	8 4	9.5	i
	HYDROME	Hydrometer	Reading	1.0116	1.0105	1.0102	1.0102	1.0098	1.0080	1.0075	
		Sample	Interval		12	15	30	9	250	1440	
	,										
			:								
		Mass	Retained, g		13.29	48.24	4.79	. 3			
	YSIS	Cum %	Retained		16.51%	76.43%	82.39%				
`	SIEVE ANALYSIS	Grain	Size, mm	•.	. 2	0.25	0.063		•	••	
	SIE		Sieve Number		10	09	230				
								4			



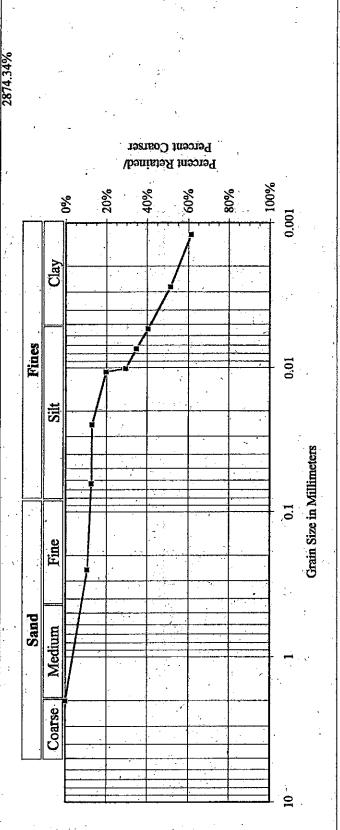
145 Merrill Avenue Decatur, Georgia 30030

# Smith Monitoring Maintenance Engineering, Inc.

## GRAIN-SIZE DISTRIBUTION TEST REPORT

· *				
16-Mar-97	MW-12 (18'-20')	81.09	58.33	39.02%
Date:	No.	Wt Wet	Wt Dry	Moisture%
`				
Cloud's Chevron - Columbia	mber: 96-125	TTT	ion:	Territori de menoremente de menoreme
Project:	MEC Job Nur	Site Number	Soil Descripti	Red silty clay

,										
1.0045	Percent	Coarser	13.00%	19.91%	29.57%	34.82%	40.62%	51.39%	61.33%	7874 340%
Sp. Gravity	Q.	Ш	0.025	0.011	0.010	0.007	0.005	0.003	0.001	
ADINGS	ı	CII	80	7.4	8.4	8.9	9.4	10.4	11.4	
ÆTER RE	Ľ	8	1.0	7.7	2.6	•	,	4.7	5.6	
HYDRON	Hydrometer	Reading	1.0360	1,0335	1.0300	1.0281			1.0185	
	Sample	Interval	7	12	15	30	09	250	1440	
	Mass	Retained, g	*	0.02	6.28	1.12				
YSIS	Cum. %	Retained		0.03%	10.80%	12.72%				
SIEVE ANALYSIS	Grain	Size, mm		7	0.25	0.063				
IIS.		Sieve Number	•	10	09	230				

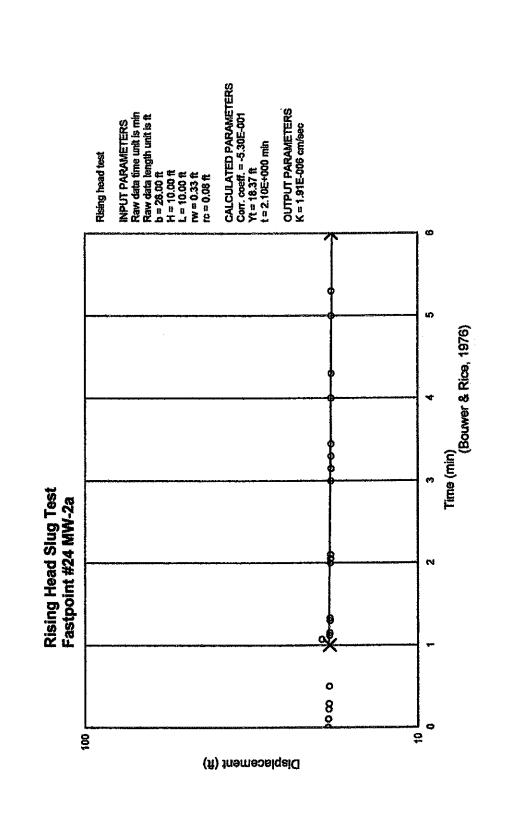


145 Merrill Avenue Decatur, Georgia 30030

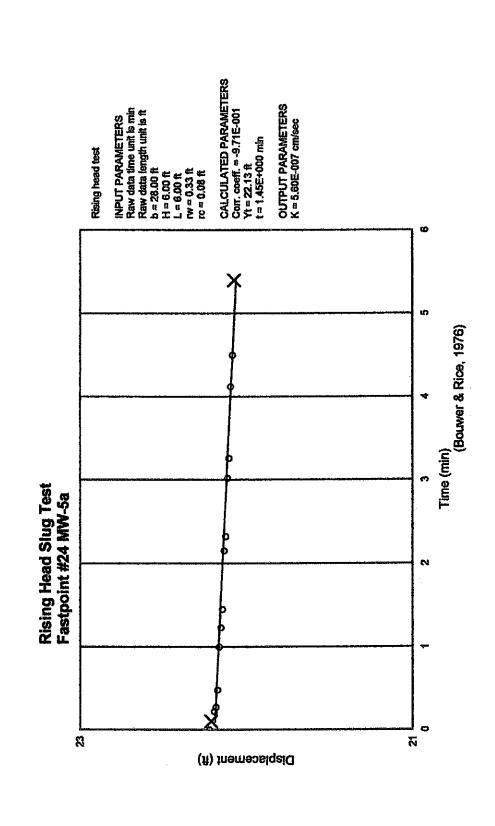


## Summary of Slug Test Division of Underground Storage Tank Management

Site Data							
UST Permit #:		Count	y: <u>Richland</u>				
Facility Name: <u>Fastpoint #24</u>							
Slug Data							
See Appendix Table level logs, etc. (complete as appropriate)].	Figure		_ for a list of all da	ita measurements. [water			
Water Level Recovery Data was measured by <u>Water Level Meter</u> [Hermit Data Logger, Manually with Water Level Indicator, etc. (list method)].							
Complete the following table for each well te	sted.						
COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED							
Slug Test Conducted in Well(s) Number	MW-2a	MW-5a					
Initial Rise/Drawdown in Well (feet)	18.12	22.01					
Radius of Well Casing (feet)	.08	.08					
Effective Radius of Well (feet)	.33	.33					
Static Saturated Aquifer Thickness (feet)	28	28					
Length of Well Screen (feet)	10	10					
Static Height of Water Column in Well (ft)	10	6					
Calculations		<del></del>					
See Appendix Table	Figure	fo	or calculations (cor	mplete as appropriate).			
The method for aquifer calculations was $_{ m Bc}$	ouwer-Rice		(i.e. Bo	uwer-Rice, Cooper, etc.).			
Calculated values by well were as follows:							
Siug Test Conducted in Well(s) Numb	per Mt. 2	a M	W-5a				
Hydraulic Conductivity				ec			
Thickness of the aquifer used to calculate hydr			•				
The aquifer is confined	·						
The estimated seepage velocity is0_012	to 0.040		······································	feet per year based on			
a hydraulic conductivity of $1.91 \times 10-6$ to	5.60×10-7	a hydraulic gradi	ent of00	7 ft/ft and			
a porosity of <u>35</u> percent for _	clayey sand	∃soil (list	type i.e., silty sand	d ,clay, etc).			
DHEC 3531 (07/1999)							



Fastpoint #	24. Columb	oia, SC					
	d Slug Tes						
MW-2a	· · · · · · · · · · · · · · · · · · ·						
Date: 5-18-	99						
				Selected	Selected	Rescaled	
				Time	Draw	(t-t0)	Draw
Time (min.	)			(min)	(ft)	(min)	(ft)
0.05	19.1			0.05	19.1	0	19.1
0.2	18.95			0.2	18.95	0.15	18.95
0.31	18.8			0.31	18.8	0.26	18.8
0.36	18.75			0.36	18.75	0.31	18.75
0.48	18.72			0.48	18,72	0.43	18.72
0.5	18.63			0.5	18.63	0,45	18.63
1	18.58			1	18.58	0.95	18.58
1.1	18.55			1.1	18,55	1.05	18.55
1.22	18.5			1.22	18.5	1.17	18.5
1.29	18.45			1.29	18.45	1.24	18.45
1.5	18.43			1.5	18.43	1.45	18.43
2	18.4			2	18.4	1.95	18.4
2.07	19.39			2.07	19.39	2.02	19.39
2.12	18.38			2.12	18.38	2.07	18.38
2.15	18.35			2.15	18.35	2.1	18.35
2.3	18.33			2.3	18,33	2.25	18.33
2.33	18.32			2.33	18.32	2.28	18.32
3	18.29			3	18,29	2.95	18.29
3.05	18.27			3.05	18.27	3	18.27
3.1	18.26			3.1	18.26	3.05	18.26
4	18.22	······································		4	18.22	3.95	18.22
4.15	18.2			4.15	18.2	4.1	18.2
4.3	18.19			4.3	18.19	4.25	18.19
4.45	18.18			4.45	18.18	4.4	18.18
5	18,18			5	18.18	4,95	18.18
5.3	18.16			5.3	18.16	5.25	18.16
6	18.15			6	18.15	5.95	18.15
6.3	18.15		<del>                                     </del>	6.3	18.15	6.25	18.15
7	18.15			7	18.15	6.95	18.15



Fastpoint #	24, Columb	oia. SC				
	ad Slug Tes					
MW-5a						
Date: 5-18-99			Selected	Selected	Rescaled	
			Time	Draw	(t-tO)	Draw
Time	Draw		(min)	(ft)	(min)	(ft)
0.37	22.25		0.37	22.25	0	22.2
0.49	22.24		0.49	22.24	0.1	22,19
0.55	22.21		0.55	22.21	0.22	22.17
1	22.2		1	22.2	0.27	22,16
1.1	22.19		1.1	22.19	0.48	22.15
1,22	22.17		1.22	22.17	1	22.14
1.27	22.16		1.27	22.16	1.23	22.13
1.48	22.15		1.48	22.15	1.45	22.12
2	22.14		2	22.14	2.15	22.11
2,23	22.13		2.23	22.13	2.32	22.1
2.45	22.12		2.45	22.12	3.02	22.09
3.15	22.11		3.15	22.11	3.26	22.08
3.32	22.1		3.32	22.1	4.12	22.07
4.02	22.09		4.02	22.09	4.5	22.06
4.26	22.08		4.26	22.08	5.4	22.05
5.12	22.07		5.12	22.07		
5.5	22.06		5.5	22.06		
6.4	22.05		6.4	22.05		

Well Number	Type of Material Exposed to Screened Interval	Hydraulic Conductivity (K) (cm/sec)
MW-1A	UNKNOWN	2.87 x 10 <sup>-4</sup>
MW-2A	UNKNOWN	$5.48 \times 10^{-4}$
MW-3	Sandy CLAY	6.96 x 10 <sup>-5</sup>
MW-5	Sandy CLAY	3.33 x 10 <sup>-5</sup>
MW-5A	UNKNOWN	8.09 x 10 <sup>-4</sup>
MW-11	Sandy CLAY	$1.73 \times 10^{-4}$
MW-12	Silty Sand & Silty CLAY	$8.50 \times 10^{-5}$
MW-14	SAND	8.24 x 10 <sup>-6</sup>
MW-16	Sandy CLAY	9.50 x 10 <sup>-7</sup>
MW-17D	Silty CLAY	7.73 x 10 <sup>-7</sup>

### Notes:

Field tests were reduced and the hydraulic conductivities computed using techniques described in NAVFAC Soil Mechanics Design Manual 7.1, May, 1982, Condition A and Condition C (Condition C used on MW-17D).

Soil descriptions from SCDHEC files. Calculations are included in Appendix B.

### 6.4 GROUNDWATER MOVEMENT

Groundwater movement is often related to topography, lithology, elevation of recharge and discharge areas and man-made influences. Referenced groundwater elevations were determined by measuring the top of the monitoring well casing relative to a nearby datum elevation (see Figure 2) measuring the water level in the monitoring well, and computing the reference elevation of the groundwater at the time of measurement.

Directions of groundwater flow were interpolated between monitoring wells by comparing the groundwater elevations at those locations considering the factors listed above. Groundwater levels typically fluctuate with seasonal and rainfall variations.

•	SUMMARY of	SLUG TES	T (page 1	of 3)	-			
SOUTH CAROLINA  Department of Health and Environmental Control (DHEC)								
Site Data								
SITE ID#	7777	COUNTY	Richland					
FACILITY NAME	·	Cloud's C	hevron		<del></del> .	,		
SLUG DATA		-						
· · · · — — — — — — — — — — — — — — — —	Table /el logs, etc.)(Complete			.*	all data mea	asurements.		
(Hermit D Complete the following t	oata Logger, Manualiy v	vith Water L	evel Indicat	or, etc.)(Lis		:D		
Slug Test Conducted in Initial Rise/Drawdown in Radius of well casing (fe Effective Radius of Well Static Saturated Aquifer Length of Well Screen (f	MW-1A 0.09 0.083 0.33 7.31	MW-2A 1.86 0.083 0.33 3.59	MW-3 1.77 0.083 0.35 3.46	MW-5 0.65 0.083 0.35 5.97				
Static Height of Water C	20.69	25.41	22.04	22.53				
Calculations								
See Appendix		Figure NAVFAC		for calculation	ons			
Siug Test Conducted in Hydraulic Conductivity	MW-1A 2.87E-04	MW-2A 5.48E-04	MW-3 6.96E-05	MW-5 3.33E-05	cm/sec			
Thickness of the aquifer used to calculate hydraulic conductivity was N/A feet.  The aquifer is confined semi-confined water table (Check as Appropriate).  SEE SHEET 3  The estimated seepage velocity is feet per year based on a hydraulic conductivity of								
cm/sec, a hydraulic gradient of ft/ft, and a porosity of sercent for soil.								

	`					***************************************			
	SOUTH CAROLINA  Department of Health and Environmental Control (DHEC)								
Site Data									
SITE ID#	7777	COUNTY		Richland					
FACILITY NAME		Cloud's C	hevron	,	· <del></del>				
SLUG DATA									
See Appendix (water le	Table evel logs, etc.)(Complet	Figure e as appropri		for a list of a	all data mea	isurements.			
Water Level Recovery Data was measured by ORS Interface Probe (Hermit Data Logger, Manually with Water Level Indicator, etc)(List Method) Complete the following table for each well tested. COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED									
Slug Test Conducted in Initial Rise/Drawdown i		MW-5A 0.08	MW-11 0,43	MW-12 0.1	MW-14 0.1				
Radius of well casing ( Effective Radius of We	feet)	0.083 0.33	0.083	0.083 0.33	0.083 0.33				
Static Saturated Aquife Length of Well Screen Static Height of Water	6.14 5 23.26	10.02 15 19.98	24.9 15 5.1	14.41 15 15.59					
Calculations				:					
See Appendix Table Figure for calculations The method for aquifer calculations was NAVFAC Calculated values by well were as follows: Slug Test Conducted in Well(s) number MW-5A MW-11 MW-12 MW-14									
Hydraulic Conductivity Thickness of the aquife The aquifer is SEE SH	er used to calculate hydronined	raulic conduc _semi-confir	ned	water table	t. (Check as	Appropriate).			
The estimated seepage cm/sec, percent for	e velocity is a hydraulic gradient of soil.	_feet per yea	ar based on <u>ft/ft,</u> and a		conductivi	ty of			

SUMMARY of SLUG TEST (page 3 of 3)									
SOUTH CAROLINA  Department of Health and Environmental Control (DHEC)									
Site Data									
SITE ID#	77.77	COUNTY		Richland					
FACILITY NAME	ITY NAME Cloud's Chevron								
SLUG DATA			. ,						
	_Table level logs, etc.)(Complete Data was measured by			for a list of		asurements.			
(Hermit Data Logger, Manually with Water Level Indicator, etc)(List Method)  Complete the following table for each well tested.  COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED									
Slug Test Conducted in Initial Rise/Drawdown i	in well (feet)	MW-16 2.09	MW-17D 4.62						
Radius of well casing ( Effective Radius of We Static Saturated Aquife	ell (feet)	0.083 0.33 11.83	0.083 0.33						
Length of Well Screen Static Height of Water	(feet)	15 18.17	14.36 15 44.64						
Calculations									
	See Appendix Table Figure for calculations The method for aquifer calculations was NAVFAC Calculated values by well were as follows:								
Slug Test Conducted in Well(s) number  Hydraulic Conductivity  MW-16 MW-17D    9.50E-07 7.73E-07   cm/sec									
The aquifer is * Enter Va	alues in Shaded Areas Only	_semi-confin	ned X	water table	(Check as	Appropriate).			
2.01E-04 cm/sec,	e velocity is 72.94 a hydraulic gradient of SLAY soil.	_feet per yea 1.40E-02	ar based or ft/ft, and a	n a hydrauli porosity of	c conductivi	ity of			
	VI III	MARY of SLU	IC TEST						

## **Groundwater Seepage Velocity Calculations SOUTH CAROLINA** Department of Health and Environmental Control (DHEC) Site Data SITE ID# 7777 Richland FACILITY NAME Cloud's Chevron **Hydraulic Conductivity (average)** Hydraulic Conductivity Average = 2.01E-04 cm/sec 5.71E-01 ft./day 3.96E-04 ft./min **Groundwater Seepage Velocity** V = (Ki)/(Ne)\* Enter Values in Shaded Areas Only (ft./day) where: K = Hydraulic Conductivity (ft./day) I = Hydraulic Gradient (ft./ft.) Ne = Effective Permeability K= 5.71E-01 ft./day -**I** = 1.00E-02 ft./ft. 0.04 Ne = V = 1.43E-01 ft./day 52.10 ft./year **Groundwater Seepage Velocity Calculations**

## Inflow for Type II Well MW-1A

## **Inflow Permeability Calculation**

Cloud's Chevron

Test Performed: 4/9/97

MW-1A

Type II (Uncased Well)

Static:	20.69	ft		*Enter Values in Shaded Areas Only				
Time (min)	Depth	delta H	Ht/Ho	Information from data and plot of Ht/H0 vs time				
0.50	20.78	0.09	1.00	Bore Hole Diameter: 8 in				
1.00	20.77	0.08	0.89	Total Depth of Well: 28 ft				
2,00	20.75	0.06	0.67	Stand Pipe Area: 50.27 in^2				
4,00	20,73	0.04	0.44		^2			
7.00	20.71	0.02	0.22	Coordinates from Graph for Slope Calc:				
9.50	20.70	0.01	0.11	H1/Ho: 1				
		-		t1:		0.5 m	in	
				H2/	0.89			
				t2:		1 n	in	
		ı						
				ı				
				H1:	0.09	H2:	0.08	
		•		t1:	0.50	12:	1.00	
				Radius	R:	4.00 in	ļ	
				Radius	R:	0.33 ft		
				Depth	D:	7.31 ft		
					R/D:	0.046		
1				:	D/R:	21.93		
							(	

Shape Factor Determination Value:

0.99 \*

\*This value is used in conjunction with

Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor

S:

0.1

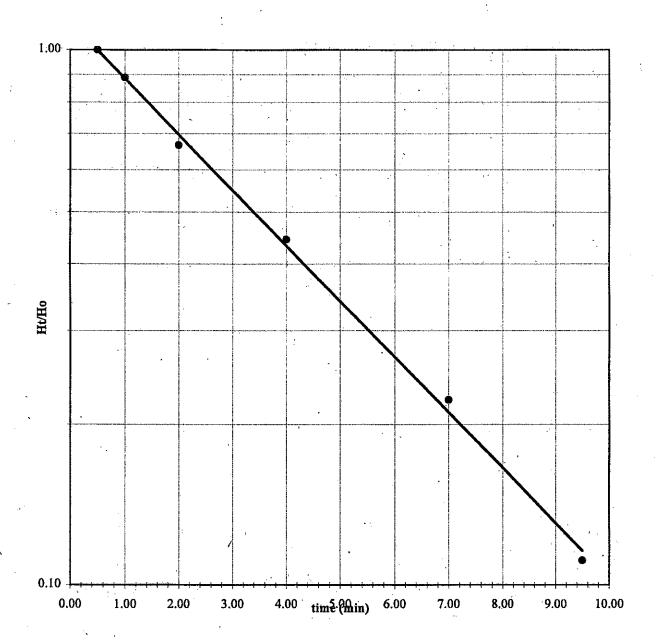
Coeff. of Permeability (K):

5.64E-04 ft/min

8.13E-01 ft/day

2.87E-04 cm/sec

Ref [1]: Naval Fac. Engr. Command, Design Manual 7.01, soil Mechanics





# Inflow for Type II Well MW-2A

# Inflow Permeability Calculation

Cloud's Chevron

Test Performed: 4/9/97

Type II (Uncased Well)

Static:	25.41	ft		*Enter Values in Sh	aded Areas	Only	
Time (min)	Depth	delta H	Ht/Ho	Information from data		=	me
0.50	27.27	1.86	1.00	Bore Hole Dia		8 in	
1.00	27.05	1.64	0.88	Total Depth of	f Well:	29 ft	•
2,00	26.68	1.27	0.68	Stand Pipe	Area:	50.27 in^2	)
3,50	26.15	0.74	0.40			0.35 ft^2	;
4.50	25.82	0.41	0.22	Coordinates from	Graph fo	r Slope Calc:	,
5.50	25.70	0.29	0.16	H1/		0.88	
6.50	25.60	0.19	0.10	t1:	300 300 300	l min	. •
				H2/	Но:	0.16	
				t2:		5,5 min	,
						,	
					:		
			-	H1:	1.64	H2:	0.30
				t1:	1.00	12:	5.50
				Radius	R:	4.00 in	
		-:		Radius	·R:	0.33 ft	
				Depth	<b>D</b> : ]	3.59 ft	
					R/D:	0.093	
				· · · · · · · · · · · · · · · · · · ·	D/R:	10.77	)
				,		•	S

Shape Factor Determination Value:

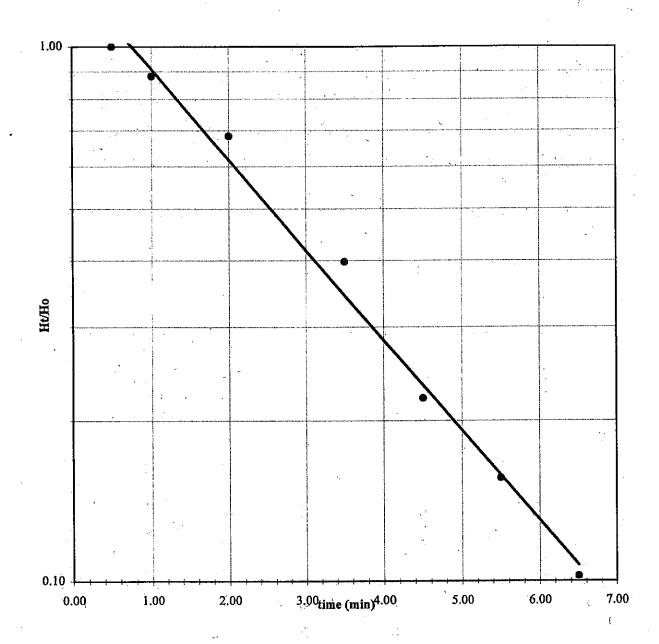
0.73

\*This value is used in conjunction with

Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor

Coeff. of Permeability (K): 1.08E-03 ft/min 1.55E+00 ft/day 5.48E-04 cm/sec



Midlands
Environmental
Consultants, Inc.

Cloud's Chevron

**MW-3** 

Test Performed: 4/9/97

Type II (Uncased Well)

				- <b>7                                   </b>	<b>,</b>		
Static:	22.04	ft		*Enter Values in S	Shaded Areas	Only	
Time (min)	Depth '	delta H	Ht/Ho	Information from dat	a and plot	of Ht/H0	vs time
2.00	23.81	1.77	1.00	Bore Hole D	iameter:	8.5	in
3.00	23.69	1.65	0.93	Total Depth	of Well:	25.5	ft
4.00	23.59	1.55	0.88	Stand Pip	e Area:	56.75	in^2
6,00	23.41	1.37	0.77	1		0.39	ft^2
9.00	23.19	1.15	0.65	Coordinates from	Graph fo	r Slope C	alc:
14.00	22.88	0.84	0.47	H:	l/Ho:	0.93	
39.00	22.38	0.34	0.19	t1:	· · · · · · · · · · · · · · · · · · ·	3	min
				HZ	2/Ho:	0.19	,
		,		t2:	1000 1000 1000	39	min
***************************************							
				H1:	1.65	H2:	0.34
				t1:	3.00	t2:	39.00
	***************************************			Radius	R:	4.25	in
		:		Radius	<b>R</b> :,	0.35	ft
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	111111111111111111111111111111111111111			Depth	D:	3.46	ft
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				R/D:	0.102	
				-	D/R:	9.77	

Shape Factor Determination Value:

0.71 \*

\*This value is used in conjunction with

Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor

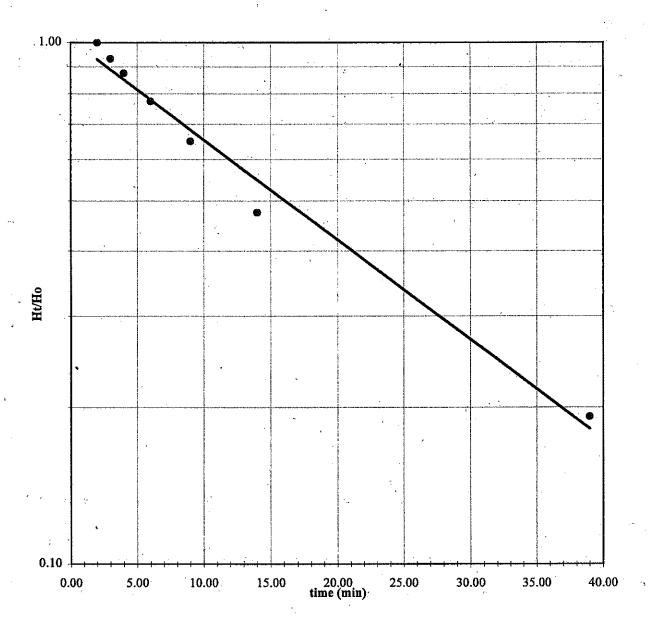
1.7

Coeff. of Permeability (K):

1.37E-04 ft/min

1.97E-01 ft/day

6.96E-05 cm/sec



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Consultants Inc.

Cloud's Chevron

MW-5

22.53 ft

Static:

Test Performed: 4/9/97

Type II (Uncased Well)

\*Enter Values in Shaded Areas Only

		·	·	Lines values in chance rivers only
Time (min)	Depth	delta H	Ht/Ho	Information from data and plot of Ht/H0 vs time
1.00	23.18	0.65	1.00	Bore Hole Diameter: 8.5 in
2.00	23.10	0.57	0.88	Total Depth of Well: 28.5 ft
3.00	23.05	0,52	0.80	Stand Pipe Area: 56.75 in^2
5.00	22.98	0.45	0.69	0.39 ft^2
25.00	22.72	0.19	0.29	Coordinates from Graph for Slope Calc:
41.00	22.66	0.13	0.20	H1/Ho: 0.69
65.00	22.61	0.08	0.12	t1: 5 min
				H2/Ho: 0.2
				t2: 41 min
				$\mathcal{A}^{\prime}$
			;	H1: 0.45 H2: 0.13
		\		t1: 5.00 t2: 41.00
			,	Radius R: 4.25 in
	***************************************			Radius R: 0.35 ft
				Depth D: 5.97 ft
				R/D; 0.059
				D/R; 16.86
			:	

Shape Factor Determination Value:

0.95 \*

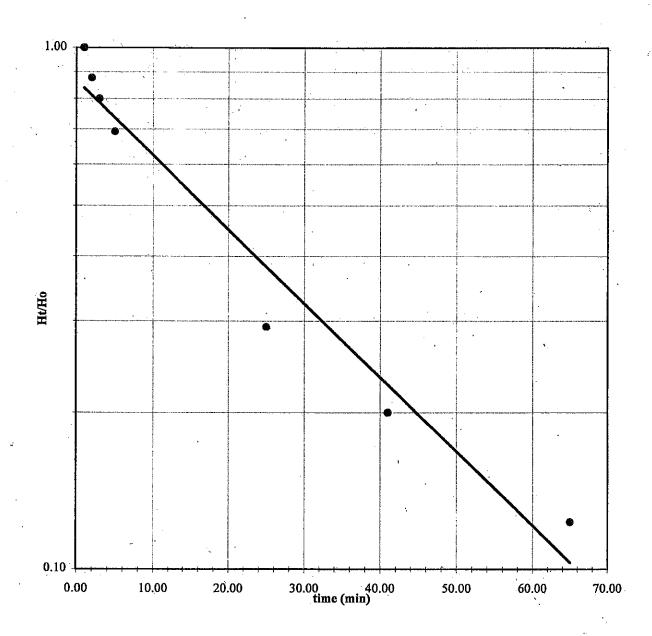
\*This value is used in conjunction with

Figure 13 of Reference [1] to obtain the shape factor.

**Shape Factor** 

0.5

Coeff. of Permeability (K): 6.56E-05 ft/min 9.45E-02 ft/day 3.33E-05 cm/sec





# Inflow for Type II Well MW-5A

# **Inflow Permeability Calculation**

Cloud's Chevron

Test Performed: 4/9/97

•	MW	′-5A		Type II (Unca	sed Well	 )	
Static:	23.26	ft	,	*Enter Values in S	haded Areas	s Only	
Time (min)	Depth	delta H	Ht/Ho	Information from data	and plot	of Ht/H0	vs time
0.50	23,34	0.08	1.00	Bore Hole Di	ameter:	8	in
1.00	23.30	.0.04	0.50	Total Depth o	of Well:	29,4	ft
1,50	23.28	0.02	0.25	Stand Pipe	e Area:	50.27	in^2
2,00	23.27	0.01	0.12			0.35	ft^2
				Coordinates from	Graph fo	or Slope C	alc:
				H1	/Hō:		
				- t1:		0.5	min
				. H2	/Ho:	0.12	
				12:		2	min
							•
		-		,	1		
		-		H1: ¬	0.08	H2:	0.01
	1			t1:	0.50	t2:	2.00
				Radius	R:	4.00	in
				Radius	R:	0.33	ft
				Depth	D:	6.14	ft
					R/D:	0.054	
					D/R:	18.42	

Shape Factor Determination Value:

0.99 \*

"This value is used in conjunction with

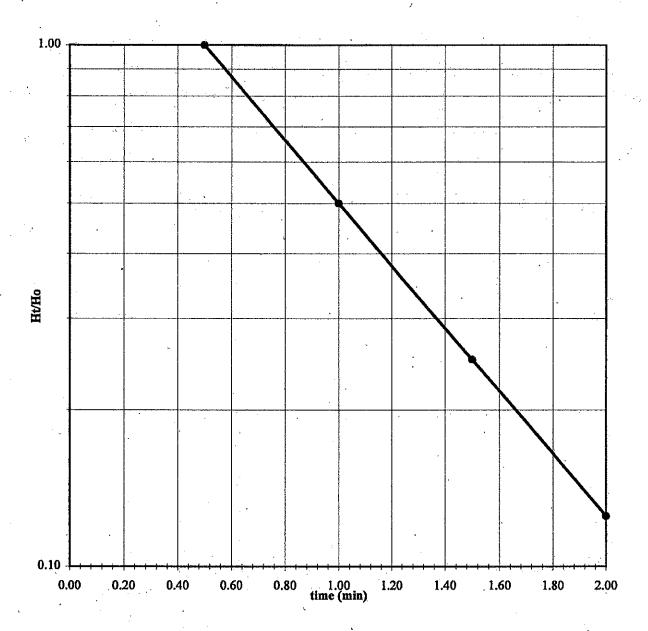
Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor

S: 0.1

Coeff. of Permeability (K): 1.59E-03 ft/min 2.29E+00 ft/day

8.09E-04 cm/sec





Cloud's Chevron-

Test Performed: 4/9/97

MW-11

Type II (Uncased Well)

Static:	19.98	ft .		*Enter Values in S	haded Area	s Only	
Time (min)	Depth	delta H	Ht/Ho	Information from data	a and plot	of Ht/H0 vs t	ime
0.50	20.41	0.43	1.00	Bore Hole Di	ameter:	8 in	
1,00	20.31	0.33	0.77	Total Depth	of Well:	30 ft	
1.50	20,18	0.20	0.47	Stand Pip	e Area:	50.27 in^	2
2:00	20.10	0.12	0.28			0.35 ft^2	2
2.50	20.09	0.11	0.26	Coordinates from	Graph fo	or Slope Calc:	
4.00	20.06	0.08	0.19	H1	/Ho:	0.77	
5.00	20.05	0.07	0.16	t1:	## ##	l min	ı
				H2	2/Ho:	0.16	
			•	t2:	* #3 #3 #3	5 min	
December 1				H1:	0.33	H2:	0.07
	**************************************			t1:	1.00	t2:	5.00
				Radius	R:	4.00 in	
				Radius	R:	0.33 ft	
				Depth	D:	10.02 ft	
					R/D:	0.033	
				<b>.</b>	D/R:	30.06	
					•		

Shape Factor Determination Value:

0.98 \*

Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor

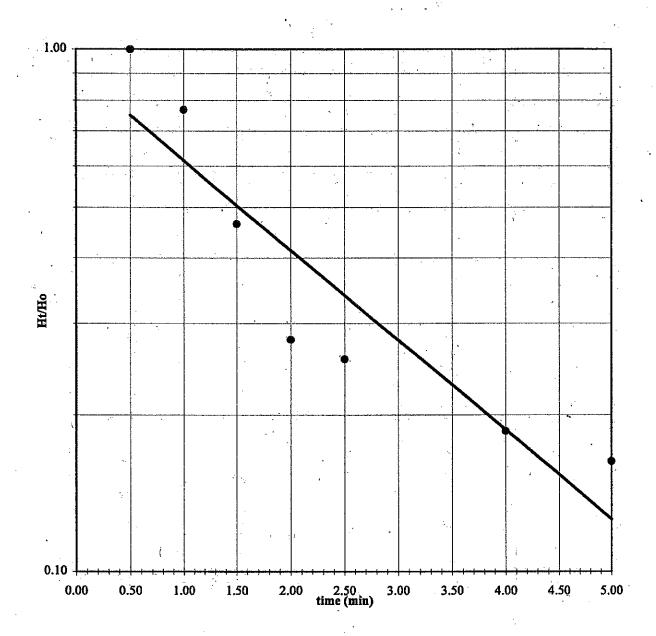
Coeff. of Permeability (K):

3.41E-04 ft/min

4.91E-01 ft/day

1.73E-04 cm/sec

<sup>\*</sup>This value is used in conjunction with





Cloud's Chevron

Test Performed: 4/9/97

N 4	777	17	
IVI	W	-12	

Type II (Uncased Well)

Static:	5.1	ft ·		*Enter Values in S	haded Areas	Only		
Time (min)	Depth	delta H	Ht/Ho	Information from data	a and plot	of Ht/H	) vs tir	ne
1.00	5.20	0.10	1.00	Bore Hole D	ameter:	8	in	
1.50	5.15	0.05	0.50	Total Depth of	of Well:		#ft	
2,00+	513	0.03	0.30	Stand Pip	e Area:	50.27	in^2	
2.50	5,12	0.02	0.20		,	0.35	ft^2	
3,00	5.11	0.01	0.10	Coordinates from	Graph fo	r Slope (	Calc:	
				H1	/Ho:	0.3		
	11111111111111111111111111111111111111			`t1:		2	min	
				H2	2/Ho:	0.1		
		i,	1.	t2:		3	min	
			1	•	•••	·····		
			-					
				H1:	0.03	H2	: '	0.01
		• •		t1:	2.00	t2	:	3.00
-		•	· ·	Radius	R:	4.00	) in	
				Radius	R:	0.33	3 ft	
				Depth	D:	24.90	) ft	
					R/D:	0.013	3	
			-		D/R:	74.70	)	
		-		,				

Shape Factor Determination Value:

1.00 \*

\*This value is used in conjunction with

Figure 13 of Reference [1] to obtain the shape factor.

**Shape Factor** 

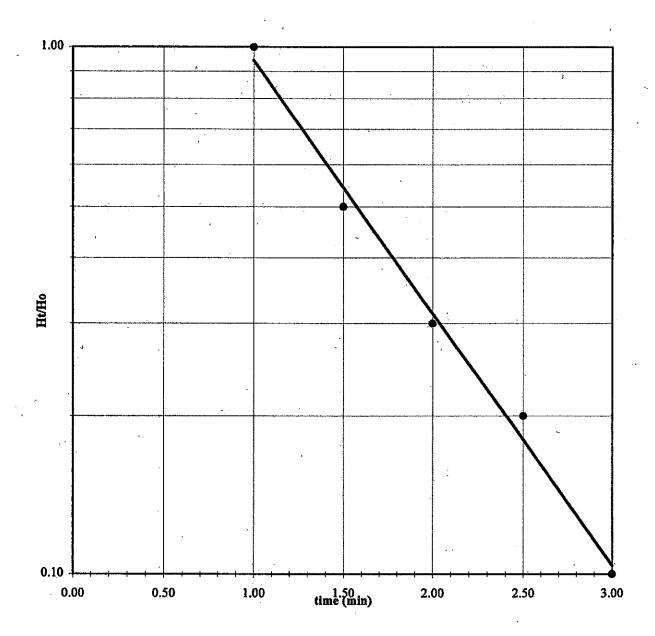
: 0.1

Coeff. of Permeability (K):

1.67E-04 ft/min

2.41E-01 ft/day

8.50E-05 cm/sec





Cloud's Chevron

Test Performed: 4/9/97

Type II (Uncased Well)

Static:	15.59	ft	S 4	*Enter Values in	Shaded Area	s Only	7
Time (min)	Depth	delta H	Ht/Ho	Information from dat	a and plot	t of Ht/H0 vs	time
0.25	15.69	0.10	1.00	Bore Hole D	iameter:	8 in	
1,50	15.67	0.08	0.80	Total Depth	of Well:	**********************	
5.00	15.66	0.07	0.70	Stand Pip	e Area:	50.27 in	^2
8.00	15.65	0.06	0.60	· • •		0.35 ft/	2
29.50	15.62	0.03	0.30	Coordinates from	Graph fo	or Slope Calc	•
55.00	15.61	0.02	0.20	H	1/Ho:	0.8	,
				t1		1,5 m	in
				H	2/Ho:	0.2	
				· t2:	: W	55 m	in
			-		••		
				•			
				H1:	0.08	H2:	0.02
				<b>t1:</b>	1.50	12:	55.00
				Radius	R:	4.00 in	
				Radius	R:	0.33 ft	
				Depth	D:	14.41 ft	
				_	R/D:	0.023	
					D/R:	43.23	

Shape Factor Determination Value:

-1.00 \*

Figure 13 of Reference [1] to obtain the shape factor.

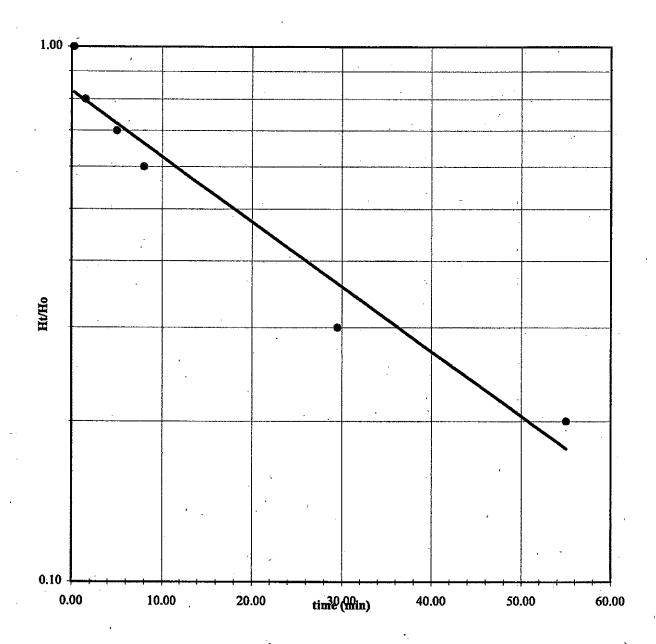
**Shape Factor** 

0.1

Coeff. of Permeability (K): 1.62E-05 ft/min 2.33E-02 ft/day

8.24E-06 cm/sec

<sup>\*</sup>This value is used in conjunction with





### Inflow for Type II Well MW-16

# **Inflow Permeability Calculation**

Cloud's Chevron

Test Performed: 4/9/97

MW-16

Type II (Uncased Well)

Static:	1817	fi .		#Enton Volume in	Chadad Assas	Onler	
		·	40.00	*Enter Values in	*,		
Time (min)		delta H	Ht/Ho	Information from da	ta and plot	of Ht/H0 v	s time
0.50	20.26	2.09	1.00	Bore Hole D	Diameter:	<b>8</b> i	n.
1.00	20.22	2.05	0.98	Total Depth	of Well:	30 f	t
3,00	20.18	2.01	0.96	Stand Pi	pe Area:	50.27 ii	n^2
22.00	20.09	1.92	0.92		*,	0.35 fi	^2
77.00	19.82	1.65	0.79	Coordinates from	n Graph fo	r Slope Cal	c:
116.00	19.53	1.36	0.65	H	1/Ho:	0.92	
940.00	18.63	0.46	0.22	t1	•	22 n	nin '
			. •	· H	2/Ho:	0.22	
	***************************************		•	t2	(* ) (* )	940 n	nin .
	***************************************						
				H1:	1.92	H2:	0.46
				t1:	22.00	t2:	940.00
				Radius	R:	4.00 ir	1
				Radius	R:	0.33 fi	; ·
				Depth	D:	11.83 fi	t .
				7	R/D:	0.028	
		,			D/R:	35.49	. ,

· Shape Factor Determination Value:

0.90 \*

Figure 13 of Reference [1] to obtain the shape factor.

**Shape Factor** 

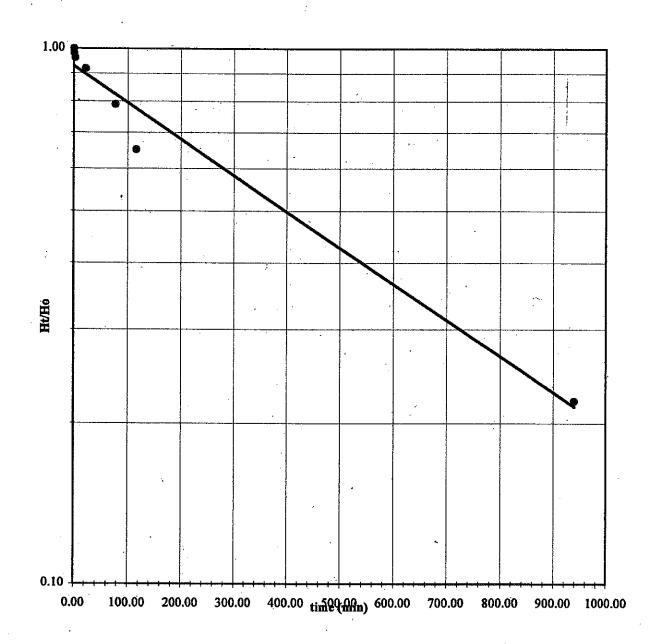
1.5

Coeff. of Permeability (K): 1.87E-06 ft/min

2.69E-03 ft/day

9.50E-07 cm/sec

<sup>\*</sup>This value is used in conjunction with





Cloud's Chevron

Test Performed: 4/16/97

$MW_{-1}$	71)

Static:	44.64	ft		*Enter Values in Sl	naded Areas	Only	
Time (min)	Depth	delta H	H <sub>t</sub> /H <sub>o</sub>	Information from data	and plot	of Ht/H0	vs time
1.00	49.26	4.62	1.00	Diameter of	Intake:	4	in.
2.00	49.22	4.58	0.99	Length of Inta	ke (L):	8	ft
4400	49.18	4.54	0.98	Diameter of Star	ndpipe:	2	in
7.00	49.12	4.48	0.97	·			
17.00	48.88	4.24	0.92	Coordinates from	Graph fo	r Slope Ca	ılc:
37.00	48.48	3.84	0.83	$H_1$ /	H <sub>o</sub> :	0.98	
132.00	47.11	2.47	0.53	t <sub>1</sub> :	***	4	min
				· -	H <sub>o</sub> :	0.53	•
				t <sub>2</sub> :	**************************************	132	min
				,	,		΄,
	**************************************						
100000000000000000000000000000000000000				H <sub>1</sub> :	4.53	H <sub>2</sub> :	2.45
				t <sub>1</sub> :	4.00	t <sub>2</sub> :	132.00
(A)   (A)			٠ · · · · · · · · · · · · · · · · · · ·	Intake 1	Radius:	2.00	in
				Intake Radius	s (rint):	0.17	ft
				Standpipe I	Radius:	1.00	in
				Standpipe Radiu	s (rsp):	0.083	ft
				C-1-1- 0.4	00434		(mm <sup>2</sup> ) /ot
			٠,		581241		(rsp <sup>2</sup> )/2L
							ln(L/rint)
					.26695		$ln(H_1/H_2)$
				Calc4=	128	. •	$(t_2-t_1)$

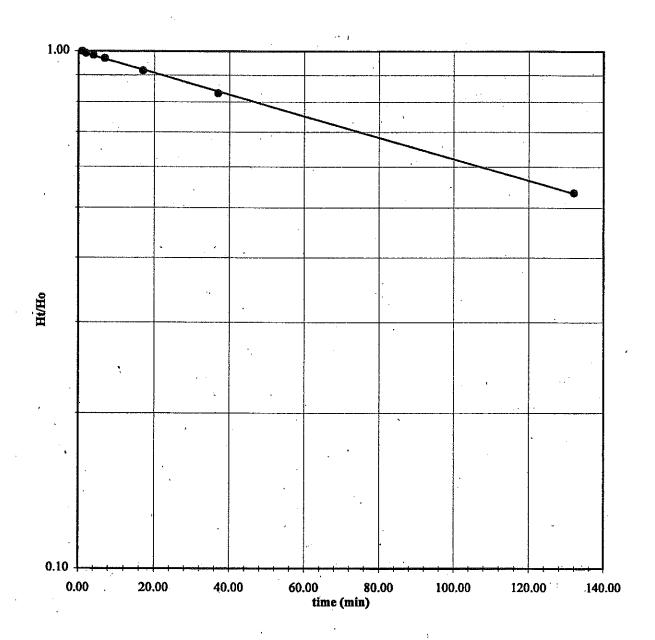
K=Calc1\*Calc2\*(Calc3/Calc4)

Coeff. of Permeability (K): 1.52E-06 ft/min

2.19E-03 ft/day

7.73E-07 cm/sec

Naval Fac. Engr. Command, Design Manuel 7.01, Soil Mechanics: Condition C







# Summary of Slug Test Division of Underground Storage Tank Management

1			•	
UST Permit#: 07584 +	07777		RICHIAN	·/) .
Facility Name:		COUNTY		
Slug Data				,
<u>{</u>	•			
See Appendix Table level logs, etc. (complete as appropriate)].	Figur	9	for a list of all data	measurements. [
•			•	
Water Level Recovery Data was measured [Hermit Data Logger, Manually with Water	by Level Indicator, etc. (	list method)]	**	
Complete the following table for each well		illocitioa todyj,		•
		•		•
COMPLETE A SECOND SHEET IF MORE	THAN FOUR WELLS	SARETESTED		
Slug Test Conducted in Well(s) Number	Mn-12	Mw-42	0 ni-6	DW-7
Initial Rise/Drawdown in Well (feet)	10.55	5.71	18.02	22.93
Radius of Well Casing (feet)	0.073	0.083	0.083	0-083
Effective Radius of Well (feet)	.0.3	0.3	0.3	0.3
tatic Saturated Aquifer Thickness (feet) Length of Well Screen (feet)	19.75	7.47	23.61	30.29
Static Height of Water Column in Well (ft)	20	15	5	
oradio i torgrit or water Column in Well (ft)	5.25	27.53	46-38	111-1
			76-28	<i></i>
Calculations		-		24.71
•		-		,
See Appendix 4 Table	Figure	for c	alculations (comple	te as appropriate
See Appendix 4 Table	Figure	for c	alculations (comple	te as appropriate
See Appendix Table  The method for aquifer calculations was  Calculated values by well were as follows:	Figure	for c	alculations (comple	te as appropriate
See Appendix Table  The method for aquifer calculations was  Calculated values by well were as follows:	Figure	for c	alculations (comple (i.e. Bouwer	te as appropriate -Rice, Cooper, e
See Appendix 4 Table  The method for aquifer calculations was	FigureFourEA +	for c  RICE  Mw-42	alculations (comple (i.e. Bouwer	te as appropriate -Rice, Cooper, et
See Appendix Table The method for aquifer calculations was Calculated values by well were as follows: Slug Test Conducted in Well(s) Number 1997 Pay	Figure Figure	forc RICE MW-42 0.0161	alculations (comple (i.e. Bouwer Dw-6	te as appropriate -Rice, Cooper, e
See Appendix Table  The method for aquifer calculations was  Calculated values by well were as follows:  Slug Test Conducted in Well(s) Numb  Hydraulic Conductivity FT/DAY  Thickness of the aquifer used to calculate hydra	Figure Figure	forc RICE MW-42 0.0161	alculations (comple (i.e. Bouwer Dw-6	te as appropriate -Rice, Cooper, e
See Appendix Table  The method for aquifer calculations was  Calculated values by well were as follows:  Slug Test Conducted in Well(s) Numb Hydraulic Conductivity FT/DAY  Thickness of the aquifer used to calculate hydra The aquifer is confined	Figure Figure Figure for for	for c  RICR  MW-42  0.0161  (13.61 STALLOS	alculations (completing file. Bouwer    Dw-6   0.000306	te as appropriate -Rice, Cooper, e  Ow-7 0.00 258
See Appendix Table  The method for aquifer calculations was  Calculated values by well were as follows:  Slug Test Conducted in Well(s) Numb Hydraulic Conductivity FT/DAY  Thickness of the aquifer used to calculate hydraulic confined confined	Figure	for c  RICR  MW-42  0.0161  (13.61 STALLOS	alculations (completing file. Bouwer    Dw-6   0.000306	te as appropriate -Rice, Cooper, e  Ow-7 0.00 258
See Appendix Table The method for aquifer calculations was Calculated values by well were as follows: Slug Test Conducted in Well(s) Numb Hydraulic Conductivity FT/DAY Thickness of the aquifer used to calculate hydra The aquifer is confined Av The estimated seepage velocity is 0.0004	Figure  BouWEA †  Der   1W-12  6.00431  raulic conductivity was semi-confined  5 HALLOW  FT/OAY ON 6.14	MW-42 0.0161 (13.61 STALLOS	alculations (completions) (i.e. Bouwer  Dw-6  0.000306  26-96 PE  er table (check as ap	te as appropriate  -Rice, Cooper, et  0.00 258  PP) AV6 fee  ppropriate).  The per year based of
See Appendix Table The method for aquifer calculations was Calculated values by well were as follows: Slug Test Conducted in Well(s) Numb Hydraulic Conductivity FT/DAY Thickness of the aquifer used to calculate hydra The aquifer is confined Av The estimated seepage velocity is 0.0004	Figure  BouWEA †  Der   1W-12  6.00431  raulic conductivity was semi-confined  5 HALLOW  FT/OAY ON 6.14	MW-42 0.0161 (13.61 STALLOS	alculations (completions) (i.e. Bouwer  Dw-6  0.000306  26-96 PE  er table (check as ap	te as appropriate -Rice, Cooper, et  0 w-7 0.00 258
See Appendix Table The method for aquifer calculations was Calculated values by well were as follows: Slug Test Conducted in Well(s) Numb Hydraulic Conductivity FT/DAY Thickness of the aquifer used to calculate hydra The aquifer is confined AV SHALLON hydraulic conductivity of 0.0101 14/DM SURWIND DEER	Figure  BouWEA †  Der NW-12  6.00431  raulic conductivity was  semi-confined  SHALLOW  FT/OAY ON 0.14  DEFP  0.0013 FT/OAY, a	for c  RICE  MW-42  0.0161  (13.61 STALLSE  Wate  SFF/TM   0.00094  hydraulic gradient c	alculations (completions) (i.e. Bouwer  Dw-6  0.000306  1.6.96 PE  er table (check as appending of the constant of the constan	te as appropriate -Rice, Cooper, et  0.00 258  P AV6 fee  propriate). That t per year based of 0.0037 Phere
See Appendix Table The method for aquifer calculations was  Calculated values by well were as follows:  Slug Test Conducted in Well(s) Numb Hydraulic Conductivity FT/DAY  Thickness of the aquifer used to calculate hydra  The aquifer is confined  AV (	Figure  BouWEA †  Der NW-12  6.00431  raulic conductivity was  semi-confined  SHALLOW  FT/OAY ON 0.14  DEFP  0.0013 FT/OAY, a	for c  RICE  MW-42  0.0161  (13.61 STALLSE  Wate  SFF/TM   0.00094  hydraulic gradient c	alculations (completions) (i.e. Bouwer  Dw-6  0.000306  1.6.96 PE  er table (check as appending of the constant of the constan	te as appropriate -Rice, Cooper, e  Ow-7 0.00 258  EP) AV6 fee  propriate). That t per year based of the own o
Table	Figure  BouWEA †  Der NW-12  6.00431  aulic conductivity was  semi-confined  SHALLOW  FT/DAY ON 0.14  DEFP  0.0013 FT/DAY, a  SHALLOW  CLAYEY SAND SAND	for control of the state of the	DW-6  0.000306  (i.e. Bouwer  0.000306  (26.96 DE)  er table (check as ap  0.000306  fee  SHPUON  of 0.007 FI/PT  ei.e., silty sand, clay	te as appropriate -Rice, Cooper, et  0.00 258  P AV6 fee  propriate). That t per year based of 0.0037 Phere
See Appendix Table The method for aquifer calculations was Calculated values by well were as follows: Slug Test Conducted in Well(s) Numb Hydraulic Conductivity FT/DAY Thickness of the aquifer used to calculate hydra The aquifer is confined AV SHALLON hydraulic conductivity of 0.0101 14/DM SURWIND DEER	Figure  BouWEA †  Der NW-12  6.00431  aulic conductivity was  semi-confined  SHALLOW  FT/DAY ON 0.14  DEFP  0.0013 FT/DAY, a  SHALLOW  CLAYEY SAND SAND	for control of the state of the	DW-6  0.000306  (i.e. Bouwer  0.000306  (26.96 DE)  er table (check as ap  0.000306  fee  SHPUON  of 0.007 FI/PT  ei.e., silty sand, clay	te as appropriate -Rice, Cooper, et  0.00 258  P AV6 fee  propriate). The tper year based of 0.0037 PMF ar

#### Clouds Chevron

# **Slug Test Analysis**

Site Name: Location: Test Date: Client:

Clouds Chevron Columbia, SC 4/21/05

SCDHEC C-04-12-009

Well Label:

Project Number:

DW-7 30.29 feet

Aquifer Thickness: Screen Length: Casing Radius:

5. feet 6.917e-003 feet

Effective Radius:

2.5e-002 feet 24.71 feet

Static Water Level: Water Table to Screen Bottom:

30.29 feet

Anisotropy Ratio:

1.

Time Adjustment:

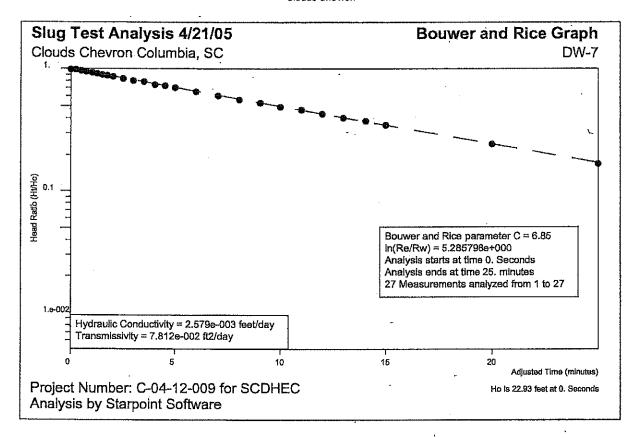
0. Seconds

Test starts with trial 0

There are 27 time and drawdown measurements

Maximum head is 22,93 feet Minimum head is 0, feet

Trial	Time	Adjusted Time	Drawdown	Head	Head Ratio
	(minutes)	(minutes)	(feet)	(feet)	
1	0.	0.	47.64	22.93	1.
2	0.25	0.25	47.32	22.61	0.986
3	0.5	0.5	46.96	22.25	0.9703
4	0.75	0.75	46.65	21.94	0.9568
5	1.	1.	46.31	21.6	0.942
6	1.25	1.25	45.87	21.16	0.9228
7	1.5	1.5	45.44	20.73	0.9041
8 ′	1.75	1.75	45.13	20.42	0.8905
9	2.	2.	44.74	20.03	0.8735
10	2.5	2.5	44.03	19.32	0.8426
11	3.	3.	43.27	18.56	0.8094
12	3.5	3.5	42.7	17.99	0.7846
13	4.	4.	41.89	17.18	0.7492
14	4.5	4.5	41.41	16.7	0.7283
15	5.	5.	40.82	16 <i>.</i> 11	0.7026
16	6.	6.	39.72	15.0 <b>1</b>	0.6546
17	. 7.	7.	38.64	13.93	0.6075
18	8.	8.	37.61	12.9	0.5626
19	9.	9.	36.85	12.14	0.5294
20	10.	10.	36.07	11.36	0.4954
21	11.	11.	35.3	10.59	0.4618
22	12.	12.	34.6	9.89	0.4313
23	13.	13.	33.9	9.19	0.4008
24	14.	14.	33.3	8.59	0.3746
25	15.	15.	32.71	8.	0.3489
26	20.	20.	30.36	5.65	0.2464
27	25.	25.	28.57	3.86	0.1683



# **Bouwer and Rice Automatic Parameter Estimation**

Slug Test Analysis

Site Name:

Clouds Chevron

Location:

Columbia, SC

Test Date:

4/21/05

Client:

**SCDHEC** 

Project Number:

C-04-12-009

Well Label:

Aquifer Thickness:

DW-7 30.29 feet

Screen Length:

Casing Radius:

5. feet

Effective Radius:

6.917e-003 feet 2.5e-002 feet

Bouwer and Rice Parameter C

6.85

Radius of Influence of Test

4.938 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Day)
1	0.	22.93	1,		
2	0.25	22.61	0.986	2.047e-003	2.058
3	0.5	22,25	0.9703	2.192e-003	2.169
4	0.75	21.94	0.9568	2.143e-003	2.09
5	1.	21.6	0.942	2.176e-003	2.09
6	1.25	21.16	0.9228	2.34e-003	2.202
7	1.5	20.73	0.9041	2.449e-003	. 2.257
8	1.75	20.42	0.8905	2.412e-003	2.19
9	2.	20.03	0.8735	2.462e-003	2.192
10	2.5	19.32	0.8426	2.495e-003	2.143
11	3,	18.56	0.8094	2.566e-003	2.143
12	3.5	17.99	0.7846	2.524e-003	2.019
13	4,	17.18	0.7492	2.628e-003	2.007
14	4.5	16.7	0.7283	2.565e-003	1.905
5	5.	16.11	0.7026	2.571e-003	1.841
6	6.	15.01	0.6546	2.572e-003	1.716
7	7.	13.93	0.6075	2.593e-003	1.606
8	8.	12.9	0.5626	2.618e-003	1.502
9	9.	12.14	0.5294	2.573e-003	1.389
0	10.	11.36	0.4954	2.558e-003	1.292
1	11.	10.59	0.4618	2.557e-003	1.204
2	12.	9.89	0.4313	2.557e-003	1.122
3	13.	9.19	0.4008	2.561e-003	1.046
4	14.	8.59	0.3746	2.554e-003	0.9753
5	15.	8.	0.3489	2.556e-003	0.9092
6		5.65	0.2464	2.55e-003	0.6407
7	25.	3.86	0.1683	2.595e-003	0.4454

Arithmetic Means:

Hydraulic Conductivity Transmissivity

2.477e-003 feet/day 7.504e-002 ft2/day

Geometric Means:

Hydraulic Conductivity Transmissivity

2.472e-003 feet/day 7.487e-002 ft2/day

Sensitivity Analysis:

Hydraulic Conductivity

2.562e-003 feet/day

Transmissivity

7.759e-002 ft2/day

# PUMP TEST FIELD DATA REPORT

		,		
ļ	PROJECT NO.: (-009	PUMP GPM:		1
	DATE: 4/21/05	PUMPING WELL Y N	#	  -  -
.	TEST PERFORMED BY: RR	OBSERVATION WELL (3) N	# DIN-7	

TIME LEVEL (FEET)

		( FE	=1)	
· o		4	Z	(4)
0.25		4	7	3
0.50	•	4	5.6	16
0.75		4	م رک	3
1.00	1	111	ځ.	3)
1.25	ŀ	45	8	7
1.50	1	15	7.2	14
1.75	1	111	د د د	13
2.00	2	74	Ĵ	4
2.50	1	14	٥	3
: 3,00	4	3,	2	7
<b>3.5</b> 0	4	2	H	
4.00.	4	1.9	9	
4.50	1	14	ĺ	
5.00	4	09	0	
6.00	4	32		z]
7.00	3	84	:4	

		₩.	
	8.00		37.61
	9.00		3655
	10.00		36.67
	11.00		35,31)
	12.00		34.60
	13.00		3390
	14.00	1	33,030
•	15.00	T	32.71
	20.00		30,36
	25.00		28.57
	30.00		00/
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#### Clouds Chevron

# Slug Test Analysis

Site Name: Location: Test Date: Clienţ:

Clouds Chevron Columbia, SC 4/21/05

SCDHEC C-04-12-009

Well Label:

Project Number:

Aquifer Thickness: Screen Length: Casing Radius:

MW-12 19.75 feet 20. feet

Effective Radius:

6.917e-003 feet 2.5e-002 feet

Static Water Level: Water Table to Screen Bottom: 5.25 feet 19.75 feet

Anisotropy Ratio:

1.

Time Adjustment:

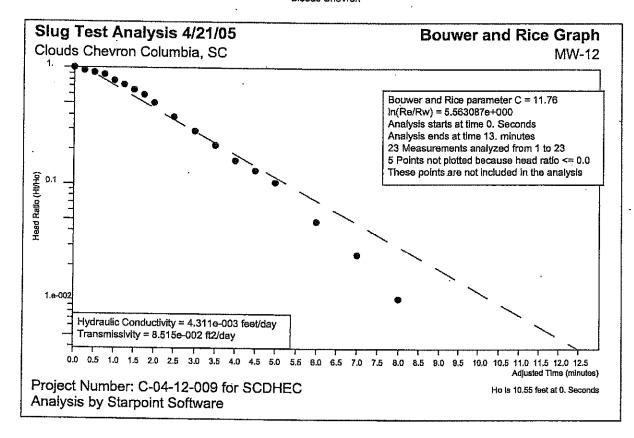
0. Seconds

Test starts with trial 0

There are 23 time and drawdown measurements

Maximum head is 10.55 feet Minimum head is -5.25 feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	15.8	10.55	1.
2	0.25	0.25	15.21	9.96	0.9441
3	0.5	0.5	14.83	9.58	0.9081
4	0.75	0.75	14.45	. 9.2	0.872
5	1.	1.	13.4	8.15	0.7725
6	1.25	1.25	12.85	7.6	0.7204
7	1.5	1.5	12.11	6.86	0.6502
8	1.75	1.75	11.44	6.19	0.5867
9	2.	2.	10.59	5.34	0.5062
10	2.5	2.5	9.24	3.99	0.3782
11	3.	3.	8.28	3.03	0.2872
12	3.5	. 3.5	7.56	2.31	0.219
13	4.	4.	6.97	1.72	0.163
14	4.5	4.5	6.66	1.41	0.1336
15	5.	5.	6.36	1.11	0.1052
16	6.	6.	5.76	0.51	4.834 <del>0</del> -002
17	7.	7.	5.51	0.26	2,464e-002
18	8. ·	8.	5.36	0.11	1.043e-002
19	9.	9.	5.29	4.e-002	3.791e-003
20	10.	10.	5.24	-1.e-002	-9.479e-004
21	11.	11.	5.19	-6. <del>e</del> -002	-5.687e-003
22	12.	12.	5.17	-8. <del>e-</del> 002	-7.583e-003
23	13.	13.	0.	-5.25	-0.4976



#### Clouds Chevron

### **Bouwer and Rice Automatic Parameter Estimation**

Slug Test Analysis

Site Name: Location: Clouds Chevron Columbia, SC

Test Date: Client: 4/21/05 SCDHEC C-04-12-009

Well Label:

Aquifer Thickness:

MW-12 19.75 feet

Screen Length:

Project Number:

20. feet

Casing Radius: Effective Radius: 6.917e-003 feet 2.5e-002 feet

Bouwer and Rice Parameter C Radius of Influence of Test

11.76 6.516 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Day)
1	0.	10.55	1.		<u>.</u>
2	0.25	9.96	0.9441	2.233e-003	3.759
3	0.5	9.58	0.9081	1.872e-003	3.03
4	0.75	9.2	0.872	1.771e-003	2.754
5	1.	8.15	0.7725	2.504e-003	3.449
6	. 1.25	7.6	0.7204	2.546e-003	3.269
7	1.5	6.86	0.6502	2.784e-003	3.227
8	1.75	6.19	0.5867	2.956e-003	3.092
9	2.	5.34	0.5062	3.303e-003	2.981
10	2.5	3.99	0.3782	3,774e-003	2,544
11	3.	3.03	0.2872	4.035e-003	2.066
12	3,5	2.31	0.219	4.21e-003	1.643
13	4.	1.72	0.163	4.4e-003	1.279
14	4.5	1.41	0.1336	4.339e-003	1.034
15	5.	1.11	0.1052	4.369e-003	0.8196
16	6.	0.51	4.834 <del>c-</del> 002	4:899e-003	0.4222
17	7.	0.26	2.464e-002	5.133e-003	0.2255
18	8.	0.11	1.043e-002	5.534e-003	0.1029
19	9.	4.e-002	3.791e-003	6.01e-003	4.062e-002
20	10.	-1.e-002	-9.479 <del>c-</del> 004	<b>-</b> .	
21	. 11.	-6.e-002	-5.687e-003		-
22	12.	-8.e-002	-7.583e-003	-	
23	13.	-5.25	-0.4976 <sup>-</sup>		

Arithmetic Means:

Hydraulic Conductivity
Transmissivity

3.704e-003 feet/day 7.315e-002 ft2/day

Geometric Means:

Hydraulic Conductivity Transmissivity 3.485e-003 feet/day 6.882e-002 ft2/day

Sensitivity Analysis:

Hydraulic Conductivity
Transmissivity

3.619e-003 feet/day 7.147e-002 ft2/day

# PUMP TEST FIELD DATA REPORT

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-	PROJECT NO.: ( - 009	PUMP GPM:	-
	DATE: 4/21/05	PUMPING WELL Y N	7
]	TEST PERFORMED BY: RR	OBSERVATION WELL (Y)	#MW-12

WATER
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(MIN) (FEET)

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1.75	11.44
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NOTÉS: .

### Handy Pantry #65

### Slug Test Analysis

Site Name: Handy Pantry #65
Location: Columbia, SC
Test Date: 4/20/05
Client: SCDHEC
Project Number: C-04-12-008

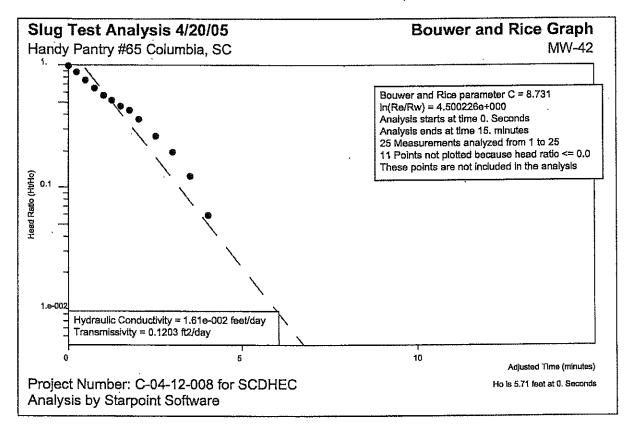
Well Label: MW-42 Aquifer Thickness: 7.47 feet Screen Length: 15. feet Casing Radius: 6.917e-003 feet Effective Radius: 2.5e-002 feet Static Water Level: 27.53 feet Water Table to Screen Bottom: 7.47 feet Anisotropy Ratio: 0. Seconds

Time Adjustment: Test starts with trial 0

There are 25 time and drawdown measurements

Maximum head is 5.71 feet Minimum head is -0.19 feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1 ·	0.	0.	33.24	5.71	1.
2	0.25	0.25	32.54	5.01	0.8774
3	0.5	0.5	31.89	4.36	0.7636
4	0.75	0.75	31.29	3.76	0.6585
5	1.	1.	30.79	3.26	0.5709
6	1.25	1.25	30.49	2.96	0.5184
7	1.5	1.5	30.19	2.66	0.4658
8	1.75	1:75	29.98	2.45	0.4291
9	2.	2.	29.61	2.08	0.3643
10	2.5	2.5	29.04	1.51	0.2644
11	3.	3.	28.64	1,11	0.1944
12	3.5	3.5	28.24	0.71	0.1243
13	4.	4.	27.87	0.34	5.954e-002
14	4.5	4.5	27.58	5.e-002	8.757e-003
15	5.	5.	27,41	-0.12	-2.102e-002
16	6.	6.	27.36	-0.17	-2.977e-002
17	7.	7.	27.34	-0.19	-3.327e-002
18	8.	8.	27.34	-0.19	-3.327e-002
19	9.	9.	27.34	-0.19	-3.327e-002
20	10.	10.	27.34	-0.19	-3.327e-002
21	11.	11.	27.34	-0.19	-3.327e-002
22	12.	12.	27.34	-0.19	-3.327 <del>e-</del> 002
23	13.	13.	27.34	-0.19	-3.327e-002
24	14.	14.	27.34	-0.19	-3.327e-002
25	15.	15.	27.34	-0.19	-3.327e-002



### **Bouwer and Rice Automatic Parameter Estimation**

Slug Test Analysis

Site Name:

Handy Pantry #65

Location:

Columbia, SC

Test Date:

4/20/05

Client:

SCDHEC

Project Number:

C-04-12-008

Well Label:

Aquifer Thickness: Screen Length:

MW-42. 7.47 feet 15. feet

Casing Radius: Effective Radius:

6.917e-003 feet 2.5e-002 feet

Bouwer and Rice Parameter C Radius of Influence of Test

8.731 2.251 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Day)
1	0.	5.71	1.	_	. , , , , , , , , , , , , , , , , , , ,
2	0.25	5.01	0.8774	1.086e-002	8.52
3	0.5	4.36	0.7636	1.12e-002	7.647
4	0.75	3.76	0.6585	1.156e-002	6.809
5	1.	3.26	0.5709	1.163e-002	5.94
6	1.25	2.96	0.51.84	1.091e-002	5.058
7	1.5	2.66	0.4658	1.057e-002	4.404
8	1.75	2,45	0.4291	1.003e-002	3.851
9	2.	2.08	0.3643	1.048e-002	3.414
10	· 2.5	1.51	0.2644	1.104e-002	2.612 .
11	3.	1.11	0.1944	1.133e-002	1.97
12	3.5	0.71	0.1243	1.236e-002	1.375
13	4,	0.34	5.954e-002	1.463e-002	0.7795
14	4.5	5.e-002	8.757e-003	2.185 <del>c-</del> 002	0.1711
15	5.	-0.12	-2.102e-002	_	
16	6.	-0.17	-2.977e-002	_	
17	7.	-0.19	-3.327e-002		
18	8.	-0.19	-3.327e-002	_	
19	9.	-0.19	-3.327e-002	-	
20	10.	-0.19	-3.327e-002	-	
21	11,	-0.19	-3.327e-002	_	
22	12.	-0.19	-3.327e-002	_	
23	13.	-0.19	-3.327e-002		
24	14.	-0.19	-3.327e-002	_	
25	15.	-0.19	-3.327e-002		

Arithmetic Means:

Hydraulic Conductivity Transmissivity 1.219e-002 feet/day 9.104e-002 ft2/day

Geometric Means:

Hydraulic Conductivity Transmissivity 1.192e-002 feet/day 8.903e-002 ft2/day

Sensitivity Analysis:

Hydraulic Conductivity
Transmissivity

1.159e-002 feet/day 8.655e-002 ft2/day

# PUMP TEST FIELD DATA REPORT

	PROJECT NO.: C- 609	PUMP CPK:	
-	DATE: 4/20/65	PRWEING METT A M	#
L	TEST PERFORMED BY: RIZ/DM	OBSERVATION WELL Y	* MW-42

•	
	WATER
TIME	LEVEL
(NiN)	(FEET) つっつ
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0.25	33.54
0.50	31.89
0.75	31.29
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1.25	3049
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1,75	29.98
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2.50	230X
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3.50	28,24
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NOTES: .

#### Handy Pantry #65

### **Slug Test Analysis**

Site Name: Handy Pantry #65
Location: Columbia, SC
Test Date: 4/20/05
Client: SCDHEC
Project Number: C-04-12-008

Well Label:
Aquifer Thickness:
Screen Length:
Casing Radius:
Effective Radius:
Static Water Level:

DW-6
23.62 feet
5. feet
6.917e-003 feet
2.5e-002 feet
46.38 feet

Water Table to Screen Bottom: 23.62 feet

Anisotropy Ratio: 1.

Time Adjustment: 0. Seconds

Test starts with trial 0

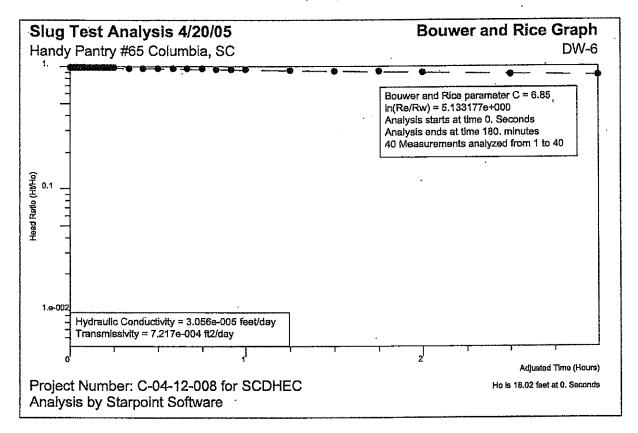
There are 40 time and drawdown measurements

Maximum head is 18.02 feet Minimum head is 0. feet

Trial	Time	Adjusted Time	Drawdown	Head	Head Ratio
	(minutes)	(minutes)	(feet)	(feet)	
1	ò.	ò.	64.4	18.02	1.
2	0.25	0.25	64.35	17.97	0.9972
3	0.5	0.5	64.33	17.95	0.9961
4	0.75	0.75	64.32	17.94	0.9956
5	1.	1.	64.32	17.94	0.9956
6	1.25	1.25	64.31	17.93	0.995
7	1.5	1.5	64.3	17 <i>.</i> 92	0.9945
8	1.75	1.75	64.3	17.92	0.9945
9	2.	2.	64.29	17.91	0.9939
10	2.5	2.5	64.28	17.9	0.9933
11	3.	3.	64.27	17.89	0.9928
12	3.5	3.5	64.26	17.88	0.9922
13	4.	4.	64.26	17.88	0.9922
14	4.5	4.5	64.25	17.87	0.9917
15	5.	5.	64.25	17.87	0.9917
16	6.	6.	64.23	17.85	0.9906
17	7.	7.	64.21	17.83	0.9895
18	8.	8.	64.21	17.83	0.9895
19	9.	9.	64.19	17.81	0.9883
20	10.	10.	64.18	17.8	0.9878
21	11.	11.	64.17	17.79	0.9872
22	12.	12.	64.17	17.79	0.9872
23	13.	13.	64.16	17.78	0.9867
24	14.	14.	64.15	17.77	0.9861
25	15.	15.	64.14	17.76	0.9856
26	20.	20.	64.06	17.68	0.9811
27	25.	25.	63.99	17.61	0.9772
28	30.	30.	63.92	17.54	0.9734
29	35,	35.	63.85	17.47	0.9695
30	40.	40.	63.79	17.41	0.9661
31	45.	45.	63.74	17.36	0.9634
32	50.	50.	63.69	17.31	0.9606
33	55.	55.	63.62	17.24	0.9567
34	60.	60.	63.55	17.17	0.9528

### Handy Pantry #65

35	75.	75.	63.31	16.93	0.9395
36	90.	90.	63.07	16.69	0.9262
37	105.	105.	62.83	16.45	0.9129
38	120.	120.	62.59	16.21	0.8996
. 39	150.	150,	62.11	15.73	0.8729
40	180.	180.	61.63	15.25	0.8463



# **Bouwer and Rice Automatic Parameter Estimation**

Slug Test Analysis

Site Name:

Handy Pantry #65

Location:

Columbia, SC

Test Date:

4/20/05

Client:

SCDHEC

Project Number:

C-04-12-008

Well Label:

DW-6

Aquifer Thickness:

23.62 feet

Screen Length:

5. feet

Casing Radius:

6.917e-003 feet

Effective Radius:

2.5e-002 feet

Bouwer and Rice Parameter C 6.85 Radius of Influence of Test 4.23

4.239 feet

Trial	l Adjusted Time Head Head Ro (minutes) (feet)		Head Ratio ,	Hyd. Con. (feet/day)	Flow to Well (Gallons/Day)	
1	0.	18.02	1.	_		
2	0.25	17.97	0.9972	3.93e-004	0.3233	
3	0.5	17.95	0.9961	2.753e-004	0.2262	
4	0.75	17.94	0.9956	2.098e-004	0.1723	
5	1.	17.94	0.9956	1.573 <del>e-</del> 004	0.1292	
6	1.25	17.93	0.995	1,416 <del>e-</del> 004	0.1163	
7	1.5	17.92	0.9945	1.312e-004	0.1076	
8	1.75	17.92	0.9945	1.124e-004	9.225e-002	
9	2.	17.91	0.9939	1.083e-004	8.877e-002	
10	2.5	17.9	0.9933	9.451e-005	7.745e-002	
11	3.	17.89	0.9928	8.535e-005	6.99e-002	
12	3.5	17 <b>.</b> 88	0.9922	7.88e-005	6,451e-002	
13	4.	17.88	0.9922	6.895e-005	5.644e-002	
14 .	4.5	17.87	0.9917	6.569e-005	5.374e-002	
15	5.	17.87	0.9917	5.912e-005	4.837e-002	
16	6.	17.85	0.9906	5.587e-005	4.565e-002	
17	7.	17.83	0.9895	5.355e-005	4.371e-002	
18	8.	17.83	0.9895	4.685e-005	3.825e-002	
19	9.	17.81	0.9883	4.606e-005	3.755e-002	
20	10.	17.8	0.9878	4.344e-005	3.54e-002	
21	11.	17.79	0.9872	4.13e-005	3.363e-002	
22	12.	17.79	0.9872	3.785e-005	3.083e-002	
23 .	13.	17.78	0.9867	3.647e-005	2.969e-002	
24	14.	17.77	0.9861	3.529e-005	2.871e-002	
25	15.	17.76	0.9856	3.426e-005	2.786e-002	
26	20.	17.68	0.9811	3.368e-005	2.726e-002	
27	25.	17.61	0.9772	3.256e-005	2.625e-002	
28	30.	17.54	0.9734	3.182e-005	2.556e-002	
29	35.	17.47	0.9695	3.132e-005	2.505e-002	
30	40.	17.41	0.9661	3.044e-005	2.427e-002	
31	: 45.	17.36	0.9634	2.932e-005	2.33e-002	
32	50.	17.31	0.9606	2.843e-005	2.253e-002	
33	55.	17.24	0.9567	2.845e-005	2.246e-002	
34	60.	17.17	0.9528	2.848e-005	2.239e-002	
35	75.	16.93	0.9395	2.942e-005	2.28e-002	
36	90.	16.69	0.9262	3.013e-005	2.302e-002	
37	105.	16,45	0.9129	3.07e-005	2.312e-002	
38	120.	16.21	0.8996	3.119e-005	2.315e-002	

## Handy Pantry #65

39	150.	15.73	0.8729	3.204e-005	2.307e-002
40	180.	15.25	0.8463	3.279e-005	2.289e-002
Arithmeti	ic Means:		t ga sada sada ka daad		•
Hydraulic	Conductivity	7.367e-005	feet/day	•	•
Transmiss	sivity	1.74e-003 ft2/day			
Geometr	ic Means:		-		
Hydraulic	Conductivity	5.452e-005	feet/day		
Transmiss	sivity	1.288e-003	ft2/day		
Sensitivi	ty Analysis:				
	Conductivity	3.143e-005	feet/day		
Transmiss	sivity	7.423e-004	ft2/day	•	

PROJECT NO. C-009	PUMP GPM:	
DATE: 4/20/05	PUMPING WELL Y N	#
TEST PERFORMED BY: RL	OBSERVATION WELL Y	1
* * ·		- NI-7

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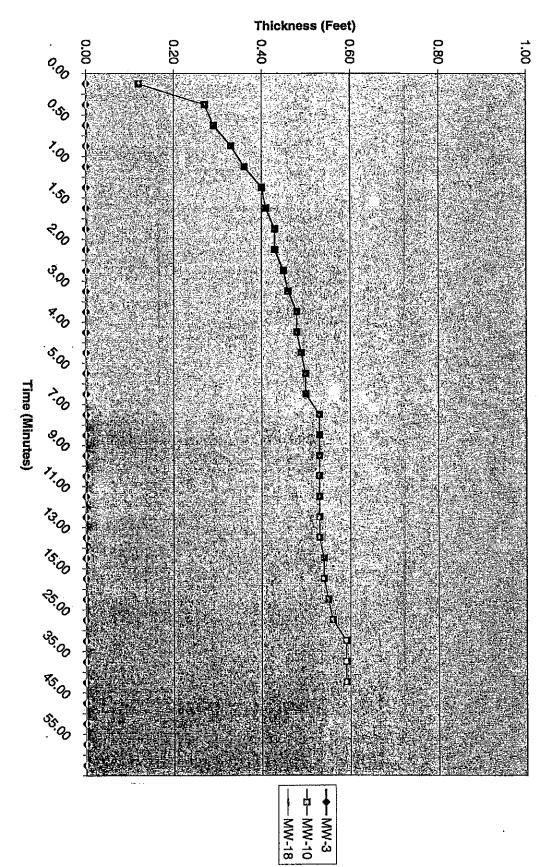
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35.00	63.85
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45.00	63.74
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# Product Recovery Test MW-3

## Product Recovery Test MW-10

Time	Water level	Product Level Produ	ct Thickness	Time	Water level	Product Level	Product Thickness
0.00	25.50	0.00	25.50	0.00	18.03	17.91	0.12
0.25		0.00	25,38	0.25	18.13	17.86	0.27
0.50		0.00	25.29	0.50	18.15	17.86	0.29
0.75		0,00	25,21	0.75	18.18	17.85	0.33
1,00		0.00	25.10	1.00	18.20	17.84	0.36
1.25		0.00	25.02	1,25	18.23	17.83	0.40
1.50		0.00	24.94	1.50	18.24	17.83	0.41
1.75		0,00	24.85	1.75	18,26	17.83	0.43
2.00		0.00	24.78	2.00	18.26	17.83	0.43
2.50		0.00	24.66	2.50	18.27	17.82	0,45
3.00		0.00	24.54	3.00	18.29	17.83	0.46
3.50	24.42	0.00	24.42	3,50	18.30	17.82	0.48
4.00	24.31	0.00	24.31	4.00	18.30	17.82	0.48
4.50	24.23	0.00	24.23	4.50	18.31	17.82	0.49
5.00		0.00	24.15	5.00	18.32	17.82	0.50
6.00	24.00	0.00	24.00	6.00	18.32	17.82	0.50
7.00	23.89	0.00	23.89	7.00	18.34	17.81	0.53
00.8	23.83	0.00	23.83	8,00	18.34	17.81	0.53
9.00	23.77	0.00	23.77	9.00	18.34	17.81	0.53
10.00	23.71	0.00	23.71	10.00	18.34	17.81	0.53
11.00	23.67	0,00	23.67	11.00	18.34	17.81	0.53
12.00	23.62	0.00	23.62	12.00	18.34	17.81	0.53
13,00	23.58	0.00	23.58	13.00	18.34	17.81	0.53
14.00	23.54	0.00	23.54	14.00	18.35	17.81	0,54
15.00	23.52	0.00	23.52	15.00	18.35	17.81	0.54
20.00	23,46	0.00	23.46	20.00	18.35	17.80	0,55'
25.00	23.44	0.00	23.44	25.00	18.35	17.79	0.56
30.00	23.42	0.00	23.42	30.00	18.37	17,78	0,59
35.00	23.41	0.00	23.41	35.00	18.37	17.78	0.59
40.00	23,41	0.00	23.41	40.00	18.38	17.79	0.59
45.00	23.40	0.00	23.40				
50.00	23.40	0.00	23.40				
55.00	23.40	0.00	23.40				
60.00	23.40	0.00	23.40				·

# Product Recovery Test MW-18

Time	Water level	Product Level Product	Thickness
0.00	26.36	0.00	26.36
0.25	26.36	0.00	26.36
0.50	26.36	0.00	26.36
0.75	26.35	0.00	26.35
1.00	26.35	0.00	26.35
1.25	26.35	0.00	26.35
1.50	26.35	0.00	26.35
1.75	26.35	0.00	26.35
2.00	26.35	0.00	26.35
2.50	26.34	0.00	26.34
3.00	26.34	0.00	26,34
3.50	26.34	0.00	26.34
4.00	26.34	0.00	26.34
4.50	26.34	0.00	26.34
5.00	26.34	0.00	26.34
6.00	26.34	0.00	26.34
<b>7.0</b> 0	26.34	0.00	26.34
8.00	26.34	0.00	26.34
9.00	26.34	0.00	26.34
10.00	26.34	0.00	26.34
11.00	26.34	0.00	26.34
12.00	26.34	0.00	26.34
13.00	26.34	0.00	26.34
14.00	26.34	0.00	26.34
15.00	26.33	0.00	26.33
20.00	26.33	0.00	26.33
25.00	26.33	0.00	26.33
30.00	26.32	0.00	26.32
35.00	26.32	0.00	26.32
40.00	26.32	0.00	26.32
45.00	26.31	0.00	26.31
50.00	26.31	0.00	26.31
55.00	26.31	0.00	26.31
60.00	26.30	0.00	26.30

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F	ROJECT NO.:		5-00g				PUMP GPK:				
DATE:	4/	9/0	5			·	PUMPING WELL	Y	ĸ	#	
TEST P	ERFORMED BY:	R	R				QBSERVATION W	ELL (V)	1	# /	143
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TIME	WATER LÈVEL			- HD /F	Robic	t ·		٠ -	•		· .
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0.25	25,38	].	10.00	2371		120.00			660.00		
0.50	2529		11.00	83.67		150.00			690.00	•	·
0.75	2521		12.00	23,62		180.00			720.00		
1.00	25,10		13.00	358		210.00	· ·		750.00		
1.25	25.02	]	14.00	2354		240.00		• ,	780.00	-   -	:
1.50	24.94		15.00	2352	1	270.00			840_00	7	
1.75	24.95		20.00	23.46		300.00	· ·	-	900.00		· · ·
2.00	2476		25.00	23.44	-    -	330.00			. 960.00		
2.50	24.66		30.00	23.42		360.00	,		1020.00		ند
: 3.00	24.54		35.00	23.41		390.00	4		1,080_00		
3.50	24.42		40.00	23.41		420.00			1140.00		,
4.00.	24.3)	<u> </u>	45.DO	23.40		450.00			1200.00	:.	
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5.00	24,15		55.00	)34/)		510,00	· ·	-	1320.00		

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PROJECT NO.: C-009	PUMP GPM:	
DATE: 4/19/05	PUMPING WELL Y N	#
TEST PERFORMED BY: RR	OBSERVATION WELL N	#MW-10
WATER FINE LEVEL		

TIME	LÈVEL		٠.		` `
CKINO	(REI)	8.00	18.34/1781	90.00	
o	18.03/,1791	9.00	1834/1781	105.00	·
0.25	18.13/17.8	10.00	1834/17.81	120.00	
0.50	18.15/1786	11.00	16.34/17.81	150.00	
0.75	19,14/17,85	12.00	18,34/17,81	180.00	
1.00	18.20/17.81	13.00	19.34/17/81	210.00	
1-25	14.03/17.83	14.00	1835/1781	240.00	
1.50	1624/1783	15.00	18,35/17.81	270.00	
1.75	1826/1793	20.00	18351740	300.00	
2.00	19,26/1783	25.00	18,35/17,79	330,00	
2.50	18,27/17/82	30.00	1837/17.78	360.00	
: 3.00	18.2917.83	35.80	16,37/17.78	390.00	1
3.50	18391782	40.00	18.3817.79	420.00	
4.00.	1830 1752	45.00		450.00	
4.50	18.31/17.82	50.0σ		480.00	
5.00	16.32/17.80	55.00	,	510.00	
6.00	4.32/17.62	-60.00		540.00	
7.00	18.34/17.81	75.00		570.00	
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DATE: 4/19/05	PUMPING WELL Y N	*
TEST PERFORMED BY: " RR	OSSESAYLION METICOS, M	*MIN-18

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	St, Columbia S.C.	MW-2	DATA SET: hptntmw2.dat 11/11/93  AQUIFER TYPE: Unconfined SOLUTION METHOD: Cooper-Jacob TEST DATE: 8/26/93  ESTIMATED PARAMETERS: T = 0.1707 ft 2/min S = 0.01789  TEST DATA: Q = 0.06684 ft 3/min r = 56. ft b = 17.38 ft
Client: Handy Pantry	Location: Taylor 5	Pumping Test Data,	
SPATCO Environmental	Project No.: 9-2798	Handy Pantry, Pum	0.09  Way and 0.07  O 0.08  O 0.06  O 0.06  O 0.02  O 0.02  O 0.02  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0.01  O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

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#### AQTESOLV RESULTS Version 1.10

11/11/93 18:34:57

#### TEST DESCRIPTION

Data set..... hptntmw2.dat

Data set title.... Handy Pantry, Pumping Test Data, MW-2

Company..... SPATCO Environmental

Project..... 9-2798

Client..... Handy Pantry

Location..... Taylor St, Columbia S.C.

Test date..... 8/26/93

Knowns and Constants:

No. of data points..... 855

Pumping rate..... 0.06684

Radius (distance) to obs. well..... 56

Aquifer saturated thickness...... 17.38

#### ANALYTICAL METHOD

Cooper-Jacob (Unconfined Aquifer)

# RESULTS FROM STATISTICAL CURVE MATCHING

#### STATISTICAL MATCH PARAMETER ESTIMATES

Estimate Std. Error

 $\Gamma = 1.6534E+000 +/- 9.4564E-002$ 

S = 6.9087E-005 +/- 2.9005E-005

#### ANALYSIS OF MODEL RESIDUALS

residual = calculated - observed
weighted residual = residual \* weight

Weighted Residual Statistics:

Number of residuals..... 855

Number of estimated parameters.... 2

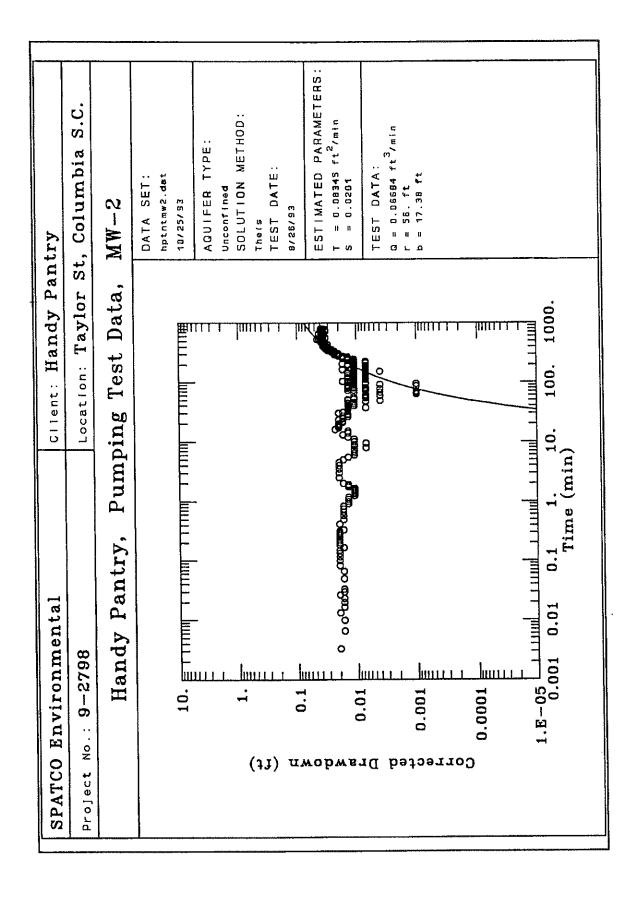
Degrees of freedom..... 853

Residual mean..... -3.909E-009

Residual standard deviation..... 0.01049

Residual variance...... 0.00011

Model Residuals:



## AQTESOLV RESULTS Version 1.10

Version 1.10

10/25/93 14:14:00

## TEST DESCRIPTION

Data set..... hptntmw2.dat

Data set title.... Handy Pantry, Pumping Test Data, MW-2

Company..... SPATCO Environmental

Project.... 9-2798

Client..... Handy Pantry

Location..... Taylor St, Columbia S.C.

Test date..... 8/26/93

Knowns and Constants:

No. of data points..... 855

Radius (distance) to obs. well..... 56

Aquifer saturated thickness..... 17.38

#### ANALYTICAL METHOD

Theis (Unconfined Aquifer)

# RESULTS FROM STATISTICAL CURVE MATCHING

# STATISTICAL MATCH PARAMETER ESTIMATES

Estimate Std. Error

T = 2.2722E-001 +/- 9.5209E-003

S = 2.3076E-002 +/- 6.5690E-004

# ANALYSIS OF MODEL RESIDUALS

residual = calculated - observed
weighted residual = residual \* weight

Weighted Residual Statistics:

Number of residuals..... 855

Number of estimated parameters.... 2

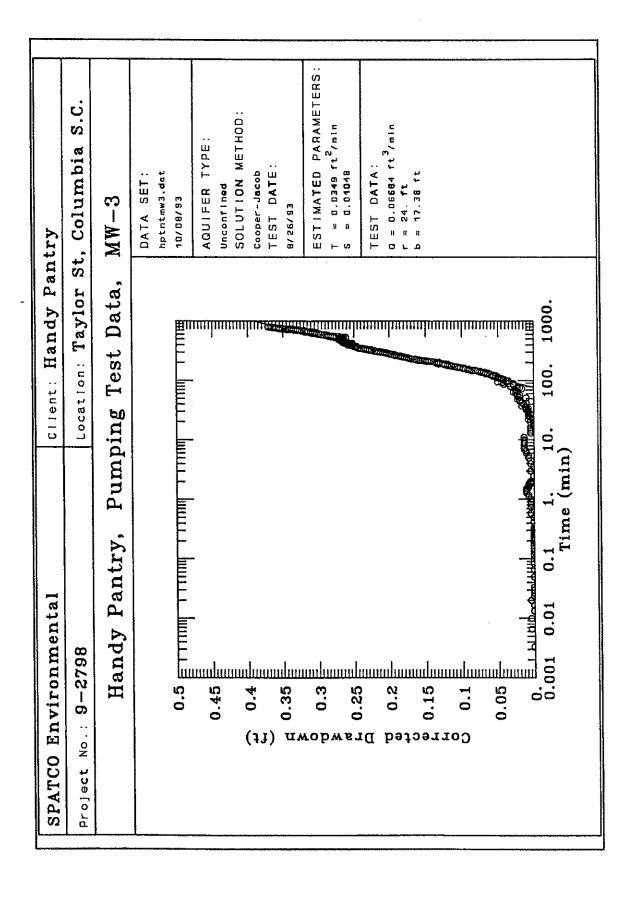
Degrees of freedom..... 853

Residual mean................ 0.001822

Residual standard deviation..... 0.007085

Residual variance..... 5.02E-005

#### Model Residuals:



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RESULTS AQTESOLV Version 1.10

15:21:10 0/08/93

# TEST DESCRIPTION

pata set.....hptntmw3.dat Pumping Test Data, MW-3

Data set title.... Handy Pantry, Company..... SPATCO Environmental

Project..... 9-2798

Client..... Handy Pantry

Location..... Taylor St, Columbia S.C.

Test date..... 8/26/93

Knowns and Constants:

No. of data points..... 855 Pumping rate..... 0.06684 Radius (distance) to obs. well..... 24

Aquifer saturated thickness...... 17.38

# ANALYTICAL METHOD

Cooper-Jacob (Unconfined Aquifer)

# RESULTS FROM STATISTICAL CURVE MATCHING

# STATISTICAL MATCH PARAMETER ESTIMATES

std. Error Estimate 3.2643E-003 1.1561E-001 +/-1.1864E-004 1.0743E-003 +/-

# ANALYSIS OF MODEL RESIDUALS

residual = calculated - observed weighted residual = residual \* weight

Weighted Residual Statistics:

Number of residuals..... 855 Number of estimated parameters.... 2 Degrees of freedom........... 853 Residual mean.....-1.473E-006 Residual standard deviation..... 0.0738

Residual variance..... 0.005447

Model Residuals:

#### AQTESOLV RESULTS Version 1.10

10/10/93

08:32:28

#### TEST DESCRIPTION

Data set.......... hptntmw3.dat
Data set title..... Handy Pantry, Pumping Test Data, MW-3
Company.......... SPATCO Environmental
Project.......... 9-2798
Client......... Handy Pantry
Location....... Taylor St, Columbia S.C.

Test date..... 8/26/93

Knowns and Constants:

#### ANALYTICAL METHOD

Neuman (Unconfined Aquifer)

## RESULTS FROM STATISTICAL CURVE MATCHING

#### STATISTICAL MATCH PARAMETER ESTIMATES

		Estimate		Std.	Error
T	==	2.7480E-002 -	+/-	4.008	1E-004
S	==	2.1524E-003 -	+/-	4.265	3E-004
Sy	****	1.2687E-002 -	+/-	4.526	9E-004
Ã	=	6.0000E+000 -	+/-	1.042	6E+000

#### ANALYSIS OF MODEL RESIDUALS

residual = calculated - observed
weighted residual = residual \* weight

#### Weighted Residual Statistics:



**September 15, 1999** Revised March 16, 2010

## SC Department of Health and Environmental Control (SC DHEC)

#### ENVIRONMENTAL REMEDIATION PROCUREMENT PROCEDURES

## **Environmental Remediation Projects**

#### **Definitions**

Definitions of Terms used in these procedures:

- 1. **Assessment** means the process of collecting environmental data for the purpose of determining the extent, severity and potential for migration of chemicals of concern, and may include the interpretation of data and/or the determination and evaluation of potential risks posed by said chemicals of concern to human health and/or the environment.
- 2. **Corrective Action** means those activities conducted to reduce or eliminate concentrations of chemicals of concern. These activities may include, but are not limited to removal of free product or contaminated soil; vapor extraction; in-situ and ex-situ ground-water treatment; installation of caps, slurry walls or liners; bioremediation; and intrinsic processes.
- 3. **Defined Scope of Work** means any assessment or corrective actions where the requirements and specifications are outlined.
- 4. **Environmental Remediation** means any activity necessary to assess and/or perform corrective action on soils, ground water and surface waters affected by chemicals of concern.

**Purpose:** These procedures are hereby established to effectively and efficiently procure services for environmental remediation projects.

Scope: These procedures apply to the direct procurement of environmental remediation services by DHEC, as authorized by the federal Resource Conservation & Recovery Act, (RCRA), the State Underground Petroleum Environmental Response Bank (SUPERB) Act, and the South Carolina Hazardous Waste Management Act (SCHWMA), Under these authorities, DHEC is authorized to procure environmental remediation services to investigate and cleanup releases to the environment. In the SUPERB program, UST site owners or operators have the option to utilize the services procured directly by DHEC or to obtain services independently. These procedures do not affect payment from the SUPERB account to UST owners or operators or contractors retained by UST owners or operators.

For any amendments to an environmental remediation project, DHEC shall negotiate a change order with the successful offeror. A change order modifies one or more of the following: scope, time, or cost. All documentation regarding the solicitations, including change orders will be maintained in the procurement file.

# I. PROCEDURES FOR PROJECTS WHERE THE SCOPE OF WORK IS DEFINED.

Competitive solicitations shall apply to projects with **defined** scope, where the requirements and specifications are outlined, and where DHEC determines that the competitive solicitation method is the most practicable or advantageous to the State. DHEC shall determine when the activities are sufficiently defined. These projects normally fall within the Underground Storage Tank and Drycleaning programs where the source and nature of the contamination are known. DHEC shall award contracts for environmental remediation services based on competitive solicitations for small purchases (up to \$50,000.00), and for solicitations greater than \$50,000.00, DHEC shall use the competitive sealed bidding, multi-step competitive sealed bidding, or competitive sealed proposal process. For contracts that have been established using the competitive solicitation process, additional projects similar in scope may be added as long as the contract is still in effect and the vendor agrees to the additional work at the prices quoted in the original contract. Separate vendor lists for underground storage tank remediation and drycleaning remediation may be retained given there are certification requirements for each program that are established by statute and/or regulation.

A. SMALL PURCHASES (up to \$50,000.00). These procedures apply to the procurement of environmental remediation services not predicted to exceed \$50,000.00. These procurements shall not be artificially divided so as to constitute a small purchase under this section. In estimating the total dollar amount to determine one of the bidding categories, the amount shall include any shipping, handling, packaging and installation charges, excluding S.C. Sales Tax. Any award made under the Small Purchases process is not grievable under Section IV of these procedures. Once a contract is established using one of the four Small Purchase category procedures outlined below, additional projects similar in scope can be added as long as the contract is still in effect and the

vendor agrees to the additional work at the prices quoted in the original contract and the total dollar amount for that category is not exceeded.

# Competition requirements for categories-small purchases:

1.	Purchases not in excess of \$2,500.	One quote (verbal or written) and a statement that the price is Fair and Reasonable.
2.	Purchases from \$2,501 to \$10,000.	Written solicitations sent to at least 3 qualified offerors.

3. Purchases from \$10,001 to \$50,000. Written solicitations advertised at least once in SCBO.

**B. COMPETITIVE SEALED BIDDING.** Contracts predicted to exceed \$50,000.00 with defined scope where the requirements and specifications are outlined may be awarded by the competitive sealed bidding method. A written single invitation for bid may be issued for projects that can be grouped together and competitively bid. The invitation for bid should be issued in an efficient and economical manner and advertised in the *South Carolina Business Opportunities* (SCBO) publication. The invitation for bid should include the specifications and the requirements and all contractual terms and conditions applicable to the procurement. The invitation for bid should be processed in accordance with the following procedures.

- (1) **Notice**. Adequate notice of the invitation for bid shall be given to the listed sources with a reasonable time prior to the date set forth therein for the opening of bids.
- (2) Receipt and Safeguarding of Bids. All bids (including modifications) received prior to the time of opening shall be kept secure and unopened in a locked box or safe.
- (3) **Bid Opening.** Bids shall be opened publicly in the presence of one or more witnesses at the time and place designated in the invitation for bids. The amount of each bid, and such other relevant information as may be specified by regulation, together with the name of each bidder, shall be tabulated. The tabulation shall be made open to the public for inspection at the time.
- (4) **Bid Acceptance and Bid Evaluation.** Bids shall be accepted unconditionally without alteration or correction, except as otherwise authorized in these procedures. The invitation for bids shall set forth the evaluation process to be used.
- (5) Correction, Withdrawal of Bids, or Cancellation of Awards. Correction or withdrawal of inadvertently erroneous bids before bid opening, withdrawal of inadvertently erroneous bids after award, or cancellation and re-award of awards or contracts after award but prior to performance, may be permitted in accordance with these procedures. After bid opening, no changes in bid prices or other provisions of bid prejudicial to the best interest of the State or fair competition shall be permitted. To maintain the integrity of the competitive sealed bidding system, a bidder shall not be permitted to correct a bid mistake after bid opening that would cause such bidder to have the low bid unless the mistake in the judgment of the procurement officer is clearly evident from examining the bid document; for example, extension of unit prices or errors in addition. All decisions to permit the correction or withdrawal of bids, or to cancel awards, or contracts after award

but prior to performance shall be supported by a written determination of appropriateness made by the DHEC Director of Procurement Services. Each written determination must document that fact that the bidder's or offeror's mistake is clearly evident and that correction of said error shall not affect actual unit rates included in the bid.

- (6) **Tie Bids.** If two or more bidders are tied in price while otherwise meeting all of the required conditions, awards are determined as follows:
  - (a) If there is a South Carolina firm tied with an out-of-state firm, the award must be made automatically to the South Carolina firm.
  - (b) Tie bids involving South Carolina firms must be resolved in favor of the South Carolina firm located in the same taxing jurisdiction as the project location.
  - (c) Tie bids involving South Carolina firms in the same taxing jurisdiction as the project location must be resolved by the flip of a coin in the office of the DHEC Director of Procurement Services witnessed by all interested parties. The same procedures shall apply where both firms are outside the taxing jurisdiction of the project location.
- (7) **Award.** Notice of award of a contract to the lowest responsive and responsible bidder whose bid meets the requirements set forth in the invitation for bids shall be given by posting such notice at a location specified in the invitation for bids. The invitation for bids and the posted notice must contain a statement of a bidder's right for grievance outlined in Section IV of these procedures and the date and location of posting must be announced at the bid opening. The notice will be posted at the following web address: <a href="http://www.procurement.sc.gov">http://www.procurement.sc.gov</a>.
- (8) Negotiations After Unsuccessful Competitive Bidding. When bids that are received pursuant to an invitation for bids under Section II. A of these procedures are unreasonable, or the low bid exceeds available funds as certified by the appropriate fiscal officer, and it is determined in writing by the DHEC Director of Procurement Services, or his designee, that time or other circumstances may not permit the delay required to resolicit competitive sealed bids, a contract may be negotiated pursuant to this section, provided that:
- (a) each responsible bidder who submitted a bid under the original solicitation is notified of the determination and is given reasonable opportunity to negotiate;
- (b) the negotiated price is lower than the lowest rejected bid by any responsible and responsive bidder under the original solicitation;
- (c) the negotiated price is the lowest negotiated price offered by any responsible and responsive offeror.

## C. REQUEST FOR QUALIFICATIONS

- (1) **Condition for Use.** When it is considered initially impractical to prepare a purchase description to support an award based on price, a request for qualifications may be issued requesting submission of unpriced offers to be followed by an invitation for bids limited to those bidders whose offers have been qualified under the criteria set forth in the first solicitation.
- (2) **Request for Qualifications.** Prior to soliciting bids, the authorized DHEC procurement officer may issue a request for qualifications from prospective offerors. Such a request shall contain, at a minimum, the general scope of work, a description of the environmental remediation equipment, the processes or services to be solicited by the competitive sealed bid, the deadline for submitting

information and how prospective offerors may apply for consideration. The request shall require information only on qualifications, experience, and ability to perform the requirements of the contract.

- (3) **Public Notice.** Adequate public notice of the request for qualifications shall be given with a reasonable time period prior to the date established for the submission of the required information. Such notice shall include the advertisement in the *South Carolina Business Opportunities (SCBO)* publication under the category of **Environmental Remediation**.
- (4) **Selection and Ranking.** After receipt of the responses to the request for qualifications from prospective offerors, the perspective offerors shall be ranked from most qualified on the basis of the information provided. Bids shall then be solicited from at least the top two prospective offerors by means of a competitive sealed bid. The failure of a prospective offeror to be selected normally is not grounds for grievance under Section IV of these procedures. However, if a letter of concern is submitted, only information contained in the bid and response packages will be considered.
- (5) The steps outlined in Section I. B., Competitive Sealed Bidding procedures, Paragraphs (2) through (8) apply.

#### D. COMPETITIVE SEALED PROPOSALS

The request for qualifications procedures described above or the procedures outlined below may be used with the competitive sealed proposal method.

- (1) Conditions for Use. When the DHEC Chief of Staff or his designee determines in writing that the use of the competitive sealed bidding process outlined in B and C of these procedures alone are either not practicable or not advantageous to the State, a contract may be entered into by competitive sealed proposal subject to the provisions of these procedures. Proposals shall be advertised in SCBO.
- (2) **Evaluation Factors.** The request for proposals shall state the relative importance of the factors to be considered in evaluating proposals but shall not require a numerical weighting for each factor. Price may, but need not be an initial evaluation factor.
- (3) **Discussion with Responsive Offerors.** Discussions may be conducted with prospective offerors who submit proposals for the purpose of clarification to assure full understanding of the requirements of the request for proposals. All offerors, whose proposals, in DHEC's sole judgment, needed clarification shall be accorded such an opportunity.
- (4) Selection and Ranking. Proposals shall be evaluated using only the criteria stated in the request for proposals and adhering to any weighting that has been previously assigned. Once the evaluation is complete, all responsive offerors shall be ranked from the most advantageous to the least advantageous to the State, considering only the evaluation factors stated in the request for proposals. If price is an initial evaluation factor, awards shall be made in accordance with (5) below. If price is not an initial evaluation factor, negotiations shall be conducted with the top ranked offeror for the performance of the contract at a price which, in the sole opinion of DHEC, is fair and reasonable to the State. Should the procurement official be unable to negotiate a contract at a price which, in the sole opinion of DHEC, is fair and reasonable to the State, negotiations shall be formally terminated with the top ranked responsive offeror and negotiation commenced with the second most advantageous responsive offeror, and then the third and so on until a satisfactory

contract has been negotiated. In conducting negotiations, there must be no disclosure of any information derived from proposals submitted by competing offerors.

- (5) **Award.** Award must be made to the responsive offeror whose proposal is determined in writing to be the most advantageous to the State, taking into consideration price and the evaluation factors set forth in the request for proposals, unless DHEC determines to use one of the options provided in (6) below. The contract file shall contain the basis on which the award is made and must be sufficient to satisfy an external audit. The notice will be posted at the following web address: <a href="http://www.scdhec.net/procurement">http://www.scdhec.net/procurement</a>.
- (6) **Other.** If, after following the procedures set forth in (4) and (5) above, a contract is not able to be negotiated, the scope of the request for proposals may be changed in an effort to reduce the cost a fair and reasonable amount, and all responsive offerors must be allowed to submit their best and final offers. Where the price was an initial evaluation factor, the DHEC procurement official, may in his sole discretion, proceed in any of the following indicated below:
- (a) negotiate price with the highest scoring offeror. If a satisfactory price cannot be agreed upon, price negotiations may be conducted, in the sole discretion of DHEC with the second, and then the third, and so on, ranked offerors to such level of ranking as determined by DHEC in its sole discretion; or
- (b) negotiate with the highest-ranking offeror on matters affecting the scope of the contract, so long as the overall nature of intent of the contract is not changed. If a satisfactory contract cannot be negotiated with the highest ranking offeror, negotiations may be conducted, in the sole discretion of DHEC, with the second, and then the third, and so on, to such level of ranking as determined by DHEC in its sole discretion; or
- (c) change the scope of the request for proposals and give all responsive offerors an opportunity to submit their best and final offers.

# II. PROCEDURES FOR PROJECTS WHERE THE SCOPE OF WORK IS $\underline{\text{NOT}}$ DEFINED

When the project is of such complexity that the scope of the environmental remediation activity is difficult to or not defined, then DHEC shall use the following procedures. These involve projects where the source and nature of the contamination is not known or easily determined, which typically would be encountered at sites funded by the HWCF.

A. Selection Committee. DHEC shall establish its own environmental remediation selection committee, hereinafter referred to as the Complex Projects Selection Committee, which shall be composed of those individuals whom the Assistant Bureau Chief determines to be qualified to make an informed decision as to the most competent and qualified firm for the proposed services. The Director of Procurement Services or his qualified and responsible designee shall sit as a permanent member of the Complex Projects Selection Committee for the purpose of coordinating and accounting for the committee's work. To assist the committee in the selection of firms to be employed for significant or highly technical projects and to facilitate prompt selections, the committee may invite the State Engineer or his designee to sit as a nonvoting member of the committee.

- **B.** Advertisement of Project Description. The selection committee shall be responsible for (a) developing a description of the proposed contract, (b) enumerating all required environmental remediation activities, and (c) preparing a formal invitation to firms for submission of information. The invitation shall include, but not be limited to, the project title, the general scope of work, and a description of the corrective action required for the project, the submission deadline, and how interested firms may apply for consideration. The number of persons or firms to be selected shall be specified in the invitation. The invitation shall be formally advertised in the South Carolina Business Opportunities (SCBO) publication under the category of Environmental Remediation.
- C. Response to Invitation. The date for submission of information from interested persons or firms in response to an invitation shall be not less than fifteen days after publication of the invitation. Interested environmental remediation contractors shall be required to respond to the invitation with the submission of a current and accurate Federal Standard Form 254 and 255 or such similar information which DHEC may require (including Federal Standard Form 330 in lieu of 254 and 255).
- **D.** Interviews and Interested Firms. Following receipt of information from all interested persons and firms, the selection committee shall hold interviews with at least five persons or firms who have responded to the committee's advertisement and who are deemed most qualified on the basis of information available prior to the interviews. If fewer than five firms have responded to the advertisement, the committee shall hold interviews with those that did respond. The committee's determination as to who will be interviewed shall be in writing and shall be based upon its review and evaluation of all submitted materials. The written report of the committee shall specifically list the names of all persons and firms that responded to the advertisement and enumerate the criteria the committee used in selecting those to be interviewed. The purpose of the interview shall be to provide such further information as may be required by the committee to fully acquaint it with the relative qualifications of the several interested firms.
- E. Selection of the Best Qualified. The selection committee shall evaluate each of the persons or firms interviewed in view of their:
  - (1) past performance;
  - (2) the ability of professional personnel;
  - (3) willingness to meet time and budget requirements;
  - (4) location:
  - (5) recent, current, and projected workloads:
  - (6) creativity and insight related to the project; and
  - (7) related experience on similar projects.

Based upon these evaluation criteria, the committee shall select the persons or firms who, in its judgment, are the best qualified. The list of persons or firms will be used by DHEC depending on the requirements of the project. The committee's report of the chosen persons or firms shall be in writing and shall include data substantiating its determinations. Depending on the circumstance, DHEC will consider costs in the evaluation of all offerors.

**F. Notice of Selection.** When DHEC determines that the selection report is final, written notification of the selection shall be immediately sent to all those who responded to the selection committee's invitation to submit information. The list of selected sources shall be effective for a period of one year. No later than thirty (30) days prior to the expiration date of the list, the selection

committee may exercise an option either to cancel the list and issue a new solicitation or extend the term of the list for additional one year periods up to a total of five years. When appropriate. DHEC reserves the right to solicit for additional firms at any time during the effective period of the list of selected sources. When DHEC determines there is a need to add additional firms to the list of offerors, DHEC shall issue a new solicitation using the same selection criteria and interview process established when the original list was developed. Those firms on the original list need not respond since they have already been through the selection process. DHEC shall maintain both solicitations as separate procurements. Also, when appropriate, DHEC reserves the right to delete offerors from the list of selected sources for cause. Whenever a deletion is made, the selection committee may select the next best-qualified offeror from the remaining offerors on the original list of selected sources. The failure of a prospective offeror to be selected normally is not grounds for grievance under Section IV of these procedures. However, if a letter of concern is submitted, only information contained in the bid and response packages will be considered.

G. Negotiations with a Qualified Offeror. If the scope of a project is of such complexity, of immediate nature, or of such an unknown quantity that the use of the other procurement methods is either not practicable or not advantageous to the State, then DHEC shall negotiate with the best-qualified person or firm. DHEC reserves the right to select the best qualified person or firm depending on the general scope of the project. Where "best qualified" is the primary factor and cost is secondary, DHEC shall negotiate the cost with the best-qualified person or firm. If no agreement is reached, negotiations shall commence in the same manner with the next best-qualified person or firm until a satisfactory contract is negotiated. If the nature of the project is such that the "best qualified" is not the primary factor, or is unable to be determined, but price is the primary factor, then DHEC may request pricing from all qualified persons or firms on the list for the purpose of negotiating a contract. If no agreement is reached with one of the original listed offerors, the selection committee may select additional persons for firms from the remaining pool of interviewees. If unsuccessful with the remaining pool of interviewees, the selection committee may contact additional firms for interviews using the same selection criteria established when the original list was developed. The successful interviewees will be added to the list.

# III. OTHER PROCUREMENT METHODS FOR USE WITH ENVIRONMENTAL REMEDIATION PROJECTS

- A. Sole Source Procurement: A contract for an environmental remediation project may be awarded without competition when the DHEC Chief of Staff, or his designee, determines in writing that there is only one source for the required project. Written documentation must include the determination and the basis for the proposed sole source procurement and why no other vendor is suitable. In cases of reasonable doubt, competition shall be solicited. All sole source procurements will be reported quarterly to the Materials Management Office under the Office of General Services, which is directed by the Budget and Control Board.
- **B.** Emergency Procurement. The DHEC Chief of Staff may approve emergency procurements for an environmental remediation project only when there exists an immediate threat to public health, welfare, critical economy and efficiency, or safety under emergency conditions, provided that such

emergency procurements shall be made with as much competition as is practicable under the circumstances. The Program Area has the authority to determine the course of action to proceed in an emergency situation. Within three working days, the Program Area will provide DHEC Procurement Services with a written determination of the basis for the emergency and the selection of the particular contractor. All documentation, including the DHEC Chief of Staff's approval, shall be maintained in the purchasing file. All emergency procurements will also be reported quarterly to the Materials Management Office.

# IV. GRIEVANCE PROCEDURES FOR ENVIRONMENTAL REMEDIATION SOLICITATIONS DURING THE SOLICITATION PHASE

The following grievance procedures are provided.

- A. Solicitation of a Contract. Subject to conditions set forth in these procedures, any prospective bidder who is aggrieved in connection with the solicitation of a contract for environmental remediation shall submit a letter of concern to the DHEC procurement officer responsible for the solicitation within fifteen calendar days of the date of issuance of the Invitation for Sealed Bids or the Request for Proposals, whichever is applicable, or any amendment thereto if the amendment is at issue. A grievance shall be in writing and shall set forth the grounds of the grievance and the relief requested with enough particularity to give notice of the issues to be decided. A fax of the letter, followed by a post marked signed original letter is acceptable. After the Director of Procurement Services, or his designee, has been notified, DHEC may attempt to informally resolve the dispute. If the dispute cannot be resolved, the Director of Procurement Services will determine whether the dispute merits altering the solicitation and will provide a written response within five working days of the receipt of the letter.
- **B.** Award of a Contract. Any actual bidder who is aggrieved in connection with the award of a contract shall submit a letter of concern to the DHEC procurement officer responsible for the solicitation within seven calendar days of the award publication date. Processes are the same as above.
- C. Secondary Review and Decision. If the bidder is not satisfied with the decision rendered by the Director of Procurement Services, the bidder shall notify the Director of the Bureau of Business Management in writing within ten calendar days of the date of the written response from the Director of Procurement Services. The Director of the Bureau of Business Management will conduct a review and provide a written response within five working days. The decision of the Director of the Bureau of Business Management shall be final and conclusive. If the aggrieved is not satisfied with the decision rendered in A or B above and this section, and wishes to pursue legal action, the aggrieved, or his legal representative, shall notify in writing the DHEC Chief of Staff within ten calendar days of the date of the written response from the Director of the Bureau of Business Management.

- **D.** Notice of Decision. A copy of all decisions under this section shall be mailed or otherwise furnished immediately to the aggrieved party and any other party intervening.
- **E.** Stay of Procurement during Grievances. In the event of a timely grievance under subsections A. or B. above, DHEC shall not proceed further with the solicitation or award of the contract until a decision is rendered by the Director of Procurement Services. However, the solicitation or award of an aggrieved contract will not be stayed if the Director of Procurement Services makes a written determination that the solicitation or award of the contract without delay is necessary to protect the best interests of the State.

# V. GRIEVANCE PROCEDURES FOR CONTRACT DISPUTES AND BREACH OF CONTRACT CONTROVERSIES REGARDING ENVIRONMENTAL REMEDIATION PROJECTS DURING THE CONTRACT IMPLEMENTATION PHASE

- A. Applicability. These procedures apply to controversies between DHEC, the site owner or operator, and/or a contractor or subcontractor when the subcontractor is the real party in interest, which arise under or by virtue of a contract for environmental remediation including, but not limited to controversies based upon breach of contract, misrepresentation, mistake, or other cause for contract modification or recension. These procedures constitute the exclusive means of resolving a controversy between DHEC, the site owner or operator, and/or a contractor or subcontractor concerning a contract solicited and awarded under the provisions of these procedures.
- **B.** Complaint against DHEC Program Management. Site owner or operator, and/or a contractor or subcontractor when the subcontractor is the real party in interest has 30 days after the discovery of a contract dispute or controversy to notify in writing the DHEC Project Manager or the Director of the respective program within the Bureau of Land and Waste Management of the identification of the dispute or controversy. The Bureau of Land and Waste Management has 45 days to review and attempt to informally resolve the dispute or controversy. If the contract controversy cannot be mutually resolved, the Assistant Bureau Chief of the Bureau of Land and Waste Management will provide a written, informal determination to the site owner or operator, and/or a contractor or subcontractor when the subcontractor is the real party in interest.
- C. Informal Review and Decision. If the complainant is not satisfied with the decision made by the Assistant Bureau Chief, the complainant should address the issues in writing, within 15 calendar days of the date of the letter, to the Director of Procurement Services for resolution. The request for resolution to the Director of Procurement Services must be in writing and set forth the general nature of the controversy and the relief requested with enough particularity to give notice of the issues to be decided.
- **D. Duty and Authority to Attempt to Settle Contract Controversies Director of Procurement Services.** The Director of Procurement Services will provide a written acknowledgment to the complainant and the Assistant Bureau Chief of the Bureau of Land and Waste Management within 5 calendar days of the receipt of the complaint. The Director of Procurement Services, or his representative, shall attempt to mediate a settlement by mutual agreement by the two parties. If a mediation agreement is not approved by both of the complainants and the Assistant Bureau Chief of the Bureau of Land and Waste Management, the Director of

Procurement Services will provide a written determination within 10 days of the rejection by either party in the dispute.

- **E.** Secondary Review and Decision. If, the complainant is not satisfied with the determination made by the Director of Procurement Services, the complainant should address the issues in writing, within 15 calendar days of the date of the letter, to the Director of the Bureau of Business Management for an administrative review and final resolution. The Director of the Bureau of Business Management will conduct a review and issue a written response to the complainant and the Assistant Bureau Chief of Land and Waste Management within 15 calendar days after receipt of the complaint. The decision shall state the reasons for the final determination. The decision rendered by the Director of the Bureau of Business Management shall be final and conclusive. If the complainant is not satisfied with the decision rendered in B, C, or D above and this section, and wishes to pursue legal action, the complainant, or his legal representative, shall notify in writing the DHEC Chief of Staff within 15 calendar days of the date of the written response from the Director of the Bureau of Business Management.
- F. Complaints made by DHEC Concerning Contractor Performance. For complaints against a contractor for lack of performance, the DHEC Project Manager will make informal complaints directly to the contractor in an attempt to resolve the problems as quickly as possible. If the complaint is not resolved, the Director of the respective program within the Bureau of Land and Waste Management, in consultation with the Assistant Bureau Chief of Land and Waste Management, will make a written, informal complaint of the dispute or controversy, with supporting documentation, directly to the Director of Procurement Services for formal processing. The Director of Procurement Services, or his representative, shall attempt to mediate a settlement by mutual agreement by the two parties. If a mediation agreement is not approved by both of the complainants and Assistant Bureau Chief of the Bureau of Land and Waste Management, the Director of Procurement Services will provide a written determination within 15 calendar days of the rejection by either party in the dispute. If the contractor is not satisfied with the determination provided by the Director of Procurement Services, the contractor should follow the procedures outlined in E above.
- G. Complaints Requiring Immediate Resolution. For complaints of a serious nature that may have an immediate impact on the health of associated individuals or lead to immediate economic losses, the Assistant Bureau Chief of the Bureau of Land and Waste Management has the authority to make this determination with consultation with the Director of Procurement Services or his representative and alter the times and procedures to remedy the immediate threat. The Assistant Bureau Chief of the Bureau of Land and Waste Management will provide written documentation to the Director of Procurement Services within 3 working days of the action taken as well as the rationale. DHEC reserves the right to alter the processing days to meet any unexpected contingencies.

# Bid Amendment



# State of South Carolina

Invitation for Bid Amendment - 1 Solicitation Number:
Date Issued:
Procurement Officer:

540007095 January 13, 2014 E. Madison Winslow

Phone: E-Mail Address:

803-898-3487 winsloem@dhec.sc.gov

DESCRIPTION: UST Corrective Action, UST # 07584, # 07777, # 12352 - Columbia, South Carolina USING GOVERNMENTAL UNIT: South Carolina Department of Health and Environmental Control

The Term "Offer" Means Your "Bid" or "Proposal". Solicitation Number & Opening Date must appear on package exterior. See "Submitting Your Offer" provision.

SUBMIT YOUR SEALED OFFER TO	EITHER OF THE	FOLLOWING	ADDRESSES:			
MAILING ADDRESS:  DHEC - Division of Procurement Services Bureau of Business Management 2600 Bull Street Columbia, S.C. 29201	DHEC – Di Columbia M 301 Gervais Columbia, S	ENING / PHYSICAL ADDRESS: IEC — Division of Procurement Services - Bureau of Business Management lumbia Mills Building — 4 <sup>th</sup> Floor I Gervais Street lumbia, S.C. 29201 E Section II.A - Public Opening Information — DHEC Clause				
SUBMIT OFFER BY (Opening Date/T	ime): January 28,	2014/2:30 pm	ET (See "Deadline For Submission Of Offer" provision)			
QUESTIONS MUST BE RECEIVED BY: DEADLINE HAS PASSED (See "Questions From Offerors" provision)						
NUMBER OF COPIES TO BE SUBMI	TTED: 1					
CONFERENCE TYPE: Not Applicable DATE & TIME:	e	L	OCATION: Not Applicable			
(As appropriate, see "Conferences - Pre-Bid/Proposal" & "	Site Visit" provisions)					
AWARD & Award will be posted related notices will be	on February 4, 20 posted at the follow	14. The award wing web addi	d, this solicitation, any amendments, and any ress: http://www.procurement.sc.gov			
the terms of the Solicitation. You agree to	orm with Your Offer o hold Your Offer of 'Signing Your Offer" and "E	pen for a mini				
NAME OF OFFEROR		the entity identity a single and dist	ed will be issued to, and the contract will be formed with, fied as the Offeror. The entity named as the offeror must be inct legal entity. Do not use the name of a branch office or arger entity if the branch or division is not a separate legal arate corporation, partnership, sole proprietorship, etc.			
(full legal name of business submitting the offer)  AUTHORIZED SIGNATURE		TAXPAYER IDENTIFICATION NO.				
(Person must be authorized to submit binding offer to cont	ract on behalf of Offeror.)	(See "Taxpayer Identification Number" provision)				
TITLE		STATE VENDOR NO.				
(husinger title of moreon giocing about)		(Register to Obtain S.C. Vendor No. at www.procurement.sc.gov)				
(business title of person signing above)  PRINTED NAME	DATE SIGNED					
PRINTED NAME  DATE SIGNED STATE OF INCORPORATION  (printed name of person signing above)  (If you are a corporation, identify the state of incorporation.)						
OFFEROR'S TYPE OF ENTITY: (Check one) (See "Signing Your Off						
Sole Proprietorship	Partnership		Other			
Corporate entity (not tax-exempt)	Corporation (tax-	exempt)	Government entity (federal, state, or local)			
COVER PAGE (NOV. 2007)			(0			

PAGE TWO
(Return Page Two with Your Offer)

HOME OFFIC principal place of	CE ADDRESS (business)	Address for offero	r's home office /		DDRESS (Address should be sent.) (See "		rement and contract
				Number - Ex	tension Fa	csimile	Area Code -
				mail Address			E-
				ORDER ADDRESS (Address to which purchase orders will be sent) (See "Purchase Orders and "Contract Documents" clauses)  Order Address same as Home Office Address			
Payment Address same as Notice Address (check only one)  Order Address same as Notice Address (check only one)  ACKNOWLEDGMENT OF AMENDMENTS  Offerors acknowledges receipt of amendments by indicating amendment number and its date of issue. (See "Amendments to Solicitation" Provision)					-		
Amendment No.	Amendment Issue	Amendment No.	Amendment Issue	Amendment No	. Amendment Issue	Amendment No.	Amendment Issue
	Date		Date	: : :	Date		Date
DISCOUN' PROMPT PA (See "Discount I Payment" c	YMENT for Prompt	Calendar Days (%)	20 Calenda	ar Days (%)	30 Calendar Days	(%)C	alendar Days (%)

PAGE TWO (SEP 2009)

End of PAGE TWO

**AMENDMENTS TO SOLICITATION (JAN 2004)** 

(a) The Solicitation may be amended at any time prior to opening. All actual and prospective Offerors should monitor the following web site for the issuance of Amendments: <a href="www.procurement.sc.gov">www.procurement.sc.gov</a> (b) Offerors shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on Page Two, (3) by letter, or (4) by submitting a bid that indicates in some way that the bidder received the amendment. (c) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged. [02-2A005-1]

# Amendment Number Three Solicitation 5400007095

#### **Questions and Answers**

1. Question: How much SUPERB Fund monies have been spent on each of the referenced sites to date?

Answer: For UST # 07584, Release 1, \$304,138.94 in SUPERB funds have been spent.

For UST # 07584, Release 2, \$188,793.66 in SUPERB funds have been spent.

For UST # 07777, \$364,711.80 in SUPERB funds have been spent. For UST # 12352, \$200,851.65 in SUPERB funds have been spent.

2. Question: What is the SUPERB available balance for completing the solicited corrective action?

Answer: \$1 million is available for each site per release from the SUPERB account.

# Catherine B. Templeton, Director Promoting and protecting the health of the public and the environment

## MEMORANDUM

Date:

February 4, 2014

To:

E. Madison Winslow, Procurement Manager

Bureau of Business Management

From:

Larry G. Sorrell, Manager

**Financial Section** 

Underground Storage Tank Management Division

Subject:

Bid Award, IFB-5400007095

UST Permit # 07584, University Mart UST Permit # 07777, Cloud's Chevron UST Permit # 12352, Cloud's Chevron

**Richland County** 

The UST Management Division has reviewed the responses to the solicitation. The low bid of \$540,000.00 was submitted by Crawford Environmental Services, Inc. As the proposed corrective action methodology can be permitted in South Carolina and the estimated time frame is protective of human health, the UST Management Division recommends immediate award of the contract to Crawford Environmental Services, Inc. in accordance with the solicitation.

In the description section of the purchase order, please refer to site names and UST permit numbers.

Please forward a copy of the purchase order to me for UST distribution.

cc:

**Technical Files** 

Lee Monts, Manager, Corrective Action Section

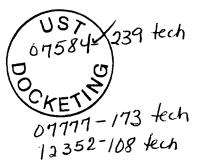
Susan Fulmer, P.G., Project Manager, Corrective Action Section

# CRAWFORD ENVIRONMENTAL SERVICES



March 20, 2014

Ms. Susan Fulmer, Hydrogeologist Corrective Action Section UST Management Division Bureau of Land and Waste Management SCDHEC 2600 Bull Street Columbia, SC 29201



RE: QAPP Contractor Addendum - Initial Monitoring Report

Cloud's Chevron & University Mart 1600 Two Notch Road, Columbia, SC UST Permits: #07584, 07777 and 12352

**CES Number: Pending** 

Dear Ms. Fulmer

As we have discussed, attached please find the Quality Assurance Project Plan Addendum (Initial Monitoring Event) for the referenced facility prepared by Crawford Environmental Services, Inc. (CES). CES has completed the site check (March 10, 2014), the assessment plan and contractors addendum to the Master QAPP for the Groundwater Assessment to be performed at the above noted facility.

Should you have any questions or comments regarding the attached, please feel free to contact me at 540-798-4205 or by email at <a href="mailto:crawford@crawfordenvironmental.com">crawford@crawfordenvironmental.com</a>.

Best Regards,

CRAWFORD ENVIRONMENTAL SERVICES, INC.

Charles F. Crawford, III

President

SC Rehabilitation Contractor Number: 0388

Attachments:

Appendix A: Quality Assurance Program Plan (Contractor's Addendum) 26 pages

Appendix B: Chain of Custody Template 1 page
Appendix C: Groundwater Assessment Plan 1 page

Appendix D: Site Figures 2 pages

SCANNED



## **APPENDIX A:**

**QAPP Contractor Addendum** 

Crawford Environmental Services, Inc. Handy Pantry #65 / University Mart & Cloud's Chevron Site IDs: #07584, #07777 and #12352



# Section A: Project Management

## A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Handy Pantry #65 / University Mart and Cloud's Chevron
UST Permit #: 07584, 07777 and 12352

1600 Two Notch Road, Columbia, SC

## Prepared by:

Charles F. Crawford, III
Crawford Environmental Services
15 Church Ave., SW
Roanoke, VA 24015
SCDHEC Site Rehabilitation Contractor Certification Number: UCC-0388

# **Approvals**

Susan Fulmer		Date		
SC DHEC Project Manager	Signature	<del></del>		
Charles F. Crawford, III Site Rehabilitation Contractor	Signature	Date	03.19.14	
Daniel J. Fisher Project Verifier	Y J Z J Signature	Date	03.19.14	
Ashley Amick Laboratory Director	Signature	Date	03.20.14	
Access Analytical Inc.				
	netweetflat			
Mehmet Yildrim		Date	03.20.14	
Laboratory Director	Signature			
Analytical Environmental Services Inc.				

Revision 0 Page 1 of 26 CES QAPPA ver. 5.0 -Sample 3/19/2014 Crawford Environmental Services, Inc. Handy Pantry #65 / University Mart & Cloud's Chevron Site IDs: #07584, #07777 and #12352



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Crawford Environmental Services, Inc. Handy Pantry #65 / University Mart & Cloud's Chevron Site IDs: #07584, #07777 and #12352



# **A3 Distribution List**

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Susan Fulmer	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-898-0614	803-896-6245	fulmersb@dhec.sc.gov
Charles F. Crawford	Site Rehabilitation Contractor	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	540-798-4205	540-343-6259	ccrawford@crawfordenvironmental.com
Daniel J. Fisher	Project QA/QC Manager and Project Verifier	Crawford Environmental Services 15 Church Ave., SW Roanoke, VA 24011	540-798-5068	540-343-6259	dfisher@crawfordenvironmental.com
Daniel J. Fisher	Project Manager	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	540-798-5068	540-343-6259	dfisher@crawfordenvironmental.com
William C. Ewing	Field Manager/ Certified Well Driller	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	803-708-0079	803-708-8137	bewing@crawfordenvironmental.com
Ashley Amick	Laboratory Director	Access Analytical, Inc. (AA) 7478 Carlisle Street Irmo, SC 29063	803-781-4243	803-781-4303	aamick@axs-inc.com
Mehmet Yildrim	Laboratory Analytical Environmental (AES) Director Services Inc. 3785 Presidential Pkwy Atlanta, GA 30340		770-457-8177	770-457-8188	mylidrim@aesatlanta.com

**Table 1A Addendum Distribution List** 



A4 Project Organization

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/Address	Telephone Number	Fax Number	Email Address
Project Manager	Susan Fulmer	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-898- 0614	803-896- 6245	fulmersb@dhec.sc.gov
Site Rehabilitation Contractor	Charles F. Crawford	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	540-798- 4205	540-343- 6259	ccrawford@crawfordenvironmental.com
Project Manger	Daniel J. Fisher	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	540-798- 5068	540-343- 6259	dfisher@crawfordenvironmental.com
Analytical Laboratory Director	Ashley Amick	Access Analytical, Inc. (AA) 7478 Carlisle Street Irmo, SC 29063	803-781- 4243	803-781- 4303	aamick@axs-Inc.com
Analytical Laboratory Director	Mehmet Yildrim	Analytical Environmental (AES) Services Inc. 3785 Presidential Pkwy Atlanta, GA 30340	770-457- 8177	770-457- 8188	mvildrim@aesatlanta.com
Field Manager/ Certified Well Driller	William C. Ewing	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	803-708- 0079	803-708- 8137	bewing@crawfordenvironmental.com
Project QA/QC Manager and Project Verifier	Daniel J. Fisher	Crawford Environmental Services 15 Church Ave., SW Roanoke, VA 24011	540-798- 5068	540-343- 6259	dflsher@crawfordenvironmental.com
Disposal Subcontractor	Vanessa Tremblay	Waste Management 1850 Parkway Place – Suite 600 Marietta GA 30067	803-735- 0808	877-446- 1079	vtrembly@wm.com

**Table 2A Addendum Role Identification and Contact Information** 

#### The responsibilities of the participants are as follows:

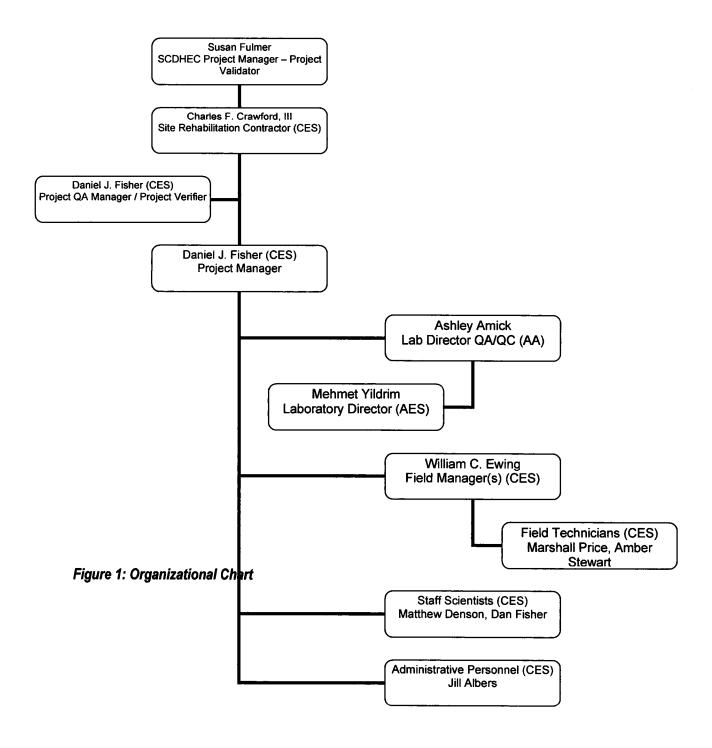
- 1. **UST Management Project Manager** The UST Management Project Manager (UST Project Manager) is responsible for direct oversight of the contractor conducting this assessment. The UST Project Manager performs the review of the plan and the report associated with this assessment. These reviews include verification and analysis of data submitted to the UST Management Division by the Site Rehabilitation Contractor. The UST Project Manager is responsible for the review of and approval of the site specific QAPP to ensure compliance with the Master QAPP. The UST Project Manager also is responsible for validating data.
- 2. **Site Rehabilitation Contractor** The Site Rehabilitation Contractor is an independent contractor responsible for managing and coordinating field and office activities needed for this assessment.
- 3. **Project Manager** The Project Manager is a representative of the Site Rehabilitation Contractor responsible for the day to day oversight of activities needed to complete this assessment. The Project



Manager is responsible for the submission of plans, updates and reports associated with this assessment.

- **4.** Laboratory Analytical Director The Laboratory Analytical Director represents the Analytical Laboratory that will receive the soil and water samples from the Site Rehabilitation Contractor, performs the requested analyses and provides an analytical report.
- **5. Field Manager** The Field Manager is a representative of the Site Rehabilitation Contractor responsible for the oversight of the contractor technicians and field activities. The Field Manager is responsible for the review / QA of field activities to ensure compliance with the UST Master QAPP and contractor health and safety plans.
- **6. Project QA/QC Manager and Project Verifier** The Project QA/QC Manager and Project Verifier is a representative of the Site Rehabilitation Contractor responsible for the oversight of project activities to ensure quality control is in compliance with the UST Master QAPP.
- **7. Disposal Contractor** The Disposal Contractor is a subcontractor, chosen by the Site Rehabilitation Contractor, which will receive the industry derived waste created during the implementation of this assessment. The Disposal Contractor is responsible for the review of manifests to ensure the disposal is in compliance with the UST Master QAPP.







#### A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed. According to SCDHEC and contractor records an IGWA, Tier 1, Tier II, Corrective Action and several groundwater sampling events were previously completed at this facility. During the previous assessments, several groundwater monitoring wells yielded dissolved-phase concentrations of Chemicals of Concern (CoCs) in exceedance of the risk based screening limits and maximum contaminant limits (RBSLs/MCLs). Refer to Appendix C for site specifics and history.

Please answer the following: Does this project fall under UST or Brownfields area?
UST Area.

#### A6 Project/Task Description

- 1. Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).
  - -Complete a Groundwater Assessment
    - -Refer to the Groundwater Sampling Plan (Appendix C) for details and specifics regarding items included in this assessment.
    - -Refer to the included Figures (Appendix D) for details and specifics regarding the locations of monitoring wells.
- 2. The work will begin within:
  - a. Mobilization / Sample collection and laboratory analysis: 1-2 weeks
  - b. De-mobilization and clean-up:1 week
  - c. Report preparation: 1 week; should additional samples be required to achieve 90% valid samples, the project may be extended. The SCDHEC project manger will be contacted via email or telephone if project requires an extension for any reason.
- 3. Are there any time or resource constraints? Include those factors that may interfere with the tentative schedule. Laboratory equipment failures may cause up to a two week delay. Property access issues due to their inherent unpredictability, may cause a delay that will exceed the initial timeframe given for this project. Inclement weather conditions also may cause project delays. No resource constraints are anticipated.



### A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

Please refer to Appendix D of this QAPP for shallow and deep monitoring well locations. The assessment boundaries are limited to the area necessary to complete this initial groundwater assessment. SCDHEC will be notified during the assessment regarding any accessibility issues.

#### **A8 Training and Certificates**

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
•	CRAWFORD ENVIRONM	MENTAL SERVICES	, INC. (Last Updated	d March 2014)	
Site Rehabilitation Contractor	Charles F. Crawford	OSHA HASWOPER	-	Class A General Contractor	2705076157
Senior Project Geologist	B. Thomas Houghton	-	-	S.C.P.G.	2343
Project Manager	Daniel J. Fisher	OSHA HASWOPER	December 2013 (OSHA)	-	-
Staff Scientist	Matthew Denson	OSHA HASWOPER	March 2014 (OSHA)	-	-
Staff Scientist	Daniel J. Fisher	OSHA HASWOPER	December 2013 (OSHA)	N/A	N/A
Administrative	Jill A. Albers	-	-	-	-
Field Manager	William C. Ewing	OSHA HASWOPER	December 2013 (OSHA)	SCLLR Class B Drilling License	1505
Field Technician	Marshall Price	OSHA HASWOPER	December 2013 (OSHA)		
	Sul	bcontractors (Labs	/ Surveyors)		
Lab Director (AA)	Ashley Amick	N/A	N/A	SC Certified Lab	32575001
Lab Director (AES)	Mehmet Yildrim	N/A	N/A	SC Certified Lab	98016003



Daniel J. Fisher of CES is responsible for ensuring that personnel participating in this project receive the proper training. All personnel training records will be stored at the Corporate office located at 15 Church Avenue, SW in Roanoke, VA 24011.

### It is understood that training records will be produced if requested by SC DHEC.

### The Following Laboratory(ies) will be used for this Project: <u>Commercial Lab(s)</u>

**Full Name of the Contractor performing Lab Analyses:** Analytical Environmental Services Inc.

Name of Lab Director: Mehmet Yildrim (QA/QC Ashley Amick- Access Analytical inc.)

SCDHEC Certification Number: SC Cert #: 98016003

Parameters this Lab/Contractor will analyze for this project:

BTEX, naphthalene, MTBE via US EPA method 8260B and TBA, TAA and TAME via US EPA method 8260-Oxy

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.



#### A9 Documents and Records

internal network system.

Personnel will receive the most current version of the QAPP Addendum via: (Check all that apply)						
X US Mail Courier X Hand delivered						
Personnel will receive the QAPP via US Mail, Email, or by downloading from the CE internal network. Notification of updates to the Master QAPP will be through email from the contractor. CES personnel can access the QAPP by downloading through the	m					

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Field Data Sheets/ Sampling logs	Environmental Contractor	Electronic	At Contractor Office Electronic for 5 Years	Included in Report
Laboratory Data	Laboratory Contractor	Electronic	At Laboratory Electronic for 25 Years	See Lab Archive plan
Weekly Update	Environmental Contractor	Electronic	At Contractors Office Electronic copy for 5 years	Included in Report
Monitoring Report	Environmental Contractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Correspondence	Environmental Contractor/ SCDHEC/ Subcontractors	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Invoices	Environmental Contractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Manifests	Environmental Contractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Figures	Environmental Contractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Surveys	Environmental Contractor/ Comprehensive Survey Subcontractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Disposal Manifests	Environmental Contractor/ Disposal Subcontractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy

Table 4A Record Identification, Storage, and Disposal



#### **Section B Measurement/Data Acquisition**

**B1 Sampling Process/Experimental Design** 

Site	QAPP	ACA	GW	Report	Details
Check	Submitted	Approved	Sampled	Submitted	
NTP+10	NTP+15	NTP+30	D+15	D+30	

Table 5A Sampling Activities
NTP = Notice to Proceed
D= Directive
Up to a total of:

0 Soil Samples

83 Water Samples

may be submitted for laboratory analysis.

Groundwater samples will be analyzed for the following:

BTEX, naphthalene, MTBE via US EPA method 8260B and TBA, TAA and TAME via EPA method SW-846 8260-Oxy

Field blanks and duplicates will be taken for groundwater samples (1 per every 20 samples collected). Trip blanks will be taken for every 20 samples and/or per every cooler used during the assessment.

The contractor will follow sampling protocols as outlined in the UST QAPP. These totals are anticipated to be maximums. The actual number of samples collected and submitted for laboratory analysis will be dependent upon the effort required to complete the scope of work.



#### Estimate the number of samples of each matrix that are expected to be collected:

Note: numbers provided are intended as a maximum probable under the current plan

Field Blank		0
Trip Blank		0
Total Soil Samples		0
Soil sample field and trip blanks will be r	represented by water samples.	
Groundwater from Field Screening	ng (FS)	0
Groundwater from Monitoring W	ell Sampling (MWS)	70
Water from water wells		0
Water from surface features		1
Field Blanks (FS)		0
Field Blanks (MWS)		4
Trip Blanks (FS)		0
Trip Blanks (GWS)		4
Duplicates (FS)		0
Duplicates (GWS)		4
Total (FS)		0
Total (GWS)		70
Total (Other)		13
TOTAL		83
FS = Field Screening	GWS= Groundwater Sampling	

If any of the above are circled please indicate how will it be done and the equipment needed. Sample collection that results in groundwater chemical analysis will include depth to water, depth to product, and groundwater quality indicators. Sampling will include gauging the depth to water and/or depth to free product utilizing an electronic water level indicator or similar device capable of recording the water level or thickness of any free product to an accuracy of 0.01 feet. Measurements of groundwater quality indicators (pH, temperature, D.O. turbidity and specific conductivity) will be recorded during sampling to ensure that groundwater quality is representative of the formation prior to collection of samples. Groundwater samples will be collected from a monitoring well by manual bailing using disposable polyethylene bailers. One sample will be collected from each monitoring well beginning with the wells on the outside perimeter of the contamination plume and working from the wells exhibiting the lowest CoC's to the highest CoC's. Sample duplicates will be collected per every 20 samples. For sample collection the bailer will be slowly lowered into the well until the top of the bailer has penetrated the water table surface, and slowly removed once full. Purge waters will be containerized on site and disposed of properly. The sample containers will then be placed in a cooler and delivered to AA laboratories.



Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable? Decontamination procedures will be the responsibility of the CES Field Technicians; ultimately reviewed and approved by the Field Manager. As outlined in Appendix A of the UST Guidance Document "QAPP Revision 1", all reusable sampling equipment will be stainless steel or constructed of a material that is compatible with the specified analysis and will be cleaned prior to and following the collection of each sample. Disposable bailers, string and gloves will be utilized for sample collection and will be disposed of after use.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination. pH, specific conductance, dissolved oxygen, and temperature meters [parameter devices] and water meter probes [sampling equipment] will be decontaminated between monitoring wells. In the field, parameter meter probes will be decontaminated utilizing deionized water. Each meter will be rinsed and then allowed to air dry. Decontamination waste from the cleaning processes will be contained and disposed of with the associated IDW for the site.

Sampling equipment and/or instruments will be decontaminated by washing with a laboratory-grade detergent such as Alconox, rinsed with tap water and then rinsed with analyte free water. If the equipment is not used immediately, it will be covered in plastic and stored in a clean, dry place. If required by UST Project Manager, verification of the effectiveness of the decontamination procedure will be acquired through equipment rinsate samples.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

Access Analytical will be the laboratory and is responsible for shipment of all samples (via Federal Express) to the subcontracted laboratory of AES.



# Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Equipment Failure (Drilling) {le. Drill rig, concrete}			Field Manager William C. Ewing 803-708-0079
Equipment Failure (sampling) {ie. Parameter meters, pump failure, calibration error}	Contact CES project manager. Use alternative equipment if available. Initiate field repairs if possible.	Identify failure. Log date, time and equipment.	Field Manager William C. Ewing 803-708-0079
Loss or delay of lab samples	Resample	Notice by Access of lost or delayed samples	Access Analytical Ashley Amick 803-781-4243
Drilling Refusal (Rock)	Contact CES project manager. Contact SCDHEC project manager	Log location, time and depth.	Field Manager William C. Ewing 803-708-0079
Drilling Issue (utility line impact etc.)	Contact CES project Manager, Contact Palmetto Utilities Protection Service.	Log location, time and depth.	Field Manager William C. Ewing 803-708-0079
Passive Diffusion Bag deployment / sampling failure	Redeploy. Use alternate method if applicable.	Log location, time and equipment.	Field Manager William C. Ewing 803-708-0079
Snap collector deployment failure.	Redeploy. Use alternate method if applicable.	Log location, time and equipment.	Field Manager William C. Ewing 803-708-0079
Lost samples in the lab	Resample	Email from lab to CES project manager and QA/ project verifier	Access Analytical Ashley Amick 803-781-4243
Sample failure (hold time limit exceeded/temperature limit exceeded	Contact CES project manager	Email from lab to CES project manager and QA/ project verifier	Access Analytical Ashley Amick 803-781-4243

**Table 6A Field Corrective Action** 



#### **B3 Sample Handling and Custody**

- 1. How will the samples get from the Site to the Lab to ensure holding requirements are met? Samples will be delivered to Access Analytical by CES personnel within 24-72 hours of sample collection. Access Analytical will then ship the samples via Federal Express to AES. Temperature and condition of the samples will be verified upon arrival at both Access Analytical and AES.
- 2. How will the contactors cool the samples and keep the samples cool? Sample containers will be maintained in a refrigerator or cooler filled with ice until they are shipped. Appropriate shipping containers for samples include insulated polypropylene or aluminum-clad coolers. The coolers should contain ice in a sealed container or other cooling source to maintain a temperature of 6°C in the container and to prevent degradation of the samples
- 3. How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?

  Project laboratories will use a certified thermometer to determine at-receipt sample temperatures. The temperature will be recorded on the chain-of-custody, temperature blanks will be used.
- 4. Where will the samples be stored in the Lab once they are received? Samples to be shipped for analysis will be handled and packaged in a manner that maintains a complete chain-of-custody record and prevents damage during shipment. All samples will be transported to the laboratory directly or by a commercial carrier. When using a commercial carrier, a custody seal will be used to preserve the integrity of the sample from the time it is collected until the container is opened in the laboratory. Samples received at project laboratories will be kept in secure refrigerators.
- 5. Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached. A chain-of-custody record supplied by the contracted laboratory will be used to document and track possession of the samples. The chain-of-custody record will be sent with each sample shipment from the field to the laboratory and will serve as a record for the receipt of samples by the laboratory. Copies of the chain-of custodies are included as Appendix E.



#### **B4 Analytical Methods**

1. Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:

Parameter	SOP ID*	Method Referenced	Equipment	Comments
pH	Section 2.10	SM 4500 H+B	HACH SenseION 156 HANNA HI	Refer section 2.10 CES SOP
Specific Conductance	Section 2.10	SM2510B	HACH SenseION 156 HANNA HI	Refer section 2.10 CES SOP
Temperature	Section 2.10	SM2550B	HACH SenseION 156 HANNA HI	Refer section 2.10 CES SOP
Dissolved Oxygen	Section 2.10	SM4500-O-G	HACH SenselON 156 HANNA HI	Refer section 2.10 CES SOP
Turbidity	Section 2.10	Method 8237	HACH DR-820	Refer section 2.10 CES SOP
BTEX, naphthalene, and MTBE	OA 11010	EPA Method 8260B	AES QAP p.195	AES SOP OA 11010 APDX III CES SOP
TAA, TAME and TBA	OA 11010	EPA Method 8260-Oxy	AES QAP p.195	AES SOP OA 11010 APDX III CES SOP

**Table 7A Analytical SOPs and Referenced Methods** 

 This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
Section 2.10	CES SOP Section 2.10	State Lead Tier II Assessment Program: Standard Operating Procedure & Quality Assurance/Quality Control
OA 11010 AES SOP OA-11010 C		Analytical Environmental Services Standard Operating Procedure for Volatile Organic Compound by EPA SW-846 Method 8260B/5030/5035
OA 13002	AES SOP OA-13002	Analytical Environmental Services Standard Operating Procedure Determination of Metals in Water, Soils and Wastes by ICPBY EPA SW-846 Method 6010C and Prep Methods 3010A/3050B/SM3030C
OA 11007	AES SOP OA-11007	Analytical Environmental Services Standard Operating Procedure for 1,2-Dibromoethane (EDB) and 1,2-Bibromo-3-chloropropane (DBCP) by EPA SW-846 Method 8011
AES QAP Section 9.0	AES QAP Rev 15	Access Analytical, Inc. & Analytical Environmental Services (AES) Comprehensive Quality Assurance Plan (Revision 15): Section 9.0 Calibration Procedures and Frequency

Table 8A: SOP Abbreviation Key



### 2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Failure	Response	Documented Where?	Individual Responsible
Equipment Failure (drilling equipment) i.e. drill rig, concrete saw, etc.	Contact CES Project Manager	Record problem, use alternate method / equipment if available / applicable or reschedule field activities after equipment is repaired	CES Project Manager Daniel J. Fisher 540-798-5068
equipment) i.e. passive alternate r applicable reschedule		Record problem, use alternate method if applicable/ available or reschedule field activities after equipment is repaired.	CES Project Manager Daniel J. Fisher 540-798-5068
QC Failure	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report	CES Project Manager Daniel J. Fisher 540-798-5068
Sample accident in transit	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report	Laboratory Director (AA) Ashley Amick 803-781-4243
Sample accident in lab	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report	Laboratory Director (AA) Ashley Amick 803-781-4243
Insufficient sample for analysis or repeat analysis	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report	Laboratory Director (AA) Ashley Amick 803-781-4243
Analytical Errors	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report.	CES Project Manager Daniel J. Fisher 540-798-5068
CoC or Sample Receiving Issues	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report.	CES Project Manager Daniel J. Fisher 540-798-5068
On-Time delivery	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report.	CES Project Manager Daniel J. Fisher 540-798-5068

**Table 9A Corrective Action Procedures** 



#### 3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
Turbidity	Groundwater	As Generated	If applicable, a portable granulated carbon filter will be used. 55 gallon drum on site	A&D Environmental Services
DO	Groundwater	As Generated	If applicable, a portable granulated carbon filter will be used. 55 gallon drum on site	A&D Environmental Services
Specific Conductance	Groundwater	As Generated	If applicable, a portable granulated carbon filter will be used. 55 gallon drum on site	A&D Environmental Services
рН	Groundwater	As Generated	If applicable, a portable granulated carbon filter will be used. 55 gallon drum on site	A&D Environmental Services
Lab	All	As Generated	See AES SOP WM 17001	Analytical Environmental Services Inc.

**Table 10A Sample Disposal** 

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable). N/A



#### **B5 Quality Control Requirements:**

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

### B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Not the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
HACH SenselON 156 Parameter Meter (ph, Con, temp, DO)	8228266	Check batteries, check buffer solutions, calibration, factory check, clean/change probe(s)	Monthly, change out daily as needed	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
HACH Colorimeter (turbidity)	010420015672	Check batteries, check buffer solutions, calibration, factory check,	Monthly, change out daily as needed	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
HANNA HI 991001 Parameter Meter (pH, Temp)	182298	Check batteries, check buffer solutions, calibration, factory check, clean/change probe(s)	Monthly, change out daily as needed	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
HANNA Dissolved Oxygen Meter	9142	Check batteries, check buffer solutions, calibration, factory check, clean/change probe(s)	Monthly, change out daily as needed	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
KECK Water Level Indicator	2185	Check batteries, clean probe	Weekly	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
KECK Oil Interface Probe	2011	Check batteries, clean probe	Weekly	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
Solonist Water Level Indicator	004602	Check batteries, clean probe	Weekly	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
Laboratory Equipment	P. 195 AES QAP Apdx III Equipment List	p.122 AES QAP Section 10.0	AES QAP Section 10.0	AES QAP Section 10.0	Laboratory Personnel

**Table 11A Instrument and Equipment Maintenance** 



2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this:

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
HACH SenseION 156 Parameter Meter (ph, Con, temp, DO)	Calibration	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
HACH Colorimeter (turbidity)	Calibration	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
HANNA HI 991001 Parameter Meter (pH, Temp)	Calibration	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
HANNA Dissolved Oxygen Meter	Calibration	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
KECK Water Level Indicator	Preparatory Check	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
KECK Oil Interface Probe	Preparatory Check	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
Solonist Water Level Indicator	Preparatory Check	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
Laboratory Equipment	p.116 AES QAP Section 9.0	p.116 AES QAP Section 9.0	Laboratory Personnel	AES QAP Section 9.0

**Table 12A Instrument and Equipment Inspection** 



#### **B7 Instrument Calibration and Frequency**

- 1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
- 2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
- 3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
HACH SenseION 156 Parameter Meter (ph, Con, temp, DO)	See CES SOP Section 2.10	See CES SOP Section 2.10, pg 11, Daily Before Use	See CES SOP Section 2.10	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	See CES SOP Section 2.10
HACH Colorimeter (turbidity)	See CES SOP Section 2.10	See CES SOP Section 2.10, pg 11, Daily Before Use	See CES SOP Section 2.10	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	See CES SOP Section 2.10
HANNA HI 991001 Parameter Meter (pH, Temp)	See CES SOP Section 2.10	See CES SOP Section 2.10, pg 11, Daily Before Use	See CES SOP Section 2.10	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	See CES SOP Section 2.10
HANNA Dissolved Oxygen Meter	See CES SOP Section 2.10	See CES SOP Section 2.10, pg 11, Daily Before Use	See CES SOP Section 2.10	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	See CES SOP Section 2.10
KECK Water Level Indicator	See CES SOP Section 2.10	See CES SOP Section 2.10, pg 11, Daily Before Use	See CES SOP Section 2.10	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	See CES SOP Section 2.10
KECK Oil Interface Probe	See CES SOP Section 2.10	See CES SOP Section 2.10, pg 11, Daily Before Use	See CES SOP Section 2.10	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	See CES SOP Section 2.10
Solonist Water Level Indicator	See CES SOP Section 2.10	See CES SOP Section 2.10, pg 11, Daily Before Use	See CES SOP Section 2.10	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	See CES SOP Section 2.10
Laboratory Equipment	See-AES QAP Section 9.0	See-AES QAP Section 9.0	See-AES QAP Section 9.0	See-AES QAP Section 9.0	Laboratory Personnel	See-AES QAP Section 9.0

**Table 13A Instrument Calibration Criteria and Corrective Action** 

<sup>\*</sup> This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.



### B8 Inspection/Acceptance Requirements for Supplies and Consumables

- 1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
- 2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
				Daniel J. Fisher
pH Buffer Solution	Fisher	Within expiration date	Cool. Dry cabinet	CES Project Manager
0				540-798-5068
Specific				Daniel J. Fisher
Conductivity	Fisher	Within expiration date	Cool, dry cabinet	CES Project Manager
Standard				540-798-5068
				Daniel J. Fisher
Nitrile Gloves	Clearwater	Sealed	Cool, dry room	CES Project Manager
		<u> </u>		540-798-5068
				William C. Ewing
Batteries	Any	Sealed	Cool, dry cabinet	Field Manager
				803-708-0079
				William C. Ewing
Bailers	Clearwater	Sealed (individually)	Cool, dry room	Field Manager
				803-708-0079
				William C. Ewing
Bottles	Access Analytical	Sealed	Cool, dry room	Field Manager
				803-708-0079
				William C. Ewing
Nylon String	Clearwater	Sealed	Cool,dry room	Field Manager
				803-708-0079
				William C. Ewing
Coolers	Access Analytical	Sealed	Cool,dry room	Field Manager
				803-708-0079
Laboratory	AES	AES QAP Section 11.0	AES QAP Section	Laboratory Personnel (AES)
Equipment			11.0	& (AA)

Table 14A List of Consumables and Acceptance Criteria



#### **B9 Data Acquisition Requirements (Non-Direct Measurements)**

- 1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
- 2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
- 3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
Previous Assessment	Remedial efforts	Effectiveness of	
and Corrective Action	performed to date;	remedial strategy	
documentation	historic groundwater	implemented at the site,	
	elevations, historic	evaluate corrective	
	chemical concentrations,	action data collected;	
	historic well construction	determining well screen	
	logs, historic surveys,	intervals, total depths,	
	historic diagrams,	construction details,	
	historic topography,	property access, and	
	historic boring data.	historic summary tables.	

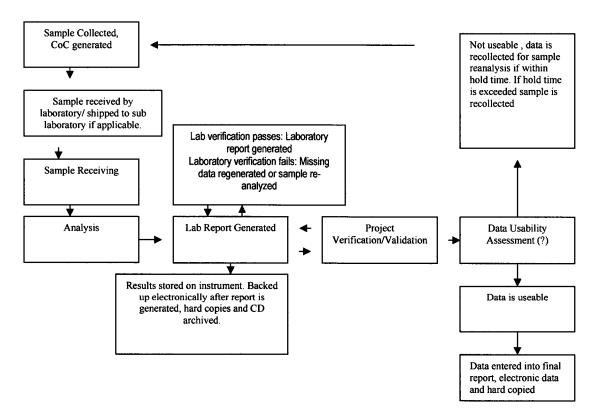
#### **Table 15A Non-Direct Measurements**

4. Identify key resources/support facilities needed. Not applicable.



#### **B10 Data Management**

Describe the data management scheme from field to final use and storage.



- 1. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records? Field data is kept in a dedicated notebook with no pages removed. All data (reports from the lab, field notes, drafts and final reports) are saved on the internal company server. Original field data hard copies are filed into relevant project folders and archived in filing cabinets. Report data, to include tables and figures, are verified from the original source by the CES Project Manager before the report is signed.
- 2. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted. Lab internal QA/QC checks and check sheets for all received coolers will determine if laboratory data is credible, or if the groundwater samples are suspect and new samples must be collected and reanalyzed. Laboratory supervisor will check all data before it leaves the laboratory. Laboratory data will be sent electronically to the environmental contractors of the USA for storage on their server.



3. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies). Hard copies will be maintained at the West Columbia office for five years. The electronic copies will be maintained for 25 years at the West Columbia office.

## Section C Assessment and Oversight C1 Assessment and Response Actions

- 1. Field Oversight: The Field Manager is responsible for ensuring SOPs to include equipment decontamination and calibration are properly conducted by the field staff. The Field Manager will be present and monitor the field staff every day that field activities occur. The Field Manager also is responsible for ensuring that field personnel adhere to the QAPP. If problems occur, the Field Manager will immediately contact the CES Project Manager to determine the appropriate corrective action. If the situation cannot be resolved on site, another visit will be scheduled to resample the wells. The Field Manager can stop work at any time. The Project Manager can decide if the sampling party will return to the office without completing sampling of all the monitoring wells. The Field Manager's observations will be submitted to the Project Manager on a daily basis.
- 2. Commercial Lab Offsite Technical Assessment: The supervisors for each section will review the procedures for another section of the laboratory on a monthly basis to check quality procedures. The Project QA Manager will conduct specific assessments for the methods addressed by this QAPP. Anyone may suspend work if a situation arises, but only the supervisor can stop work. The Laboratory QA Manager will report all observations to the Laboratory Director. SCDHEC has the right to inspect work at any time. This will be documented and kept as part of the project records.
- 3. Project Assessment: Assessment of project activities will be performed by the CES Project Manager. Field assessments will ensure that proper field methods are followed. At the end of each day of field activities, the Subcontractor Project Manager will review the work completed during that day with the Subcontractor Field Manager. If methods were not adequately followed, affected items will be corrected. If corrective action is implemented, the Subcontractor Project Manager or Project QA/QC Manager will verify that the corrective action was adequate and was properly documented. Any discrepancies will be addressed in Appendix K of the contractor checklist and in section 1.5 of the assessment report.



#### **C2** Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

### **Section D Data Validation and Usability**

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).



#### **APPENDIX B:**

**Chain of Custody Template** 

Sales Order #	# Od		Access Quote #		Labora	Laboratory ID:		
Company Name:		Preservative: (*see codes)			(	<b>₹</b>	Access	
Report To:	amen de desta de constante que se constante de constante de constante de constante de constante de constante d	Container Type: (*see codes)	2			⋖ ,	ANALYTICAL, INC.	NC.
Address:					14.20	9	Dhono, (903), 7	81.4743
City: State: Zip:		SISX			/4/8 Carriste Street Irmo, SC 29063	e Street 063 www.axs-inc.com	From: (803) 781-4243 Fax: 781-4303 nc.com	81-4303
Phone: Fax:		IVNV			Preservative Co. 0 = None, 1 = FICI 8 = Method SCISE	*Preservative Codes (place corresponding # in obcet above analysis field): 0 = None, 1 = HCL, 2 = HNO, 3 = HSO, 4 = NeOH, 5 = NeSSO, 6 ** NeOH S = NeSSO, 6 ** NeOH S = NeSSO, 6 ** NeOH S = NeSSO, 6 ** NeOH S = NeSSO, 6 ** NeOH S = NeSSO, 6 ** NeOH S = NeSSO, 6 ** NeOH S =	fing # in obock above : b, 4 = NaCH, 5 = Naci	snelysis field): S.O. B = H.PO.
Email:		avı			"Matrix Codes (pl GW = ground wate	*Matrix Codes (piece corresponding code in marix column); GW = ground water, WW = waste water, DW = drinking keter, S = soli.	de in marix column): DW = drinking water	. SO.
Project ID:		GELS			St. = shribe, A = (specify in comme	ir, IW = industrial was its section)	ite, WO = waste off, O	T = citier
Sampled By:			EQUE.		Satis Orienting Wate Weedles (for soils, g	Safe Ording Water Ag (for drafting waters). SAM and Hazardous Waters (for soils, ground waters and waste samples).	ters), SHW = Solid an iste samples)	d Hazardous
ample ID/Description Date Trpe: Type: Collected: Gallected: e: Marrix Program Toral				(if emple is a	19 }	OMMENTS Solve to oxe southout	imes & dures)	
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*Date Required:						Z	(5,)	(N/A)
(For rush work, results emailed/faxed by end of busi-						<b>Z</b>	(0,)	(N/A)
ness day on date required) (specify)						YN	(0,)——	(N/A)
		See R	See Reverse for Terms and Conditions			Original	Original Copy - Returned w/Report	w/Report

Project Work Order #

Access Analytical - Chain of Custody Record

LAB USE ONLY



#### **APPENDIX C:**

**Ground Water Assessment Plan** 

**Groundwater Sampling Plan - Initial Monitoring Report Underground Storage Tank Program** DHEC 3527 (07/1999) CES Mod ver 0.9 Project Information UST Permit: 07584, 07777 & 12352 County: Richland Facility Name: Handy Pantry #65/University Mart & Cloud's Chevron Facility Address: 1600 Two Notch Road City: Columbia Zip Code: South Carolina Property Owner: Mr. Mahesh Patel Address: 2367 Taylor Street Mr. Andrew Diggins 1600 Block Two Notch Road City: Columbia State: South Carolina Zip Code: 29204 Project Type: Initial Groundwater Sampling Report-IMR Current use of facility / property University Mart currently serves as a retail petroleum service station; Former Cloud's Chevron currently serves as a parking lot for the hospital. Provided records indicate the site was last sampled May 9-10, 2013 Site Check Details 70 Exisiting Permanent Monitoring Wells were identified during the 3/10/2014 site check 70 monitoring wells associated with 07584, 07777 & 12352 **Analyses** List the analytical parameters (e.g., BTEX, MTBE) and estimated number 83 70 exisiting monitoring wells 0 water supply wells 1 surface water samples 4 field blanks 4 trip blanks 4 duplicates BTEX, Naphthalene, MTBE, TBA, TAA, and TAME ( Use MM/DD/YYYY format - Example 01/23/2004) Implementation Schedule Start up date: 3/31/2014 Completion date: 4/30/2014 (MM/DD/YYYY) (MM/DD/YYYY) Report Submittal Date 4/30/2014 (MM/DD/YYYY) Last Sampling Date Site Maps Appendix D Small Volume Disposal Type and Method Purge Water. Approximately 400 gallons of groundwater for disposal **Additional Comments** 

Purge

70

13 No Purge, Surface , Field

0 Gauge

0 Sample Below Product

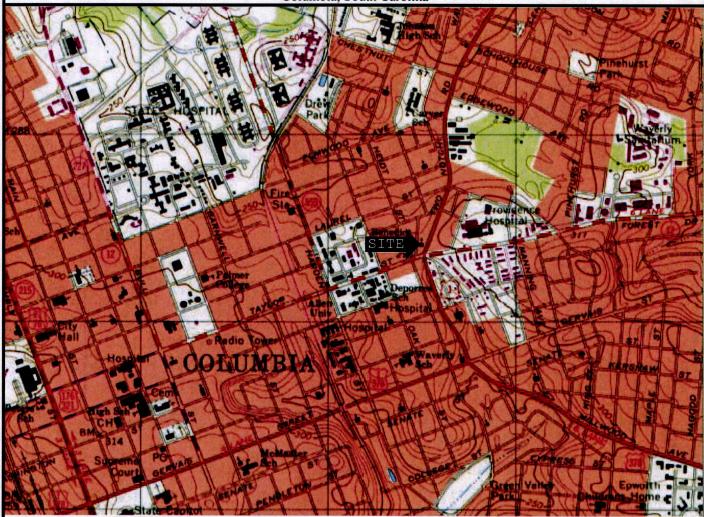


**APPENDIX D:** 

Site Figures

#### FIGURE 1

Site Location Map Handy Pantry #65 / University Mart / Clouds Chevron Intersection of Taylor Street and Two Notch Road Columbia, South Carolina



15 Church Avenue, SW Roanoke Virginia, 24011

540-343-6256 (office) 540-343-6259 (fax)

#### NORTH COLUMBIA, SOUTH CAROLINA

Source:

U.S.G.S. Topographic Map of the Columbia North Quadrangle, Virginia, 7.5 Minute Series (1977, revised 1988)

Scale: 1:24,000 Contour Interval: 20 Feet Vertical Datum: National Geodetic Vertical

**Datum** 1929

Horizontal Datum: North American Datum1927

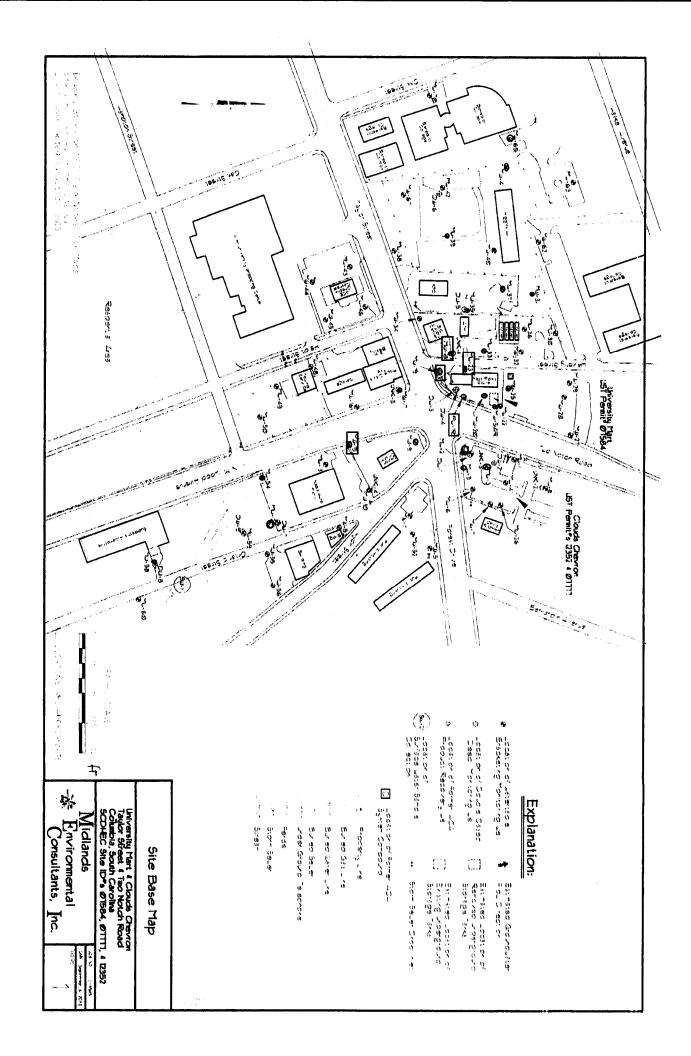
Project: Corrective Action Plan

Client: SCDHEC

CES Job #: 7.0547



Latitude: 034"00'42.72"N Longitude: 081"01'00.13"W



### Document Receipt Information

Hard Copy	CD Email	
	<b>6</b> • /	
Date Received	the same of the sa	
Permit Number	12251	
Project Manager	Dusan Fulmer	
Name of Contractor	Crawford Environmental	
UST Certification Number	ucc-0388	
Docket Number	109 tech	
Scanned		
Conech	ve Action Pla	

March 21, 2014

Site ID: 07584/07777/12352

Ms. Susan Fulmer State of South Carolina Department of Health and Environmental Control 2600 Bull Street Columbia, South Carolina 29201

RE: Corrective Action Plan
Handy Pantry #65/University Mart & Cloud's Chevron
Intersection of Taylor Street and Two Notch Road
Columbia, South Carolina
UST Permit # 07584 / 07777 / 12352

Dear Ms. Fulmer:

Enclosed please find one copy of the *Corrective Action Plan* (CAP) prepared by Crawford Environmental Services, Inc. (CES) for the referenced site. In accordance with historic and current observed site conditions, CES recommends implementation of the CAP to address the multiple-phase contaminants identified on- and off-site. Should you have any questions regarding the enclosed material, or if additional information is required, please feel free to contact me or Charlie Crawford at 540.343.6256.

Best Regards,

Daniel J. Fisher Division Manager

cc:

B. Thomas Houghton SC Licensed Geologist #2:







#### **Corrective Action Report**

Handy Pantry #65/University Mart & Cloud's Chevron
Intersection of Taylor Street and Two Notch Road
Columbia, South Carolina
Richland County
UST Permit #: 07584 / 07777 / 12352

March 21, 2014

#### CORRECTIVE ACTION PLAN

Handy Pantry #65/University Mart & Cloud's Chevron Intersection of Taylor Street and Two Notch Road Columbia, South Carolina UST Permit # 07584 / 07777 / 12352

#### **Submitted To:**

Ms. Susan Fulmer
State of South Carolina
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

#### **Prepared For:**

Ms. Susan Fulmer
State of South Carolina
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

March 21, 2014 CES Job Number: 7.0547

Prepared By:

Daniel J. Fisher Division Manager Reviewed By:

Charles F. Crawford

President

Approved By:

B. Thomas Houghton Licensed Geologist #2343



#### Site ID: 07584/07777/12352

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#### SIGNATURE/CERTIFICATION PAGE

#### Prepared By:

Site ID: 07584/07777/12352

Name: Daniel J. Fisher, Division Manager

Signature: 14 W

#### Reviewed By:

As a registered geologist, I certify that I am a qualified groundwater professional, as defined by the South Carolina Board of Registration for Geologists. All off the information in this plan and in all of the attachments is true, accurate, complete, and in accordance with applicable State Rules and Regulations.

Name: B. Thomas Houghton, P.G. – SC Licensed Geologist #2343

Signature:

#### Approved By:

I certify that I have prepared or supervised preparation of the attached report, that it has been prepared in accordance with industry practices and standards, and that the information contained herein is truthful and accurate to the best of my knowledge.

Name: Charles F. Crawford III – President

Signature: Sulf. W

Company: Crawford Environmental Services, Inc.

15 Church Avenue, SW Roanoke, Virginia 24011 (540) 343-6256 [phone] (540) 343-6259 [facsimile]



#### EXECUTIVE SUMMARY

	Drinking wells affected
	Drinking wells potentially threatened
X	Surface water affected
	Surface water potentially threatened
<u>X</u>	Free-phase product in groundwater
_X_	Dissolved-phase concentrations present which exceed current water quality standards
	Sump, basement, utility potentially threatened
	Sump or basement affected
<u>X</u>	Utility affected
<u>X</u>	Residual-phase contaminants present that may impact groundwater

In accordance with Department of Health and Environmental Control directives, Crawford Environmental Services, Inc. proposes to remediate the Handy Pantry #65 / University Mart / Cloud's Chevron properties in Columbia, South Carolina via air sparging / soil vapor extraction, surfactant enhanced free product recovery and in-situ chemical oxidation / biological injection technologies.



#### 1.0 INTRODUCTION

On behalf of the South Carolina Department of Health and Environmental Control (SCDHEC), Crawford Environmental Services, Inc. (CES) has prepared a Corrective Action Plan (CAP) to address the multiple-phase contaminant plume(s) identified at the Handy Pantry #65/University Mart and Cloud's Chevron properties located proximal to the intersection of Two Notch Road and Taylor Street in Columbia, South Carolina.

#### 1.1 Site Description

The subject property is located in a primarily commercial area of Columbia, South Carolina (Figure 1). The subject sites, operating as Handy Pantry #65/University Mart and former Cloud's Chevron, is bordered by light commercial properties in all directions. A site plan depicting pertinent features of the subject property is provided as Figure 2.

#### 1.2 Adjacent Properties

As part of CAP development activities, CES reviewed the applicable tax maps for the site and surrounding area. Properties maintaining the presence of monitoring wells and/or those with confirmed petroleum releases are presented in Table 1. A copy of the tax map with the corresponding tax map number is included as Figure 3.

Table 1.
Summary of Adjacent Properties

Tax Map #	I.D. #	Owner Name	Address
R11412-10-16	1	Mr. Mahesh Patel	2367 Taylor Street, Columbia, SC
R11412-09- 014A	2	Mr. Andrew Diggins	1600 Block Two Notch Road, Columbia, SC
R11412-09-13	3	Mr. Andrew Diggins	1600 Block Two Notch Road, Columbia, SC
R11411-02-01	4	Ms. Bette Gordon Bateman & Mr. John Bateman	2436 Taylor Street, Columbia, SC
R11411-01-02	5	2368 Taylor Street LLC.	2368 Taylor Street, Columbia, SC
R11411-01-03	6	2368 Taylor Street LLC.	1512 Heidt Street, Columbia, SC
R11411-01-01	7	Chang Moon Sueng	2358 Taylor Street, Columbia, SC
R11408-10-31	8	Mr. Soloman Addico	2361 Taylor Street, Columbia, SC
R11408-10-30	9	Mr. Soloman Addico	1613 Waverly Street, Columbia, SC
R11408-10-29	10	Mr. Soloman Addico	1617 Waverly Street, Columbia, SC
R11407-06-01	11	Mr. Soloman Addico	1616 Oak Street, Columbia, SC
R11407-06-03	12	Mr. Soloman Addico	1604 Oak Street, Columbia, SC
R11407-06-02	13	Mr. Soloman Addico	2305 Taylor Street, Columbia, SC
R11408-10-12	14	Allen University	2315 Taylor Street, Columbia, SC
R11408-10-31	15	Sylvan Food Systems, Inc.	2349 Taylor Street, Columbia, SC
R11411-03-01	16	Ms. Linda Warren	1527 Lyon Street, Columbia, SC
R11411-03-02	17	Ms. Linda Warren	1510 Lyon Street, Columbia, SC



Table 1 (Cont'd).

#### **Summary of Adjacent Properties**

Tax Map #	I.D. #	Owner Name	Address
R11411-04-01	18	Gilbert Walker	1505 Garden Plaza, Columbia, SC
R11411-02-02	19	1500 Millwood Ave LLC.	1527 Ontario Street, Columbia, SC
R11411-02-03	20	John M. Suddeth	Ontario Street, Columbia SC
R11407-07-02	21	Fung Lau	2324 Taylor Street, Columbia, SC

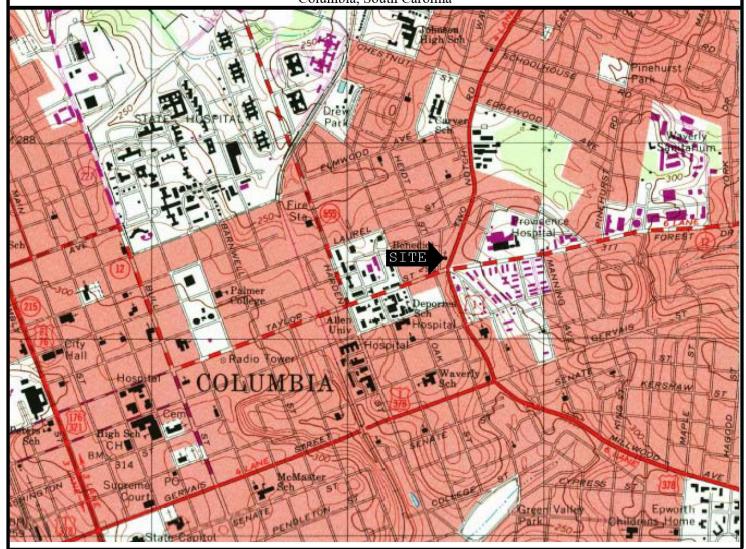
#### 1.3 Topography

The subject site is located within the jurisdictional limits of Richland County, South Carolina and is situated within the Piedmont Physiographic Province. According to the U.S. Geological Survey 7.5 Minute Series Topographic Map of the North Columbia Quadrangle, South Carolina, the site elevation is approximately 293.0 feet above mean sea level.



### FIGURE 1

Site Location Map
Handy Pantry #65 / University Mart / Clouds Chevron
Intersection of Taylor Street and Two Notch Road
Columbia, South Carolina



#### CRAWFORD ENVIRONMENTAL SERVICES

15 Church Avenue, SW Roanoke Virginia, 24011

540-343-6256 (office) 540-343-6259 (fax)

### NORTH COLUMBIA, SOUTH CAROLINA

Source: U.S.G.S. Topographic Map of the

Columbia North Quadrangle, Virginia, 7.5 Minute Series (1977, revised 1988)

Scale: 1:24,000 Contour Interval: 20 Feet Vertical Datum: National Geodetic Vertical

Datum 1929

Horizontal Datum: North American Datum1927

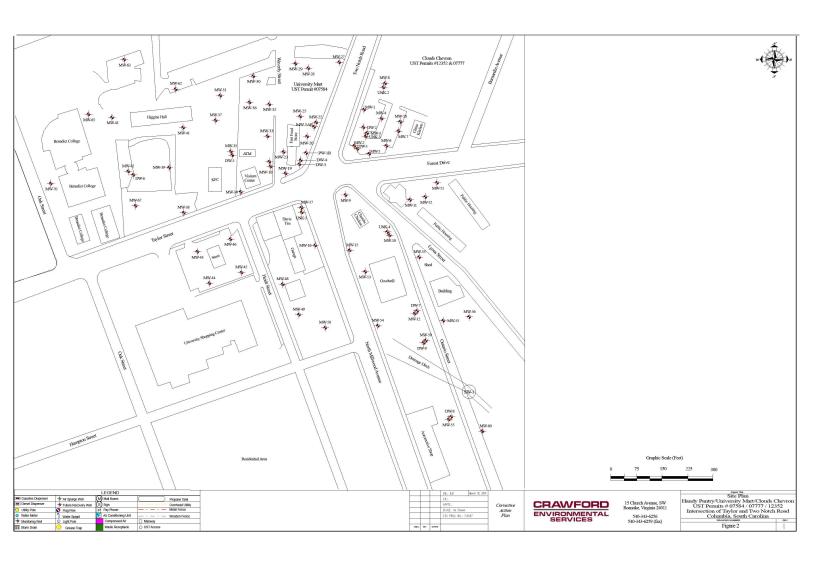
Project: Corrective Action Plan

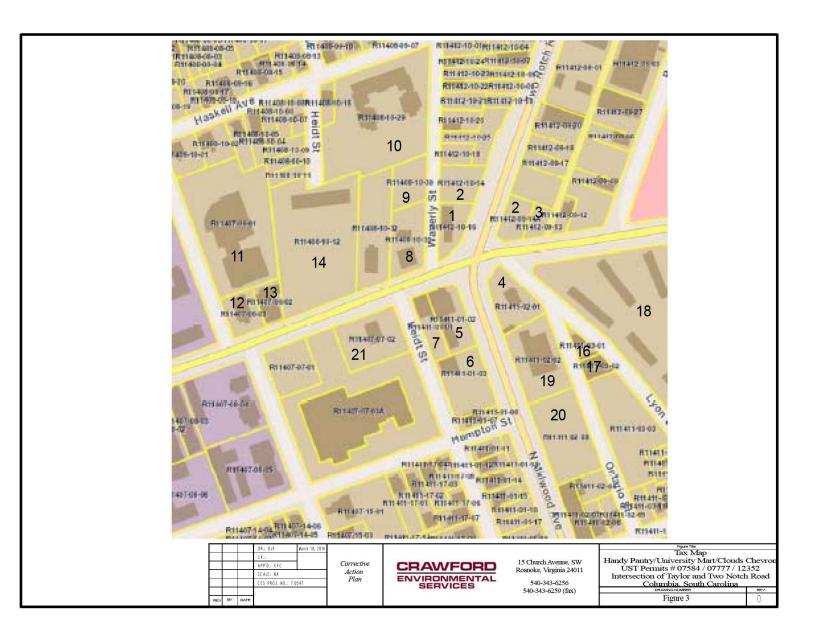
Client: SCDHEC

CES Job #: 7.0547



Latitude: 034"00'42.72"N Longitude: 081"01'00.13"W





2.0

EXISTING REMEDIAL SYSTEM

Based on a review of historical documents associated with the referenced UST permits as well as the initial site check performed by CES on March 10, 2014, the former remedial system components remain on-site from the previous contract with Palmetto Environmental Group (PEG). CES identified approximately 58 air-sparge points and four recovery wells. The air-sparge wells were constructed of four-inch schedule 40 polyvinyl chloride (PVC) piping to an approximate depth of 45.0 feet below ground surface (bgs) with screened intervals ranging between 25.0 feet and 45.0 feet bgs. The recovery wells were constructed of two-inch schedule 40 PVC piping to approximate depths of 35.0 feet bgs with screened intervals ranging between 25.0 feet and 35.0 feet bgs. Based on the Corrective Action Plan Implementation Report (CAP-IMP) dated December 27, 2006 completed by PEG, each air sparge well is connected via dedicated 0.5-inch PVC conduits to three independent remedial compounds located at 2367 Taylor Street, 2435 Forest Drive and 2436 Forest Drive. Each remedial system maintains an Atlas Cooper (or equivalent) 10.0-horsepower rotary screw air compressor, a five-horsepower Rotron Regenerative Blower and the ancillary electrical controls. CES performed a cursory visual inspection of the equipment and is assuming that the former remedial systems will resume full operation following minor maintenance and troubleshooting activities. CES has previously submitted applications to South Carolina Electric and Natural Gas (SCENG) to transfer the necessary electric accounts to CES. The existing remedial layout is provided as Figure 4.

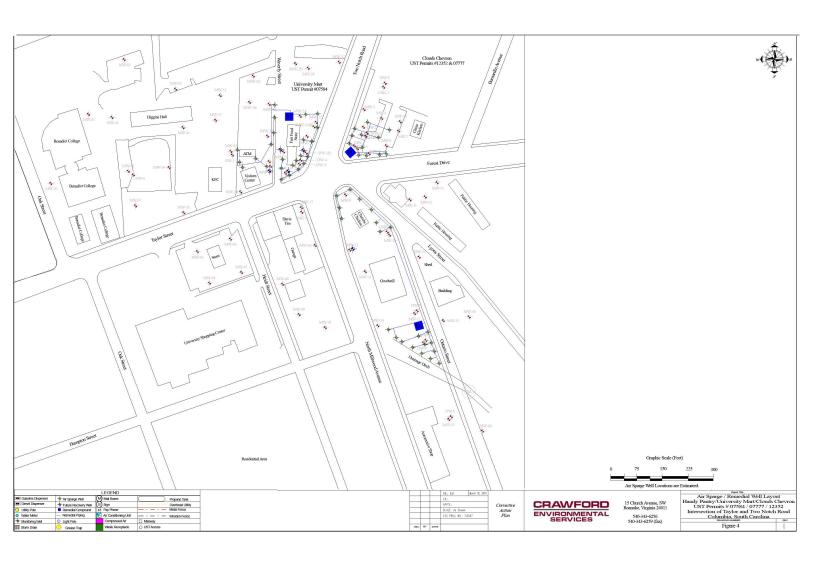
#### 3.0 REMEDIATION SYSTEM DESIGN

CES evaluated various corrective action techniques for application at the subject site. In accordance with observed site conditions, CES proposes to remediate the subject properties utilizing a "multi-step" process that will effectively address the free-, dissolved-, and adsorbed-phase petroleum compounds identified at the subject facilities. This tiered-approach will consist of re-activating the air sparge/SVE components, surfactant enhanced free-product recovery efforts, aggressive in-situ chemical-oxidation (ChemOx) and supplemental biological amendment injections. A summary of the remedial program to be implemented at the site is presented below.

#### 3.1 Re-Activation of Existing Remedial Components

Initially, CES proposes to mobilize to the subject site to re-activate the three existing remedial systems. Re-activation will include the following activities: (1) securing the compounds by repairing fencing enclosures and repairing access doors; (2) clearing overgrown foliage and debris surrounding the remedial compounds; (3) performing routine maintenance on the compressors and blowers to include removal and replacement of lubricants, filters, belts, etc.; and (4) modification of the existing remedial manifold to facilitate use during future remedial injections. Following completion of the above referenced activities, the air sparge/SVE systems will be activated and monitored for approximately one quarter.





#### 3.2 Surfactant Enhanced Recovery Events

Subsequent to completing approximately one quarter of sparging and vapor extraction, CES will inspect the monitoring points to confirm the presence or absence of free-product. Should site conditions indicate the presence of free-phase petroleum, CES will mobilize to the subject site and install a maximum of six free-product recovery wells. Eight-inch diameter soil borings will be installed utilizing hollow-stem auger techniques to facilitate the construction of six, four-inch recovery / injection wells. Each recovery / injection point will be installed to approximately 35.0 feet below ground surface (bgs). Recovery / injection wells will be equipped with screened intervals from approximately two feet above source area contaminants to the terminal depth of the boring. Each recovery / injection point will maintain an estimated eight-inch diameter waterproof manway installed within an estimated two foot by two foot concrete pad. Proposed recovery / injection point locations are presented on Figure 4.

Following installation of the injections wells, CES will mobilize to the site with remedial injection equipment and approximately 60-gallons of PetroSolv Surfactant (PetroSolv). CES will mix a 3.0% surfactant solution utilizing approximately 50-gallons of PetroSolv and approximately 600-gallons of potable water (acquired on-site). Over an estimated period of one to three days, CES will inject approximately 660-gallons of surfactant solution to injection points IW-1, IW-2, IW-3, IW-4, IW-5, and IW-6. During these injection events, CES will utilize a surge block to actively pressurize the surfactant solution into the formation creating direct contact with the free- and adsorbed-phase compounds. Following completion of the injection activities, CES will utilize a vacuum truck to extract approximately 150-gallons of petroleum impacted groundwater from each of the referenced injection wells.

#### 3.3 Chemical Oxidation

Following achievement of the 60% concentrations of concern (COC) milestone, CES proposes to use a dilute Fenton's reagent process at the subject site to oxidize adsorbed- and dissolved-phase petroleum constituents in the subsurface The Fenton's reagent process utilizes a metal catalyst (ferrous sulfate) and hydrogen peroxide to produce hydroxyl radicals. These hydroxyl radicals rapidly oxidize petroleum hydrocarbons upon contact, ultimately producing byproducts of carbon dioxide, water, and dissolved oxygen. Residual petroleum hydrocarbon mass and simple organic acids usually remain after the chemical oxidation process but can be treated with biological amendments. Fenton's reagent process is shown in the following steps:

(1) 
$$Fe^{2+} + H_2O_2 \rightarrow Fe^{3+} + OH \cdot + OH^-$$
  
(2)  $Fe^{3+} + H_2O_2 \rightarrow Fe^{2+} + OOH \cdot + H^+$ 

The hydrogen peroxide will be injected into the estimated 58 existing air-sparge wells utilizing the existing piping as subsurface conveyance conduits. The six recovery / injection wells referenced in Section 3.2 also will be utilized for the injection of hydrogen peroxide on an as needed basis. The injection events will be performed episodically until an approximate COC reduction of 75-80% is achieved. CES estimates that each ChemOx injection event can be completed in approximately one to two weeks, however, the duration of these events will be controlled by the site's ability to sustain the desired rates of injection. CES estimates that



Site ID: 07584/07777/12352

approximately 3,000-gallons of 5.0% hydrogen peroxide solution will be utilized at the subject site.

#### 3.4 Biological Injections

Directly following the final ChemOx injection, the holding tank will be cleansed prior to the introduction of bacteria and nutrient-amended water. CES will utilize the PetroBac<sup>TM</sup> product bundle which contains a TPH Bacterial Consortium and Enzyme Accelerator. The NutriMax<sup>TM</sup> nutrient mix also will be utilized to increase biological degradation of the hydrocarbon mass at the site. Over the course of an estimated three to five days, CES will inject approximately 1,000 lbs. of CBN nutrients and approximately 20 gallons of A2 bacteria mixed with an estimated 3,500-gallons of potable water. The biological amendments will be gravity fed to the injection points in order to facilitate physical contact with the adsorbed-phase compounds. The amendments will react with the residual TPH mass to produce carbon dioxide and water as byproducts.

#### 3.5 Injection Schedule

CES will re-activate the existing remedial compounds immediately upon CAP approval from SCDHEC. Approximately three months following activation of the remedial system, CES will collect groundwater samples from the SSTL wells to evaluate the effectiveness of the existing remedial system. Based on the qualitative and quantitative data collected, CES will evaluate installation of the free-product recovery wells and perform additional injections either on a quarterly or semi-annual basis.

#### 4.0 REMEDIAL SUMMARY

Based on observed site conditions, attainment of cleanup endpoints will be achieved only through remediation of source area or adsorbed-phase contaminants. As described in Section 3.0 of this CAP, surfactant enhanced free-product recovery, in-situ chemical oxidation and supplemental biological degradation will be an aggressive remedial approach to address the multiple-phase contaminants identified at the subject properties. The referenced remedial techniques have been demonstrated by industry as efficient remedial technologies that reduce adsorbed- and dissolved-phase contaminant plumes concurrently, at effective costs and within reasonable time frames. Although preliminary, CES estimates that remedial endpoints can be achieved within approximately 60 months. Contaminant mass removal estimates will be calculated and timelines for the attainment of cleanup endpoints will be modified accordingly after empirical data is collected and evaluated over time.

#### 5.0 MONITORING SCHEDULES

#### 5.1 Remedial Monitoring Schedule

The remedial operation and monitoring (O & M) schedule presented below has been developed to assess the overall effectiveness and operating efficiency of the implemented remedial techniques. Table 2 is a summary of the O & M schedule for the corrective action efforts to be implemented at the subject sites in Columbia, South Carolina.



Site ID: 07584/07777/12352

Table 2.

Summary of Remedial Operation & Monitoring Schedule

Location	Frequency Parameters		Methods	Media
SVE and system components	Weekly inspections for first month; bi- monthly thereafter	N/A	Routine system O&M	N/A
SVE vapor effluents	Weekly inspections for first month; bi- monthly thereafter	ТРН	PID	Vapor
On- and Off-site Monitoring Wells	Semi-Annually from the Date of the CAP-IMP Report	BTEX, Naphthalene, MTBE, TAA, TAME, TBA.	8260B, 8260-OXY	Groundwater

#### 5.2 Post-Operational Schedule

Following achievement of the third interim Chemical of Concern (CoC) concentration goal for 30 consecutive days, CES will complete two quarters of post corrective action monitoring to ensure that dissolved-phase endpoints have been maintained. Upon verification of endpoint maintenance for two consecutive quarters, CES will mobilize to the subject site to remove/abandon all assessment and corrective action equipment. This process will include removal of the injection equipment and abandonment of all on- and off-site monitoring/injection wells.

#### 5.3 Implementation Schedule

Upon receiving the Notice to Proceed from DHEC personnel, CES will mobilize to the subject properties to initiate construction activities. The remedial equipment to be utilized at the subject property is owned by CES which will facilitate the expeditious commencement of the corrective action implementation phase. CES estimates that the existing remedial systems can be operational within one week of receiving the Notice to Proceed.

#### 5.4 Reporting Schedule

The Initial CAP Implementation Report will be submitted to DHEC within 60 days of receipt of the Notice to Proceed. This initial report will comprise details pertaining to overall system design, well installations and as-built drawings for the remedial system utilized. Corrective Action System Evaluation Reports (CASE) will be submitted to DHEC semi-annually from the date of initial "system" startup. The CASE reports will include groundwater analytical results, contaminant mass removal estimates, and an evaluation of the effectiveness of corrective action efforts performed to date.



### 6.0 DISPOSAL/TREATMENT

The following sections address disposal/treatment options for petroleum-impacted material generated by the proposed corrective action.

#### 6.1 Petroleum-Impacted Soil

CES anticipates that minor amounts of soil will be generated during soil boring installation. Should visual, olfactory and/or headspace evidence indicate that the generated material is petroleum-impacted, CES will collect soil samples for waste characterization analyses. The excavated material will be temporarily stockpiled on-site on six-millimeter polyethylene sheeting pending off-site disposal. Non-hazardous waste manifests for the transport and disposal of any petroleum-impacted soil generated during system installation will be submitted to DHEC under separate cover upon receipt.

#### 6.2 Non-Impacted Soils

Excess non-impacted soils generated during the soil boring process will be stockpiled prior to disposal at a construction debris landfill.

#### 7.0 PERMITTING REQUIREMENTS

#### 7.1 Construction Permit

Local construction standards do not require a construction permit for the required remedial activities.

#### 7.2 Injection Permit

CES has prepared the underground injection permit application and has submitted this document to the SCDHEC Bureau of Water for approval. A copy of the submitted application is included as Appendix A.

#### 8.0 COST EFFECTIVENESS OF PROPOSED SYSTEM

Based on observed site conditions, attainment of cleanup endpoints will be achieved only through remediation of adsorbed- and dissolved-phase contaminant plumes. As described in Section 3.0 of this CAP, in-situ remedial techniques will serve as an aggressive cleanup approach to address the multiple contaminant phases identified at the subject properties.

#### 9.0 ESTIMATED TIME FRAME TO ACHIEVE ENDPOINTS

Accurate estimation of cleanup time is based on sufficient monitoring of corrective action performance during early stages of implementation, quality of effluent data, and appropriate data interpretation (Buscheck and Peargin, 1991). CES has designed the CAP performance monitoring schedule to allow for adequate data collection, particularly as it relates to removal of contaminant mass, during the initial 12 months of corrective action. The absence of quantitative pilot test data is not



conducive to estimating, with any degree of certainty, the contaminant mass remaining in the subsurface. As such, cleanup time and endpoint attainment will be continually evaluated and confirmed throughout the remedial process. Data collection and interpretation in the early stages of corrective action will serve as the baseline for quantifying the remaining contaminant mass. Post-operational monitoring will verify that cleanup endpoints have been achieved.

#### 10.0 SUMMARY AND RECOMMENDATIONS

In accordance with measured site conditions and data reviewed to date, CES recommends a "tiered" remedial approach as follows: (1) reactivation of the existing air sparge and vapor extraction remedial components. (2) Subsequent to the completion of approximately one quarter of AS/SVE operation, supplemental vacuum-enhanced free-product recovery events will be performed, as needed. The final remedial "tiers" will comprise in-situ technologies including chemical oxidation injections and supplemental biological amendments. Following the initial 12 months of active remediation at the subject site, CES will evaluate the effectiveness of the proposed remedial efforts to determine if additional corrective action measures are warranted. CES is prepared to begin implementation of the CAP immediately upon receipt of the Notice to Proceed from SCDHEC. This CAP is being submitted to Ms. Susan Fulmer of the South Carolina Department of Health and Environmental Control UST Management Division.



#### REFERENCES

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- U.S. Environmental Protection Agency. Assessing UST Corrective Action Technologies: Site Assessment and Selection of Unsaturated Zone Treatment Technologies. Risk Reduction Engineering Laboratory, March 1990.
- U.S. Geological Survey, 7.5 Minute Series Topographic Map of the North Columbia Quadrangle, South Carolina, 1979



### APPENDIX A

Injection Permit





March 20, 2014

Mr. Christopher A. Wargo State of South Carolina Department of Health and Environmental Control 2600 Bull Street Columbia, South Carolina 29201

RE: Underground Injection Control Permit Application

Handy Pantry #65/University Mart & Cloud's Chevron Intersection of Taylor Street and Two Notch Road

Columbia, South Carolina

UST Permit # 07584 / 07777 / 12352

Dear Mr. Wargo:

Enclosed please find one copy of the Underground Injection Control Permit Application. A copy of the application also was included with the Corrective Action Plan submitted to Ms. Susan Fulmer on March 21, 2014. If you have any comments or questions, or if additional information is required, please feel free to contact me at 540.798.5068.

Best Regards,

Daniel J. Fisher Division Manager

#### Form I. EPA ID NUMBER T/A C I Underground Injection Control IJ Permit Application Ground-Water Protection Division UIC (Collected under the Authority of Title 48 Chapter I of the 1976 South Carolina Code of Laws) Read attached instructions before starting. For OfficialUse Only Application Approved Date Received month day year Permit Well Number month day year Comments II. Facility Name and Address III. Owner/Operator and Address Facility Name Owner/OperatorName Crawford Environmental Services, Inc. Handy Pantry #65 / University Mart /Clouds Chevron Street Address Street Address Intersection of Taylor Street and Two Notch Road 15 Church Avenue, SW Zip Code City State City State Zip Code Columbia South Carolina 29204 Roanoke Virginia 24011 IV. Ownership Status (Select One) V. SIC Codes A. Federal C. Private B. State D. Public E. Other (Explain) VI. Well Status (Select A, B or C) Date Started (MM/DD/YYYY) A. Operating B. Modification/Conversion C. Proposed VII. Type of Permit Requested - Class and Type of Well (see reverse) C. If class is "other" or type is code 'Y', explain A. Class(es) enter code(s) B. Type(s) enter code(s) D. Number of Wells per type V.A VIII. Location of Wells or Approximate Center of field or Project A. Latitude B. Longitude Deg Deg Min Min Sec Ī 34 57.53 00 76.29 00 IX. Attachments Complete the following questions on a separate sheet(s) and number accordingly; see instructions for Classes 11, 111, and V, complete and submit on a separate sheet(s) attachments A-U as appropriate. Attach maps where required. List attachments by letter which are applicable and include with your application.

#### X. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

A. Name (Type or Print)	Title	B. Phone No.
Charles F. Crawford	President	540-343-6256
C. Signature		D. Date Signed (MM/DD/YYYY) 03/20/2014

#### Well Class and Type Codes

Class I Industrial, municipal, and other injection wells for the subsurface disposal of fluids. (Prohibited)

Class II Oil and gas production and storage related injection wells.

Type "D" Produced fluid disposal well

"R" Enhanced recovery well

"R" Hydrocarbon storage well (excluding natural gas)

"X" Other Class II wells

Class III Special process injection wells.

Type "G" Solution mining well

"S" Sulfur mining well by frasch process

"U" Uranium mining well (excluding solution mining of conventional mines)

"X" Other Class III wells

Class IV Hazardous or radioactive waste disposal injection wells. (Prohibited)

Class V.A Injection wells not included in Class I, II, III, IV or V.B

Type "A" Storm runoff drainage wells

"B" Aquifer recharge wells

"C" Salt-water intrusion barrier wells

"D" Subsidence control wells

"E" Backfill wells associated with subsurface mining

"F" Geothermal energy recovery wells
"G" Experimental technology well

"H" Natural gas storage wells
"T" Corrective action wells

Class V.B Non-contact return flow system wells

Type "A" Heat pump return flow wells
Type "B" Cooling water return flow wells

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(effective □□□□)

The following ATTACH  $\square$  ENTS should be submitted with an underground injection control (UIC) permit application for Class V.A. corrective action wells associated with aquifer remediation that are to be used to inject fluid whose chemical constituents are below all drinking water standards, as established under R.  $\square$   $\square$   $\square$ 

#### Attachment A Activity for Review

Submit a brief description of the activities to be conducted that require a UIC permit.

#### Attachment B ell Construction Details

Submit schematic or other appropriate drawings of the surface and subsurface construction details of the recovery and injection wells.

#### Attachment C Operating Data

Submit the following proposed operating data for each injection well □

- Average and maximum daily rate and volume of fluid to be injected. In addition, indicate the average and maximum daily rate and volume of fluid to be withdrawn from <u>each</u> recovery well. Verification of the aquifer shydraulic ability to produce and accept the quantities proposed should be presented.
- Average and maximum injection pressure.
- D Pumping schedule (i.e. continuous, alternating cycles, etc.).
- Proposed ranges in the concentration of all contaminant constituents within the injection fluid. Include comprehensive ground-water quality data from a "worst case" well sample.
- Dength of time the project is expected to require injection to complete remediation (to ensure the effective dates of the permit will allow sufficient time to complete the project).

#### Attachment D onitoring Program

Discuss the planned monitoring program in detail

- Include a discussion of monitoring devices, sampling frequency (sufficient to verify treatment system efficiency), sampling protocol, sampling location, parameters to be analyzed, and proposed method(s) of analysis.
- This plan should indicate how, through monitoring, the proposed contaminant levels in the injectate will be verified.
- This plan should also clearly illustrate exactly how hydraulic control of the contaminant plume (and injectate, where relevant) will be verified through monitoring (i.e., piezometers, quality analyses, etc.).

#### Attachment E Existing or Pending State Federal Permits

List the program and permit number of any existing State or Federal permits for the facility (i.e., NPDES, RCRA, UST, etc.).

#### Attachment F Description of Business

Give a brief description of the nature of the business of the facility and any immediately adjacent facilities.

#### Attachment G Area of Review

The area of review should be a fixed radius of \(\pi\)mile from the injection well, the outermost injection wells (if a wellfield).

If a fixed radius is not selected, the methods and the calculations used to determine the size of the area of review should be submitted.

#### Attachment H □ aps of □ ells and Area of Review

- Submit a topographic map of the area, extending one mile beyond the project property boundaries. This map should show all hazardous waste treatment, storage, or disposal facilities, and all intake and discharge structures associated with the project facility. Any known areas of soil and or ground-water contamination within a one mile radius should be indicated. Also indicate all surface bodies of water, springs, mines (surface and subsurface), quarries, and other pertinent surface features such as residences, roads, and geologic faults (known or suspected).
- A scaled map(s) should be included which shows the name and or number and the location of A production, injection, monitoring, abandoned and dry wells within the area of review. This should be accomplished by file and field surveys. Information regarding the construction (i.e., total depth, diameter, casing screened intervals, grouting, etc.) and the current status (i.e., actively used, temporarily abandoned, permanently abandoned) of A wells within the area of review should be submitted. If any wells have been abandoned, details on the method the wells were abandoned (i.e., cemented grouted, filled with sand, etc.) should be included.
- A potentiometric map of the project site should be submitted which accurately locates all monitoring wells and proposed recovery and injection wells and outlines the horizontal extent of both the free-phase contaminant (where applicable) and dissolved contaminant plumes. Include all water level and product thickness data. The date and time that water levels and product thicknesses were measured should be indicated.

#### Attachment I Cross Sections Diagrams

- Geologic cross sections indicating the lithology and stratigraphy of the site and the horizontal and vertical extent of the contaminant plume, should be submitted. At least two stratigraphic cross sections, one parallel and one perpendicular to the horizontal ground-water flow direction, should be submitted. In areas where the site stratigraphy is complex, additional cross sections should be submitted to clearly illustrate the local conditions.
- A schematic diagram, in the form of a cross section, showing the proposed remediation system with the components of flow (above and below ground) and all associated appurtenances (i.e., stripping tower, piping, wells, etc.).

#### Attachment ■Name and Depth of Underground Sources of Drinking □ ater (USD□ ⑤)

Identify and describe all aquifers which may be affected by the injection.

#### Attachment Hydraulic Control

- Sufficient supporting data (i.e. time drawdown data, Theis curves and methods, calculations, etc.), used to determine aquifer characteristics to verify <u>complete</u> hydraulic control over the contaminant plume (and injectate, if proposed injectate quality does not conform to classified ground-water standards) during injection should be submitted. At a minimum, values should be given for transmissivity, hydraulic conductivity, effective porosity and specific yield.
- Demonstrate the presence and magnitude of, or the absence of, any vertical hydraulic gradient at the site. If a vertical hydraulic gradient exists, show how its direction and magnitude are incorporated in the calculations demonstrating hydraulic control.
- Ground-water flow computer models (especially  $\Box$ -D map view with potentiometric and flow lines) may be utilized and submitted. All calculations should be in English units. All model-derived data and maps should be properly labeled and keyed so as to be clearly understood.

#### Subsequent Action

After receipt of a complete Underground Injection Control Permit Application, the Department will make a determination to deny or issue a Permit to Construct the injection well(s). After the well(s) is are constructed, the Department should be notified in writing of the well(s) completion and sent a copy of the completed well record form(s) signed by a South Carolina certified well driller which illustrates the "as built" well construction. If the system is in compliance with the approved application, the Department may then issue an Approval to Operate. This Approval to Operate is the final permission necessary prior to injection.

#### **Attachment A: Activity for Review**

On behalf of the South Carolina Department of Health and Environmental Control (SCDHEC), Crawford Environmental Services, Inc. (CES) has prepared a Corrective Action Plan (CAP) for the Handy Pantry # 65 / University Mart / Clouds Chevron (Subject Site) located at the intersection of Taylor Street and Two Notch Road in Columbia, South Carolina. Subsurface soils and groundwater quality have been impacted by a release of petroleum products at the site. In accordance with observed site conditions, CES proposes to remediate the subject properties utilizing a "multi-step" process that will effectively address the free-, dissolved-, and adsorbed-phase petroleum compounds identified at the subject facilities. This tiered-approach will consist of re-activating the air sparge/SVE components, surfactant enhanced free-product recovery efforts, aggressive in-situ chemical-oxidation (ChemOx) and supplemental biological amendment injections. A summary of the remedial program to be implemented at the site is presented below.

### **Attachment B: Well Construction Details**

CES has identified approximately 58 air-sparge points and four recovery wells on-site from a previous remedial contract. The air-sparge wells were constructed of four-inch schedule 40 polyvinyl chloride (PVC) piping to an approximate depth of 45.0 feet below ground surface (bgs) with screened intervals ranging between 25.0 feet and 45.0 feet bgs. The recovery wells were constructed of two-inch schedule 40 PVC piping to approximate depths of 35.0 feet bgs with screened intervals ranging between 25.0 feet and 35.0 feet bgs. Based on the Corrective Action Plan Implementation Report (CAP-IMP) dated December 27, 2006 completed by PEG, each air sparge well is connected via dedicated 0.5-inch PVC conduits to three independent remedial compounds located at 2367 Taylor Street, 2435 Forest Drive and 2436 Forest Drive. CES proposes to utilize these wells for air sparging and supplemental injections (Chem-Ox, Surfactant, and Biological Amendments). Copies of the existing well completion records are include as Appendix A.

Subsequent to completing approximately one quarter of sparging and vapor extraction, CES will inspect the monitoring points to confirm the presence or absence of free-product. Should site conditions indicate the presence of free-phase petroleum, CES will mobilize to the subject site and install a maximum of six free-product recover wells. Eight-inch diameter soil borings will be installed utilizing hollow-stem auger techniques to facilitate the construction of six, four-inch recovery wells. Each recovery point will be installed to approximately 35.0 feet below ground surface (bgs). Injection points will be equipped with screened intervals from approximately two feet above source area contaminants to the terminal depth of the boring. Each injection point will maintain an estimated eight-inch diameter waterproof manway installed within an estimated two foot by two foot concrete pad. A diagram of proposed injection well construction is included as Appendix A.

Proposed and existing injection point locations are presented on Figure 1.

### **Attachment C: Operating Data**

- 1. Average daily rate of fluid to be injected per well is 166 gallons per day (gpd) with a maximum of 210 gpd. Maximum flow rate for air sparging will be four cubic feet per minute (CFM) per injection point.
- 2. Average fluid injection pressure is planned to be 7-psi with a maximum of 15-psi. Maximum air sparge pressure will be 15-psi.
- 3. Should free-phase petroleum be identified following the first three months of air sparging, six additional injection wells will be installed for surfactant enhanced recovery points. Following installation of the injections wells, CES will mobilize to the site with remedial injection equipment and approximately 60-gallons of PetroSolv Surfactant (PetroSolv). CES will mix a 3.0% surfactant solution utilizing approximately 50-gallons of PetroSolv and approximately 600-gallons of potable water (acquired on-site). Over an estimated period of one to three days, CES will inject approximately 660-gallons of surfactant solution to injection points IW-1, IW-2, IW-3, IW-4, IW-5, and IW-6. During these injection events, CES will utilize a surge block to actively pressurize the surfactant solution into the formation creating direct contact with the free-and adsorbed-phase compounds. Following completion of the injection activities, CES will utilize a vacuum truck to extract approximately 150-gallons of petroleum impacted groundwater from each of the referenced injection wells.
- 4. Following achievement of the 60% concentrations of concern (COC) milestone, CES proposes to use a dilute Fenton's reagent process at the subject site to oxidize adsorbed- and dissolved-phase petroleum constituents in the subsurface The Fenton's reagent process utilizes a metal catalyst (ferrous sulfate) and hydrogen peroxide to produce hydroxyl radicals. These hydroxyl radicals rapidly oxidize petroleum hydrocarbons upon contact, ultimately producing by-products of carbon dioxide, water, and dissolved oxygen. Residual petroleum hydrocarbon mass and simple organic acids usually remain after the chemical oxidation process but can be treated with biological amendments. Fenton's reagent process is shown in the following steps:

(1) 
$$Fe^{2+} + H_2O_2 \rightarrow Fe^{3+} + OH \cdot + OH^-$$
  
(2)  $Fe^{3+} + H_2O_2 \rightarrow Fe^{2+} + OOH \cdot + H^+$ 

The hydrogen peroxide will be injected into the estimated 58 existing air-sparge wells utilizing the existing piping as subsurface conveyance conduits. The six free-product recovery wells referenced in Section 3.2 also will be utilized for the injection of hydrogen peroxide on an as needed basis. The injection events will be performed episodically until an approximate COC reduction of 75-80% is achieved. CES estimates that each ChemOx injection event can be completed in approximately one to two weeks, however, the duration of these events will be controlled by the site's ability to sustain the desired rates of injection. CES estimates that approximately 3,000-gallons of 5.0% hydrogen peroxide solution will be utilized at the subject site.

5. Directly following the final ChemOx injection, the holding tank will be cleansed prior to the introduction of bacteria and nutrient-amended water. CES will utilize the PetroBac<sup>TM</sup> product

bundle which contains a TPH Bacterial Consortium and Enzyme Accelerator. The NutriMax<sup>TM</sup> nutrient mix also will be utilized to increase biological degradation of the hydrocarbon mass at the site. Over the course of an estimated three to five days, CES will inject approximately 1,000 lbs. of CBN nutrients and approximately 20 gallons of A2 bacteria mixed with an estimated 3,500-gallons of potable water. The biological amendments will be gravity fed to the injection points in order to facilitate physical contact with the adsorbed-phase compounds. The amendments will react with the residual TPH mass to produce carbon dioxide and water as byproducts. Material Data Safety Sheets (MSDS) for the referenced amendments are included as Appendix C.

6. CES will conduct air sparging / SVE activities continuously until the 60% concentrations of concern (COC) milestone is achieved. Following conclusion of air sparging activities, CES will conduct injections on a quarterly basis. The estimated length of time to complete remediation is 48 months to 60 months.

### **Attachment D: Monitoring Program**

Corrective Action System Evaluation Reports (CASE) will be submitted to DHEC semi-annually from the date of system startup (re-activation). The CASE reports will include groundwater analytical results, system flow rates and efficiency calculations, and contaminant mass removal rate estimates, and an evaluation of the systems effectiveness during the referenced period. Groundwater samples collected quarterly from site monitoring wells will be analyzed for benzene, toluene, ethylbenzene, xylenes, MTBE, naphthalene, by EPA Method 8260 and tertamyl alcohol (TAA), tert-amyl methyl ether, TAME, and tert-butanol (TBA) via 8260-OXY. Laboratory analyses will be conducted by a third-party S.C. certified laboratory. Site monitoring well locations are depicted on Figure 2.

### **Attachment E: Existing Federal and State Permits**

The sites currently maintain the following SCDHEC UST permits; 07584 (Handy Pantry #65/University Mart) and 07777 / 12352 (Cloud's Chevron). In addition, an Underground Injection Control permit has been issued to Palmetto Environmental Group, Inc. (PEG), however, the status of the permit is unknown.

### **Attachment F: Description of Business**

The site associated with UST permit numbers 07777 / 12352 was formerly operating as a retail petroleum station. The site is currently utilized as a parking / access area. The site associated with UST permit number 07584 is currently operating as a retail petroleum station.

### Attachment G: Area of Review

See Figure 3 for the area included in a quarter mile radius of the site.

### **Attachment H: Maps of Wells and Area of Review**

- 1. Topographic map of surrounding area See Figure 3.
- 2. Scaled map of well locations within the Area of Review See Figure 2.
- 3. Potentiometric map of site See Figure 4.

### **Attachment I: Cross-Sections/Diagrams**

1. Geologic cross-sections of site area – See Figures 5 and 6.

# Attachment J: Name and Depth of Underground Sources of Drinking Water (USDW's)

Richland County is located in the upper region of the Upper Coastal Plain Physiographic Province near the interface of the lower Piedmont Physiographic Province. The upper region of the Upper Coastal Plain is typically composed of a sandy or loamy surface layer that is under lain by loamy or clayey subsoil of the Coastal Plain Physiographic Province. Subsurface topography is dominated by a series of nearly level terraces formed by ancient shorelines of the Atlantic Ocean. Those deposits are underlain at relatively shallow depths by residual soils of the Piedmont Physiographic Province.

Based upon previous site investigations conducted by others, the surficial saprolite aquifer is composed of red silty sand grading into a reddish-brown sandy, clayey silt to an investigated depth of 80 feet bsg. Competent rock has not been encountered at the site in previous investigations. Shallow groundwater occurs in the saprolite aquifer at the site at depths ranging from 15-30 feet bgs. Supply wells were not detected within a ½ mile of the subject site.

### Attachment K: Hydraulic Control

The proposed rate and location of injection points should not affect shallow groundwater except in the localized areas of the injection points. Static groundwater conditions should return to the affected areas of the site within a short time frame. Undesirable plume migration will be identified by semi-annual monitoring activities. Site specific aquifer analysis values are included as Appendix D determined during previous phases of investigation.

### Appendix A

Existing Well Completion Records / Proposed Injection Well Construction



RECEIVE

1. WELL OW	WELL OWNER INFORMATION:						6. PERMIT NUMBER: 877							
Name:			al Group, Inc	<b>3</b> .							UND	ERGROL		
		(last)		(first)	-							TANK P	ROGE	MAF
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City:	Elgin	State:	SC .	Zip:29045		☐ Irrigatio			☐ Air Cond			□Emerge		
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	OF WELL:												401	
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			E 0			□Dug			☐Air Rota	ry		□Driven		
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Street Address: 2307 Taylor St./1000 Two	NOIGH	Dug	ıy	☐Air Rota	nv	□Driven	
City: Columbia, SC Zip:		☐Cable Too	<b>1</b>	□ Other	ıy	ШЫмен	
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		direction and this	s report is true	e to the best of r	ny knowledge	and belief.	
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Name: Palmetto Environmental Group, Inc. (ilest) Address: P. O. Box 427  City: Eigh State: SC Zip.23045  Name: Handy Pantry #85/Cloud's Chevron/Site Street Address: 2437 Taylor St./1600 Two Notch Lettinde: 34"00.77 Longitude: 31"00.97  It SYTEM NAMES: SYSTEM NUMBER:  City: Columbia, SC Zip. COUNTY: Richland Lettinde: 34"00.77 Longitude: 31"00.97  It Cutting SAMPLES: Yes Zi No  Geogriphical Logs: Yes Zi No  Red/brown clayey sand (wet) 18" 45"  Red/brow	1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	IMBER:	877				
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Redpinow Work	City:	Elgin	State:	SC .	Zip:29045	□Irrigatio	'n			☐ Emerg	ency	
LOCATION OF WELL: AS-5   Name: Handy Panty #85/Cloud's Chevron/Site   45   ft.   Date Completed:   12/15/2008   Taylor St./1600 Two Notch   Dispersion   Date   Dispersion   Doubler   Dispersion   Dispersion   Doubler   Dispersion   Doubler   Dispersion   Dis	(15)	957/			\$* \$	☐ Test We	ell	☐ Monitorir	ng Well	☐ Replac		
Name: Handy Panty #856/Cloud's Chevron/Site   45 ft.   Date Completed: 12/15/2006				Home:	1 9 <u>1200-20 - 1200 (200</u> 1)	8. WELL DEP	TH (completed)	)	Date Started:		9/2	8/2006
Street Address: 2367 Taylor St./1600 Two Notch City: Columbia, SC Zip: COUNTY: Richland Latitude: 34700.77  Diam: 1"   Height Above/Below   Letting   Lettin	2. LOCATIO	N OF WELL:	AS-5		Auto							100.330330600000000000000000000000000000
Street Address: 2367 Taylor St./1600 Two Notch  City: Columbia, SC Zip: COUNTY: Richland Lettude: 34°00.97  3. SYSTEM NAME: SYSTEM NUMBER:  CUTTING SAMPLES: Yes ZI No  Geophysical Logs: Yes Zi No  Formation Description  Thickness of Stratum  The County: Property P	Name:	Handy Par						_ ft.	Date Complete			5/2006
Country: Richland   Cabinary   Richland   Cabinary   Richland   Cabinary   Richland   Cabinary   Richland	Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	C. C. C. C. C. C. C. C. C. C. C. C. C. C	otary	□Jetted		A CONTRACTOR OF THE PROPERTY O		
COUNTY: Richland Lettude: 34*00.77 Longitude: 81*00.97   Dearm: 1:		5120 U W W	Transportation .				0. 22		ry	□Driver	ľ	
Latitude: 34°00.77   Longitude: 81°00.97   Type:     PVC     Galvanized   Surface   Weight   Drive Shoe?   Yes   No   In. to   feet depth   feet   feet depth   feet			SC	Zip:								
Type:	Programme and the second of th			1860 N		10. CASING:		27		22.2		
CUTTING SAMPLES:	Latitude:	34°00.77	Longitude:	81°00.97								
CUTTING SAMPLES:	3. SYSTEM	NAME:	SYSTEM NUI	MBER:		Type:	47 (1968		10000 COM		r	
Scent   Seed of the composition   Stratum		4										
Thickness of Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Store   Stratum   Store   Stratum   Store   Stratum   Store   Store   Stratum   Store   Stratum   Store   Store   Stratum   Store   Store   Stratum   Store   Sto	4. CUTTING	SAMPLES:	☐ Yes	<b>✓</b> No		0		and the state of t	Drive Shoe?	☐ Yes	M	No
Trickness of Stratum   Strea							in. to	feet depth	<u> L</u>			-
Formation Description   Thickness of Soliton of Stratum   Slott/Sauges:	Geophysic	al Logs:	☐ Yes	✓ No			<b>5</b> 1.00		<b>D</b> :	An		
Stratum   Stra	Fa-	mation Desert	ntion	*Thickness of				<del></del>		20'		<del></del>
Red/brown clayey sand   27'   27'   Sieve Analysis   Yes (please enclose)   No   No   Yes (please enclose)   No   Yes (please enclose)   No   Yes (please enclose)   No   Yes (please enclose)   Yes (please)	1-01	mauun Desch	Puon		DOUGHI OF			ft. and 10				
Yellow to gray clayey sand (wet)   18'   45'   18. PUMPING LEVEL Below Land Surface	(ness	<del></del>		and the		1		ft. and	ft.			
Yellow to gray clayey sand (wet) 18' 45'  13. PUMPING LEVEL Below Land Surface	Red/t	orown claye	y sand	27'	27'	Sieve Anal	ysis	☐ Yes	(please enclos	ie)		☑ N
13. PUMPING LEVEL Below Land Surface   ft. after   hrs. Pumping   G.P.M.	Velloute	arev elever	sand (wat)	191	AEI	12. STATIC W	ATER LEVEL	y	ft holowland	surnace after 24	hours	
ft. after	I GIIOM (O	gray clayey	sanu (Wet)	10	40	13. PUMPING	LEVEL Below	Land Surface	IL DEIOW IBRO	ourgave site Z	c nouls	
Pumping Test:							ft. after	_hrs. Pumping				ppswe
14. WATER QUALITY   Chemical Analysis   Yes   No   Bacterial Analysis   Yes   No   Please enclose lab results					*	Pumping 1			(please enclos	se)	D 202 A	Ø N
Please enclose lab results  15. ARTIFICIAL FILTER (filter pack) Installed from 44 ft. to 45 ft.  Effective size Uniformity Coefficient  16. WELL GROUTED?   Neat Cement   Sand Cement   Concrete   Other		· · · · · · · · · · · · · · · · · · ·				14. WATER Q			88 W PA			**
Installed from 44 ft. to 45 ft.  Effective size Uniformity Coefficient  16. WELL GROUTED?						Please en	close lab result	s	ACT Product Consideration Consideration (19)	MANUAL MANUAL DANS	No⊡	<u> </u>
Effective size											æ	
16. WELL GROUTED?   Yes	- manufacture 1989 (1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 -	m 55955	come preparati Preparati	F				44			π.	
Neat Cernent   Sand Cernent   Concrete   Other				$\vdash$		16. WELL GR	OUTED?	✓ Yes	☐ No			
Depth: From 10 ft. to 40 ft.						☑ Neat C	ement 🔲 Sa	and Cement	Concrete	Other	<del></del>	
Type well disinfected						Depth: Fr	om	10	ft. to	4		diam'r.
Length of drop pipe						17. NEAREST					·	directio
18. PUMP: Date Installed:			32	[		8				Amount:		
Mfr. Name:			-			Commercial Commercial		Name and Address of the Owner, where the Person of the Owner, where the Person of the Owner, where the Person of the Owner, where the Person of the Owner, where the Owner, which the Owner, where the Owner, where the Owner, where the Owner, where the Owner, where the Owner, where the Owner, where the Owner, where the Owner, where the Owner, where the Owner, which the Owner, where the Owner, where the Owner, where the Owner, where the Owner, which the Owner, whic			i 🗸	
Type: Submersible Jet (shallow) Turbine  Jet (deep) Reciprocating Centrifugal  19. WELL DRILLER: Robyn Barkley CERT. NO.: 934  Address: 2485 Watson Elgin, SC 29045  Indicate Water Bearing Zones (Use a 2nd sheet if needed)  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: My Bukkey Date: 12/27/2006		Pi		<b></b>	<u> </u>	Mfr. Name		Laurent de		B 0		
Jet (deep)   Reciprocating   Centrifugal											. —	gpr
19. WELL DRILLER: Robyn Barkley CERT. NO.: 934  Address: 2485 Watson Elgin, SC 29045  *Indicate Water Bearing Zones (Use a 2nd sheet if needed)  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Wyw Bulley Date: 12/27/2006		W 18										9
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)  5. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Wy Date: 12/27/2006			<u> </u>	- 154 p 154 p 154 p 154 p 154 p 154 p 154 p 154 p 154 p 154 p 154 p		19. WELL DR	ILLER:	Robyn Barkley				******
a 2nd sheet if needed)  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Lynn Bulley Date: 12/27/2006						Address:		IN 26 497269 IN 141				
Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Lyw Bulley Date: 12/27/2006				AND THE PROPERTY OF STREET	Pauli 1990 (OAC) (Processors Co	1						
20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Bulley Date: 12/27/2006		THE REAL PROPERTY OF THE PROPE	suea)		<u> </u>	Telephone	No ·	(803)438-1331				
direction and this report is true to the best of my knowledge and belief.  Signed: Ruley Date: 12/27/2006	J. REMAKK	a.				20. WATER V	VELL CONTRA	CTOR'S CERTI	FICATION: Thi	is well was drille	d under	my
Signed: Rober Date: 12/27/2006												
						27	Λ					
						1	1 M	. 11				
Authorized Representative							m 13	arten	_ Date:	12/27/200	6	
						Authori	zed Representative					



1. WELL OW	NER INFORMA	ATION:			6. PERMIT NU	JMBER:	877					
Name:	Palmetto Er	nvironment (last)		C. (first)				10 au - 2 au - 2				
Address:	P. O. Box 4	27			7. USE:	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -						30
F					□Reside	ntial	☐ Public S	.5.7.5	10	Process		
City:	Elgin :	State:	SC	Zip:29045	□Irrigatio	n	☐ Air Cond	10090 WIND 120 <del>0</del>		Emergen		
10.00 (10.00)	100				☐ Test W	ett	☐ Monitorii	ng Well		Replacen	-	
Telephone: V			Home:		8. WELL DEP	TH (completed	)	Date Started:			9/2	8/2006
2. LOCATION	N OF WELL:											
Name:	Handy Pant					15	ft.	Date Complet			12/1	5/2006
Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9.  Mud Ro	otary	☐Jetted		4 <del>1</del>	Bored		
					□Dug		☐Air Rota	ry		Driven		
City:	Columbia, S	SC	Zip:		☐Cable 1		□Other	•	V/265			
50	Richland		Vi conservation and		10. CASING:	☐ Threaded	Welded	en States on the state				
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	e/Below			
3. SYSTEM I	NAME:	SYSTEM NU	MBER:		Type:	<b>☑</b> PVC	☐ Galvanized	Surface				
						☐ Steel	☐ Other	Weight				
4. CUTTING	SAMPLES:	☐ Yes	<b>✓</b> No		0	in. to <u>45</u>		Drive Shoe?		es	Ø	No
ł			37			in. to	feet depth					
Geophysic	al Logs:	☐ Yes	<b>☑</b> No		11. SCREEN		n osera					
_		••	*Thickness of	Depth to	Type:	PVC		Diam.:	<u>4"</u> 20'			_
For	rmation Descrip	tion	Stratum	Bottom of Stratum	Slot/Gauge	en: .020	ft. and 10	Length:ft.	20			
		· · · · · · · · · · · · · · · · · · ·	VIV. 1442-1653 (VIV. 1446)	Suatum	J Get Betwee	"" ———	ft. and	- ft.				
Red/t	brown clayey	sand	27'	27'	Sieve Anal	ysis	☐ Yes	(please enclo	se)			✓ No
V 0 1			401	451	12. STATIC V	VATER LEVEL				04 04 04		
Yellow to	gray clayey s	sand (wet)	18'	45'	13 DIMPING	LEVEL Below	Land Surface	ft. below land	surgace a	mer 24 no	urs	
1		10					hrs. Pumping		G.P.M.			
:					Pumping 7			(please enclo	se)			₩ No
					Yield:							
					14. WATER C		Yes 🔽 No	Bacterial A	nalvei⊟	Yes	No	1
558 B				is 19		close lab result		Daotorium		.00		110 00000000
					15. ARTIFICIA	AL FILTER (filte	er pack)	✓ Yes	ו ם		vs	
	85 W 10 546		TOTAL W	6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		rom	44	ft. to	45		t.	
					Effective s	ROUTED?	✓ Yes	Uniformity Co	enicient		-	
							and Cement 🗆	Concrete	Other		9	<u> Avenumen</u>
	<del> </del>				Depth: Fr	om	10	ft. to		40	ł.	
					17. NEAREST		POSSIBLE CO			ft.		direction
W 70137 WW						Ty	ype well disinfect unpon compl			nt:		
	4787 47 74				18. PUMP:	Date Installed				nstalled	Z	
					Mfr. Name			Model No.:				
		·			H.P.	Volts	Length of drop		_ ft. Cap	acity Turbine		gpm
	90	2 -3				Submersible Jet (deep)	□Jet (sha □Řecipro		-	Lurbine  Centrifug	al	
					19. WELL DR		Robyn Barkley			934		
	\$ 1 ms					2485 Watson Elgin, SC 290	253 15					
*Indicate Wa	ater Bearing Zor	nes (Use			1		P0000000000000000000000000000000000000					
	and sheet if need				S7							
5. REMARK	S:		· · · · · ·	30	Telephone	e No.:	(803)438-1331					
							CTOR'S CERTI				ınder	my
					direction and	unis report is tru	ue to the best of r	ny knowleage	and belief.	•		
					1		6 1.					
l					Simon II A	In. 1	San Bland	Date:	12/2	7/2006		
1					Signed: ///	ized Representative	winey	_ Date	LIL	12000		35 n
L					7 423101				10 Mars			



1. WELL OW	NER INFORM	IATION:			6. PERMIT NU	JMBER:	877				
Name: Palmetto Environmental Group, Inc. (last) (first)						1 () 2 7477124 (0)				<u> </u>	
Address:	P. O. Box			2 2	7. USE:		200		W		
					□Reside	ntial	☐ Public S		<b>✓</b> Proc	ess	
City:	Elgin	State:	SC :	Zip:29045	□Irrigatio	n	☐ Air Cond	litioning	□Eme	rgency	
ar 🀱	SCENI			<del>5</del> 2 W 18	☐Test W		□Monitori	ng Well	☐ Repl	acement	
Telephone: \		The state of the s	Home:		8. WELL DEP	TH (completed	D	Date Started:		9/	28/2006
2. LOCATIO	N OF WELL:		22 53-552	W2001			-			, <u>19</u> 11 <u>-1</u>	
Name:	Handy Par	ntry #65/Clou				45	_ ft	Date Complete			15/2006
Street Add	iress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary	☐Jetted		Bore		
	Onlessed 1	00			□ Dug	r-al	☐Air Rota	ry .	□Drive	au	
City:	Columbia,	9C	Zip:		Cable 1		Other	T			
A THE PROPERTY OF THE PARTY	Richland		04000 07		10. CASING:	⊔ inreaded	☑ Welded	Hoight Above	/Relow		
		Longitude:			Diam.:	Zin 40	1"	Height: Above			
3. SYSTEM I	NAME:	SYSTEM NUM	MBER:		Type:	☑ PV6	☐ Other	Surface Weight	0000000000	_	
A CHITTING	CAMPI FO	☐ Yes	☑ No		<b>┤</b> ∧	☐ Steel		Drive Shoe?		_ <b>Z</b>	No
4. CUTTING	JAMPLES:	⊔ tes	AT NO		I ——	in. to <u>45</u> in. to	feet depth	Dilve Silver	L 162	M.	NO
Geophysic	sal Lone:	☐ Yes	☑ No		11. SCREEN	III. (U	ieet deptit	<u></u>			
Geophysic	Logo.			Depth to	Type:	PVC		Diam.:	4"		
Fo	rmation Descri	ption	Thickness of Stratum	Bottom of	Slot/Gauge	.020		Length:	20'		
			Sudium	Stratum	Set Betwee	en: <u>1</u>	ft. and10				
Red/	brown claye	y sand	27'	27'	Sieve Anal	ysis	ft. and ☐ Yes	_ft. s (please enclos	}e)		₩ No
					12. STATIC W	VATER LEVEL	<u>, , , , , , , , , , , , , , , , , , , </u>				
Yellow to	gray clayey	sand (wet)	18'	45'	42 61111111	TEUPL S.	v Land Surface	ft. below land	surgace after.	24 hours	
		Late thread 1978		100			Land Surface  hrs. Pumping		G.P.M.		
<b></b>					Pumping 1		o. i diriping	s (please enclos			No.
					Yield:						
					14. WATER C Chemical	7.	]Yes ☑ No	Bacterial A	nalysi⊟ Ye	s No	71
	3 V				Please en	close lab result	ts				<u></u>
					15. ARTIFICIA	AL FILTER (filt	er pack)	✓ Yes	□ No	<u> </u>	
				- 43		rom	44	ft. to Uniformity Con	45 efficient	<b>–</b> ft.	
<del></del>					Effective s		✓ Yes	□ No	CHOCH		
					✓ Neat C	ement 🛚 Sa	and Cement	Concrete □	Other	46	
					Depth: Fr	om	10	) ft. to		40 ft.	direction
					17. NEARES		POSSIBLE CO			IL	unecuor
						·	_ unpon comp		Amount:		
		72 <b>3</b> 6 S.			18. PUMP:	Date Installed			Not install	ed 🗸	
<u> </u>					Mfr. Name H.P.	e: Volts	Length of drop	Model No.:	ft. Capacity	b	gpm
1						Submersible	_ Lengui of drop ☐Jet (sha		It. Capacity		abii
						Jet (deep)	□Recipro	cating	□Cen	trifugal	
	200				19. WELL DR			y CERT. NO.:		934	
					Address:	2485 Watson Elgin, SC 290					
*Indicate W	ater Bearing Zo	ones (Use			1	g, 00 E0					
	2nd sheet if ne										
5. REMARK			•		Telephone		(803)438-1331		<del></del>		
							ACTOR'S CERTI			illed unde	er my
ŀ					airection and	unis report is tri	ue to the best of	my knowledge t	and Dellef.		
1					1		h				
					Signed:	1mm	Barblen		12/27/20	)06	
						ized Representative		_ Date			
L.,				,	1						



					6. P	ERMIT NU	IMBER:	1200	877					
Name: Palmetto Environmental Group, Inc.														
(last) (first)					_									
Address:	P. O. Box 4	27			7. U	970 - S			<b></b>	h		78 D		
2000	72.55 TE		22		ı	Resider			□ Public St			Process		i
City:	Elgin 5	State:	SC	Zip:29045		☐ irrigatio			☐ Air Cond			☐ Emerge	0.000	
					_	☐ Test W			☐ Monitorin			Replace		19/200e
Telephone: V			Home:		8. W	VELL DEP	TH (compl	eted)		Date Start	ed:		9/2	28/2006
	OF WELL:			- 104-		ia	ıe.		r.	D-4- 0			100	EIDAGE
Name:	Handy Pant				-	-	5		ft.	Date Com		<b>✓</b> Bored	12/	15/2006
Street Addr	ress:	236/ Taylo	r St./1600 T	wo noten	10000000	☐Mud Ro	nary		19 To 100 M 100 M 100 M	•		☑Driven		
04	Columbia C	·C	75			☐Dug ☐Cable 1	ool.		☐Air Rotar ☐Other	y				
	Columbia, S	<b>.</b>	Zip:		45	CASING:		dod	Welded					
	Richland		04900 07		250		□ inread	Jeu	A	Majahi Al	ove/Poles			
The second second	34°00.77 i	سيماط البارات المستقلة المتاريخ والمتاريخ			1	Diam.:		1		Height: At				
3. SYSTEM N	IAME:	SYSTEM NUM	NBER:		1	Гуре:	PVC			Surface ,	SAMMON ON N			
			<u> </u>		l		☐ Steel		Other	Weight _	1000 to 553			No
4. CUTTING	SAMPLES:	☐ Yes	<b>✓</b> No		-	0	1000 Mile	45		Drive Sho	67 LJ	Yes	V	No
			F		<u> </u>		in. to		feet depth					
Geophysic	al Logs:	☐ Yes	☑ No	Depth to	0.000	SCREEN Type:	PVC			Diam.:	4"			
Fon	mation Descript	ion	Thickness of	Bottom of		Slot/Gauge		20		Length:				
			Stratum	Stratum		Set Betwee			ft. and 10	ft.			*	
P			O-21	071					ft. and	ft.				- N
Red/b	prown clayey	sand	27'	27'	42	Sieve Anal	ysis Vated i e	VEI	☐ Yes	(please er	iciose)			☑ No
Yellow to	gray clayey s	sand (wet)	18'	45'	'2.	SIAIIC W	MIER LE	¥ Kulu	24 Mpc 44 820000	ft. below la	and surga	e after 24 l	nours	
	<u></u>	(			13.				Land Surface					
									hrs. Pumping	200	G.F	·.М.		
22.00						Pumping 1	est:		☐ Yes	(please er	iclose)			☑ No
						Yield: WATER O	UALITY					<del></del>		
						Chemical			Yes 🔽 No	Bacter	al Analysil	☐ Yes	No	<b>2</b>
11 - 3 - 31-33					1	Please en	close lab n	esults	\$5 \$4 \$8 \$5					
W. M						ARTIFICIA Installed fr			r pack) 44	Y Yes	45	] No	ft.	3
						Effective s	2040.00 S		<del></del>	Uniformity		nt	16-	
<del></del>					16.	WELL GR	OUTED?		✓ Yes	☐ No		The latest as	_	
	*							San	nd Cement	Concrete	☐ Other			-
1					49	Depth: Fr	om	OFF	10 POSSIBLE CON	ft. to	ION:	40 ft.		direction
			98 182 - WW 18		₹".	MEAKES I	SOURCE		pe well disinfect			''.		an scholl
								. 31	unpon compl		No An	nount:	20.1V 20.20	
		37			G107570707	PUMP:	Date insta	alled:				ot installed	V	
					_	Mfr. Name	: Volts		Length of drop	Model No		Capacity		gpm
						H.P						Turbine □		дрии
					1		Jet (deep)		□Recipro	cating		☐ Centrifu	gal	1
						WELL DR			Robyn Barkley	CERT. NO	).:	934		
	na mpi di Periodi di Inglia di Inglia di Inglia di Inglia di Inglia di Inglia di Inglia di Inglia di Inglia di			10 TO 1,6980 BACKET	1	Address:			(6					
*India-4- 184	dan Dei 7			<b></b>	-		Elgin, SC	2504	N					
	iter Bearing Zon nd sheet if need													
5. REMARKS			L	I	1	Telephone	No.:		(803)438-1331					3 
	<del>-</del>				20.	WATER V	VELL CON	ITRA	CTOR'S CERTI				under	r my
					dire	ection and	his report	is true	e to the best of r	ny knowled	lge and be	lief.		
						1	1	1						
							<b>V</b>	n	. 10			(AT IA	EC .	
					Sig	ned:	My	M	anon	Date:	12	<u>/27/2006</u>		<del></del>
	80 S S S					Authori	zed kepresen	evirsi						



				6. PERMIT NUMBER: 877
Name: Palmetto Environmental Group, Inc.				
	(last)		(first)	7. USE:
Address: P. O. Box 427				Experiment of the control of the con
O		00	7:000/-	
City: El	gin State:	SC	Zip:29045	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitoring Well ☐ Replacement
Talankan - 185	<b>21</b> 50	(fame)		8. WELL DEPTH (completed)  Date Started: 9/28/2006
Telephone: Wo	rk: OF WELL: AS-9	Home:		O. WELL DEP IT (Completed) Date Stated. 8/20/2000
	andy Pantry #65/	Cloud's Chevro	n/Site	ft. Date Completed: 12/15/2006
Street Addres		aylor St./1600 T		
Street Address	. 2007 I	aylor OL/1000 I	WO HOLOH	□Dug □Air Rotary □Driven
City: C	olumbia, SC	Zip:		□Cable Tool □Other
COUNTY: R		ш.р.		10. CASING: ☐Threaded ☑Welded
	4°00.77 Longitude	e. 81°00.97		Diam.; 1" Height: Above/Below
3. SYSTEM NA		NUMBER:		Type: PVC Galvanized Surface
				□ Steel □ Other Weight
4. CUTTING SA	MPLES:	Yes V No		O in. to 45 feet depth Drive Shoe?   Yes  No
				in. to feet depth
Geophysical I	Logs:	Yes 🔽 No		11. SCREEN
		*Thickness of	Depth to	
Forme	ation Description	Stratum	Bottom of	Slot/Gauge: .020 Length: 20' Set Between: 1 ft. and 10 ft.
	<del> </del>	301 TO DO 10 AND AND AND AND AND AND AND AND AND AND	Stratum	ft. and ft.
Red/bro	wn clayey sand	27'	27'	Sieve Analysis
V-11		vet) 18'	AEI	12. STATIC WATER LEVEL
Yellow to gr	ay clayey sand (w	vet) 18	45'	ft. below land surgace after 24 hours  13. PUMPING LEVEL Below Land Surface
				ft. afterhrs. Pumping G.P.M.
	W		***************************************	Pumping Test:
			e manual de la companya de la compan	Yield:
			· s	Chemical Analysis ☐ Yes ☑ No Bacterial Analysi☐ Yes No☑
				Please enclose lab results
				15. ARTIFICIAL FILTER (filter pack)
		1		Installed from 44 ft. to 45 ft.  Effective size Uniformity Coefficient
				16. WELL GROUTED? ✓ Yes □ No
				✓ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
				Depth: From 10 ft. to 40 ft.  17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
				Type well disinfected Yes Type:
				unpon completion 🗹 No Amount:
				18. PUMP: Date Installed: Not installed ✓  Mfr. Name: Model No.:
				Mfr. Name: Model No.:
			200 M (\$6.00 M (\$6.00 M))	Type: ☐ Submersible ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
	\$ \$ W			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
				19. WELL DRILLER: Robyn Barkley CERT. NO.: 934  Address: 2485 Watson
				Elgin, SC 29045
Indicate Water	r Bearing Zones (	(Use		The Marine Control to the Marine Control to the Control of the Con
	sheet if needed)	27	(	
5. REMARKS:			55 W W	Telephone No.: (803)438-1331
				20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
				DI DI
				Signed: Kyry Barkey Date: 12/27/2006
	v w.s. +			



1. WELL OWNER INFORMATION:		9	6. PERMIT NUMBER: 877
Name: Palmetto Environmental Group, Inc. (last) (first)			
Address: P. O. Box 427		(mar)	7. USE:
Address. F. O. Box 421			☐ Residential ☐ Public Supply ☐ Process
City: Elgin State:	sc :	Zip:29045	□ Irrigation □ Air Conditioning □ Emergency
Oity. Light State.		L.p.20010	☐Test Well ☐Monitoring Well ☐Replacement
Telephone: Work:	Home:	3	8. WELL DEPTH (completed) Date Started: 9/28/200
2. LOCATION OF WELL: AS-10			
Name: Handy Pantry #65/Clos	ud's Chevroi	n/Site	ft. Date Completed: 12/15/200
Street Address: 2367 Taylo	r St./1600 T	wo Notch	
			□Dug □Air Rotary □Driven
	Zip:		□Cable Tool □Other
COUNTY: Richland	200		10. CASING: ☐ Threaded ☑ Welded
Latitude: 34°00.77 Longitude:	81°00.97		Diam.: Height: Above/Below
3. SYSTEM NAME: SYSTEM NUI	MBER:		Type: ☑ PVC ☐ Galvanized Surface
			Steel Other Weight
4. CUTTING SAMPLES:   Yes	<b>☑</b> No		O in. to45feet depth Drive Shoe?
	-		in. to feet depth
Geophysical Logs:		Depth to	11. SCREEN Type: PVC Diam.: 4"
Formation Description	*Thickness of	Bottom of	
	Stratum	Stratum	Set Between: 1 ft. and 10 ft.
Ded/harman alarma anna	071	071	ft. andft.  Sieve Analysis
Red/brown clayey sand	27'	27'	Sieve Analysis
Yellow to gray clayey sand (wet)	18'	45'	ft. below land surgace after 24 hours
			13. PUMPING LEVEL Below Land Surface
			ft. after hrs. Pumping G.P.M. Pumping Test:
			Yield:
		in the state of th	14. WATER QUALITY
The same of the sa		·	Chemical Analysis ☐ Yes ☑ No Bacterial Analysi☐ Yes No☑ Please enclose lab results
			15. ARTIFICIAL FILTER (filter pack) Yes No
			Installed from 44 ft. to 45 ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED?
		-	Depth: From 10 ft. to 40 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direct
			Type well disinfected ☐ Yes Type: unpon completion ☐ No Amount:
			18. PUMP: Date Installed: Not installed
			Mfr. Name: Model No.:
		g 52	H.P. Volts Length of drop pipe ft. Capacity g
			Type: ☐ Submersible ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
			19. WELL DRILLER: Robyn Barkley CERT. NO.: 934
			Address: 2485 Watson Elgin, SC 29045
Indicate Water Bearing Zones (Use			
a 2nd sheet if needed)			
5. REMARKS:			Telephone No.: (803)438-1331
			20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
			Signed: Roby Barklen Date: 12/27/2006
			Authorized depresentative



1. WELL OWNER INFORMATION:	6. PERMIT NUMBER: 877
Name: Palmetto Environmental Group, Inc.	
(last) (first)	
Address: P. O. Box 427	7. USE:
	Residential Public Supply Process
City: Elgin State: SC Zip:2904	
	☐ Test Well ☐ Monitoring Well ☐ Replacement
Telephone: Work: Home:	8. WELL DEPTH (completed) Date Started: 9/28/2006
2. LOCATION OF WELL: AS-11	
Name: Handy Pantry #65/Cloud's Chevron/Site	45ft. Date Completed: 12/15/2006
Street Address: 2367 Taylor St./1600 Two Not	
	□Dug □Air Rotary □Driven
City: Columbia, SC Zip:	☐Cable Tool ☐Other
COUNTY: Richland	10. CASING: ☐ Threaded ☑ Welded
Latitude: 34°00.77 Longitude: 81°00.97	Diam.: 1" Height: Above/Below
3. SYSTEM NAME: SYSTEM NUMBER:	Type: PVC Galvanized Surface
	☐ Steel ☐ Other Weight
4. CUTTING SAMPLES: 🗆 Yes 🗹 No	0 in. to _45feet depth Drive Shoe? \[ \square \text{Yes}  \text{V} \] No
	in. to feet depth
Geophysical Logs:	11. SCREEN
Thickness of Potton	
Formation Description Stratum Stratum	di Cittotage
Stratt	ft, and ft.
Red/brown clayey sand 27' 27	Sieve Analysis Yes (please enclose) No
	12. STATIC WATER LEVEL
Yellow to gray clayey sand (wet) 18' 45	ft. below land surgace after 24 hours  13. PUMPING LEVEL Below Land Surface
	ft. after hrs. Pumping G.P.M.
	Pumping Test: Yes (please enclose) No
	Yield:
	14. WATER QUALITY  Chemical Analysis ☐ Yes ☑ No Bacterial Analysi☐ Yes No☑
	Chemical Analysis ☐ Yes ☑ No Bacterial Analysi☐ Yes No☑ Please enclose lab results
	15. ARTIFICIAL FILTER (filter pack) Yes No
	installed from 44 ft. to 45 ft.
	Effective size Uniformity Coefficient
1 N 1 N 1 N 1 N 1 N 1 N 1 N 1 N 1 N 1 N	16. WELL GROUTED? ✓ Yes ☐ No  Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
	Depth: From 10 ft. to 40 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
	Type well disinfected ☐ Yes Type:
	unpon completion No Amount:  18. PUMP: Date Installed: Not installed
	Mfr. Name: Model No.:
	H.P. Volts Length of drop pipe ft. Capacity gpm
	Type: ☐ Submersible ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal  19. WELL DRILLER: Robyn Barkley CERT. NO.: 934
<b></b>	Address: 2485 Watson
	Elgin, SC 29045
Indicate Water Bearing Zones (Use	
a 2nd sheet if needed)	
5. REMARKS:	Telephone No.: (803)438-1331
	20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my
	direction and this report is true to the best of my knowledge and belief.
	Signed: Polyn Burkley Date: 12/27/2006
	Signed: 12/27/2006  Authorizer Representative
	Virtuiniscal Lichtebestissing



I. WELL OWNER	R INFORMATION	1:			6. P	PERMIT NU	MBER:			877						
Name: Pa	almetto Enviro	nmenta														9
	(last)			(first)	7 1	JSE:							- 1			
Address: P.	O. Box 427			l	["."	JSE: □Resider	tial		Пе	Public Su	ınniv		<b>L</b>	Process	i i	
C## ===	in O	8 9	ec .	7in-2004F		☐ Resider				Air Condi			1	☐ Emerger		
City: Elg	gin State:	(i )	SC 2	Zip:29045		☐ Test We				Monitorin				⊒ Replace	1 - 21-50	
Tolonhara 141-	<b>b</b> -	·	Home:	\ \	_	NELL DEP		leter'			Date Star	ted-		piacs		28/2006
Telephone: Wor	k: FWELL: AS-1		Home:		O. V	WELL DEP	ru (couk	neitu)	,		Paic Sigi	iou.			312	
	andy Pantry #		ıd's Chevror	/Site		Δ	15		ft.		Date Con	npleted:			12/1	5/2006
Street Address			r St./1600 T		9.	☐Mud Ro				Jetted				Bored	balladi.	la de la companya de la companya de la companya de la companya de la companya de la companya de la companya de
uuiva		,				□Dug				Air Rotar	у		0.000	 □Driven		
City: Co	olumbia, SC		Zip:	į		□Cable T	ool			Other						
COUNTY: Ri	경험실실실 [1] : 그리지에 가장하다 [6] - " (2010 - 191	i i	n 7.30	ŀ	10.	CASING:	☐Threa	ided	<b>₩</b> Weld	ded						
	4°00.77 Longit	tude:	81°00.97			Diam.:			1"		Height: A	bove/Bo	wole			
3. SYSTEM NAM		EM NUN		· · · · · · · · · · · · · · · · · · ·	1		PVC		☐ Galv	vanized	Surface					
55/45/2010/2010 and a contract of the contract		50		92.925.000.000		(A)	☐ Steel		Othe	er	Weight .					
4. CUTTING SAI	MPLES:	☐ Yes	✓ No		1	0			feet	t depth	Drive Sho			Yes	$\square$	No
	- Committee of the Comm		10000 <del>- 1</del> 000000 1				in. to	W		t depth				18		
Geophysical L	ogs:	☐ Yes	<b>☑</b> No			SCREEN					20000000		٠	s:		
			*Thickness of	Depth to			PVC	200		_	Diam.:		<u>4"</u> 20'	210000		
Forma	tion Description		Stratum	Bottom of Stratum		Slot/Gauge Set Between		020	ft. and	10	Length:		<u> </u>			
					1 ື	JUL DOINES	··· <u>1</u>		ft. and		ft.					
Red/bro	wn clayey san	d	27'	27'		Sieve Analy	vsis			☐ Yes	(please e	nclose)	1			✓ No
Vollau to are	iv clavey send	(wet)	18'	45'	12.	STATIC W	ATER L	EVEL	3		ft helow	land ou	raace	e after 24 h	Joure	
I SHOW TO GIS	y clayey sand	(MGI)	'9	<del>70</del>	13.	PUMPING	LEVEL	3elow	Land St		IN DOIOM	.unu su	. yalit	- unoi 24!	.5U3	
			[		0.1505960	·	ft. after		_hrs. Pu	umping			G.P.	M.		
						Pumping T		_			(please e	inclose)	)			☑ No
				- Marie		Yield:	UAI ITV									
		<u>, , , , , , , , , , , , , , , , , , , </u>	}	S.		Chemical A	Analysis			☑ No	Bacter	rial Ana	lysi⊑	] Yes	No	7
	- T	V				Please end	close lab	results	8				G Grand			
						ARTIFICIA			er pack) 44		Y Yes		45	No	ft.	
						Installed fr Effective s	Section And the section of the secti		44		tt. to Uniformit			1	rt.	
					16.	WELL GR	OUTED?	,	<b>✓</b> Y	es	☐ No	)		, , , , , , , , , , , , , , , , , , , ,		
						✓ Neat C	ement [	□ Sa	and Cem	ent 🗆	Concrete		ther_	15	-	
					44	Depth: Fr	om GOLIDA	FOF	pneem		ft. to	ION-		40 ft.		direction
					1''	. NEARES!	JUURU				ed Ye		e:	16		
									unpo	on compl		No	Amo	ount:		
					18.	PUMP:	Date Ins	talled.	•		Medala	<del>.                                      </del>	No	t installed	V	
	-				+	Mfr. Name H.P.	: Volts	**	Length	of drop	Model No		ft. Co	apacity		gpm
	**************************************	Sc Street		1		Type: 🗆	Submers			Jet (shal				□Turbine		= = = = = = = = = = = = = = = = =
	····				1_	" 🗖	Jet (deep			Reciproc	cating			☐ Centrifu	igal	
v	·				19.	. WELL DR	ILLER:		575	n Barkley	CERT. N	O.:		934	ŀ	
				·	1	Address:	2485 Wa Elgin, S0									
Indicate Water	Bearing Zones	(Use			1		gar, Ul		<del></del>							
	sheet if needed)	,500		I	1											
5. REMARKS:					1	Telephone				38-1331						
						WATER V									under	my
					dire	ection and t	unis repor	ı is tru	e to the	Dest of t	ny knowie	uge an	u peli	ici.		
						1	1		7 46							
					C.	not P	V	B	a bi	1 -	Date:		12/	/27/2006	<b>S</b>	
					1210	gned: Authori	ze Represe	entative	MASA	and a	_ Dalt:		14	<u> </u>		
			96			radio	9			/						



1. WELL OW	NER INFORM	ATION:	· · · · · · · · · · · · · · · · · · ·		6. PERMIT NU	IMBER:	877				
Name:		invironmenta (last)	al Group, Ind	C. (first)	The second secon	10000		<u> </u>			
Address:	P. O. Box 4	(0)	in the second se		7. USE:				NAME OF THE PARTY		
3					□Resider	ntial	☐ Public S	upply	<b>☑</b> Proce	988	
City:	Elgin	State:	SC :	Zip:29045	□Irrigatio	n	☐ Air Cond	litioning	□Emer	gency	
0 4 <del>5</del> 6	66 <del>5</del> -17			104K 58	☐ Test We	ell	☐Monitorir	ng Well	☐ Repla	acement	**********
Telephone: V	Vork:		Home:		8. WELL DEP	TH (completed)	)	Date Started:		9/2	28/2006
	N OF WELL:	AS-13									9
Name:		- C	ud's Chevror		The second second second	15	_ft.	Date Comple			15/2006
Street Add	ress:	2367 Taylo	or St./1600 To	wo Notch	9.	otary	□Jetted		<b>☑</b> Bore		
y Y	7. <b></b>				□Dug	21 0	□Air Rota	ry	□Drive	'n	
HE SECTION	Columbia,	SC	Zip:		☐Cable T		Other				
(a) 500 0000 (a) 000 000 (a) 0	Richland				10. CASING:		Welded	45			
	34°00.77				Diam.:		<u>1"</u>	Height: Above			!
3. SYSTEM N	NAME:	SYSTEM NUM	MBER:	শ	Type:	<b>☑</b> PVC		Control of the Contro		-	
						☐ Steel	Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	<b>✓</b> No		0	in. to <u>45</u>		Drive Shoe?	☐ Yes	M	No
	20 <b>202</b> - 2000-000	and the second				in. to	feet depth	<u></u>			
Geophysic	al Logs:	☐ Yes	✓ No	Donald &	11. SCREEN	DVC		Diam ·	4"		
For	mation Descrip	otion	*Thickness of	Depth to Bottom of	Type: Slot/Gauge	PVC : .020		Diam.: Length:	20'		1.90-1010-1
rui			Stratum	Stratum	Set Between		ft. and 10				
					1		ft. and	_ft.	SAVE N		
Red/t	prown claye	y sand	27'	27'	Sieve Analy	ysis /ATER LEVEL	☐ Yes	(please enclo	nse)		No No
Yellow to	gray clayey	sand (wet)	18'	45'	IL STATIC W	MIER LEVEL		ft. below land	l surgace after 2	4 hours	
	<u></u>					LEVEL Below				7-1-4	
							hrs. Pumping	<u> </u>			
·*					Pumping T Yleld:	est:	☐ Yes	(please enclo	ise)		No No
<del></del>					14. WATER Q	UALITY					
					Chemical		lYes ☑ No	Bacterial A	Analysi□ Yes	s No	<b>2</b>
					15. ARTIFICIA	AL FILTER (filte	er pack)	✓ Yes	□ No		
				0 0 0000	Installed fr	rom		ft. to	45	n.	
				-	Effective s		✓ Yes	Uniformity Co	pemicient	·	
			ļ l		IO. WELL GR	ement II Sa	Yes and Cement □		Other		
					Depth: Fro	om	10	ft. to		40 ft.	
					17. NEAREST	SOURCE OF	POSSIBLE CON	NOTAMINATION		ft	direction
							ype well disinfect unpon compl				
			-		18. PUMP:	Date Installed:		CUCH BY N	Not installe	ed 🗸	
					Mfr. Name	a:		Model No.:			
					H.P	Voits	Length of drop		ft. Capacity		gpm
50 W 3	<del>- 7 - 7 -</del>		ļ			Submersible Jet (deep)	□Jet (sha □Recipro		⊟Turbi ⊟Cent		
	19 S S S S S S S S S S S S S S S S S S S				19. WELL DR	ILLER:	Robyn Barkley			934	W
				Te W (86)		2485 Watson Elgin, SC 290	•				
	ter Bearing Zo				1						
a 2i	nd sheet if nee				New York Control	53					
5. REMARKS	S:				Telephone		(803)438-1331		nin seed	lad ·	r mar
							ACTOR'S CERTI ue to the best of r			iea unde	ı my
					h	1 1	1 1				
					Signed: Authorit	zen Representative	askley	_ Date:	12/27/20	06	
.,			%)		7,641011	0			<del></del>	*22	



1. WELL OW	NER INFORMA	TION:	2		6. PERMIT NU	JMBER:	877				
Name:	Palmetto Er	nvironment (last)		C. (first)		a menende de de de de de de de de de de de de d	8890345000 <u>0</u>	<u> </u>			Î
Address:	P. O. Box 4	27		•	7. USE:					######################################	******
					□Reside	ntial	☐ Public S	upply	✓ Process	le .	
City:	Elgin 8	State:	SC	Zip:29045	☐Irrigatio	n	☐ Air Cond	litioning	☐ Emerge	ncy	
150				*	☐ Test W	'elt	☐ Monitorii	ng Well	☐ Replace	ment	
Telephone: V	Vork:		Home:		8. WELL DEP	TH (completed	)	Date Started:	* * *	9/2	8/2006
2. LOCATION	OF WELL:	AS-14									
Name:	<b>Handy Pant</b>	ry #65/Clo	ud's Chevro	n/Site		15	_ ft.	Date Complete	ed:	12/1	5/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted		✓ Bored		
					□Dug		☐Air Rota	ry	□Driven		
City:	Columbia, S	SC	Zip:		☐Cable 1	Tool	☐Other		200 2000		
COUNTY:	Richland				10. CASING:	☐Threaded	Welded				
Latitude:	34°00.77 I	Longitude:	81°00.97		Diam.:		1"	Height: Above	/Below		
3. SYSTEM N		SYSTEM NUI		544.444 - 14 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	Type:	<b>☑</b> PVC	☐ Galvanized	Surface			
					"-	☐ Steel	Other	Weight		20	
4. CUTTING	SAMPLES:	☐ Yes	☑ No		1 0		feet depth	Drive Shoe?	☐ Yes		No
						in. to	feet depth			SE-317-	0.070
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN			<del> </del>			
4				Depth to	Type:	PVC		Diam.:	4"		200 00
For	mation Descript	tion	Thickness of Stratum	Bottom of	Slot/Gauge			Length:	20'		
			Suatum	Stratum	Set Betwee	en:1	ft. and 10	ft.			710
Red/h	orown clayey	eand	27'	27'	Sieve Anel		ft. and	ft. (please enclos	<b>~</b> \		₩ No
T(CG/L	nown clayey	Saliu	- 21	21	Sieve Anal	ysis /ATER LEVEL		(please elicios	e)		M NO
Yellow to	gray clayey s	sand (wet)	18'	45'				ft. below land	surgace after 24 l	iours	
						LEVEL Below				1/3/880 30	8 8
# *							hrs. Pumping	, <del>,</del>	G.P.M.		- N-
ii.					Pumping 1 Yield:	est:	☐ Yes	(please enclos	e)		☑ No
				D-000 (M) (D-00)	14. WATER C	UALITY					
	No No Mile College Assistant		•		Chemical		Yes 🔽 No	Bacterial Ar	nalysi⊟ Yes	No	7
8 <del>35</del>			e - 10		Please en	close lab result	s	V2.00.000.000.000.000.000.000.000			
						AL FILTER (filte		✓ Yes	□ No		
¢					Effective s	rom	44	ft. to Uniformity Coe	45	ft.	
					16. WELL GR		✓ Yes	□ No	moent		
							ind Cement		Other		
6	20 320				Depth: Fr	om	10	fl. to	40		
					17. NEAREST		POSSIBLE CON				direction
							pe well disinfect unpon compl			<u> </u>	
					18. PUMP:	Date Installed:				V	
					Mfr. Name	•		Model No.:	W 1000M 000 0000		
	~				H.P	Volts	Length of drop		ft. Capacity		gpm
						Submersible	□Jet (sha □Reciprod		☐Turbine		
					19. WELL DR	Jet (deep)	Robyn Barkley		☐Centrifu 934		
						2485 Watson Elgin, SC 290	**************************************				
Indicate Wa	ter Bearing Zon	es (Use			ł	Eigni, UU EJU					
	nd sheet if need				[						
5. REMARKS				1 10	Telephone	No.:	(803)438-1331				
	oceo				20. WATER V	VELL CONTRA	CTOR'S CERTI		s well was drilled	under	my
					direction and t	this report is tru	e to the best of n	ny knowledge a	nd belief.		İ
e) (C						0	127				
i i					10	B	60	82			
					Signed: Kar	my Bar	mey_	Date:	12/27/2006		
					Authorit Authorit	zedi Representative					



1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	MBER:	877				
Name:		nvironment (last)	al Group, In	C. (first)			2000			<u></u>	
Address:	P. O. Box 4	127		**	7. USE:						9
					□Resider	ntial	☐ Public S		✓ Process		
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio	n	☐ Air Cond	19/00/20/20/00/20/00/20/20/20/20/20/20/20/	□Emerge		8
VI.53.64					☐ Test W	ell	☐ Monitorii	ng Well	Replace		
Telephone: V		- Name and the second s	Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/28	3/2006
2. LOCATION	N OF WELL:	AS-15	16-c- 6-5	-22-22-0200							
Name:			ud's Chevro			15	_ ft.	Date Complete		12/15	5/2006
Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9.  Mud Ro	COLUMN TO THE CO	□Jetted		Bored		
	O-tbi-	00	**************************************		1		☐Air Rota	ry	□Driven		
City:	Columbia, Richland	SC	Zip:		☐Cable 7		Welded	T			
6 S S S S SHANN	34°00.77	La cardina de la	04000 07		THE STATE OF THE PROPERTY OF T	LI Illieaded	1"	Height: Above/	Relow		
And the state of t	South the second				Diam.:	<b>☑</b> PVC		Surface			
3. SYSTEM N	VANIE:	SYSTEM NUI	MBEK:		Туре:	Steel	☐ Galvanizeo ☐ Other	Weight	0.0		
4. CUTTING	SAMDI ES:	☐ Yes	✓ No		1 0		9:00 01 5:50 1000	Drive Shoe?	☐ Yes	<b>2</b> 1	No
4. COTTING	GAMIFEES.	L 163	E 140			in. to	feet depth	Drive Gride:	L 100	، ست	10
Geophysic	allons:	☐ Yes	☑ No		11. SCREEN	III. IQ	icer depui	1			
Соорија	ai Logo.			Depth to	Type:	PVC		Diam.:	4"		
For	mation Descrip	otion	Thickness of Stratum	Bottom of	Slot/Gauge			Length:	20'		_
ļ	****		Suaturi	Stratum	Set Betwee	en:1	ft. and 10	_ ft. _ ft.			
Red/b	orown clayey	sand	27'	27'	Sieve Analy	vsis		_ it. (please enclos	e)		✓ No
					12. STATIC W					15 H. 15	
Yellow to	gray clayey	sand (wet)	18'	45'	43 BUMBING	I EVEL Polov	V Land Surface	ft. below land s	surgace after 24 l	hours	i
							hrs. Pumping		G.P.M.		
					Pumping T			(please enclos	10 CONTRACT PROPERTY		☑ No
					Yield:						
					14. WATER Q Chemical		Yes 🔽 No	Bacterial Ar	nalvsi⊟ Yes	No.	
						close lab result		Dadenai A	ialysic 163	1404	
				s.		L FILTER (file		✓ Yes	□ No	_	
				ABARTINE MESO PERSONAL TA	Installed fr	om	44	ft. to Uniformity Coe	45	ft.	
<b>-</b>	W 68 6 14				16. WELL GR		✓ Yes	□ No	ingen .		
							and Cement 🔲	Concrete	Other		
	10 ON ON				Depth: Fro			ft. to	40		T
ran rate a c					17. NEAREST		POSSIBLE CON ype well disinfect				direction
						•	unpon compl				
	77777852474				18. PUMP:	Date Installed		I design on the electronic on white the design own	Not installed	Z	
					Mfr. Name H.P.	: Volts	Length of drop	Model No.:	ft. Capacity		gpm
				- 100 Ja - Jeffyledd - 100 i rennad r		Submersible	_ Length of drop ☐Jet (sha		_ it. Capacity ☐Turbine		_ abiii
					1 -	Jet (deep)	□Recipro	cating	□Centrifu	igal	ter exemple
					19. WELL DR		Robyn Barkley	CERT. NO.:	934		
					Address:	2485 Watson Elgin, SC 290					
Indicate Wa	iter Bearing Zo	nes (Use			1		<del>-</del>				
	nd sheet if nee										
5. REMARKS	S:		S. 4. 100 P. 100		Telephone		(803)438-1331				
							ACTOR'S CERTI			under r	пу
1					unection and t	una report is tre	ue to the best of r	ny miowieuge a	nd bellet.		
ł					1	1 .	1.				
1					Signed: Ra	In Br	ukler-	Date:	12/27/2006	and the second	
1						zgo Representative	Y	_ ~~!~			
					<del></del>	<i>y</i>			<del>-,</del>		



*********		A REPORT OF THE PARTY OF THE PA									
1. WELL OW	NER INFORM		1 (2)(8)(2)		6. PERMIT NU	IMBER:	877				
Name:		invironment (last)	al Group, Ind	C. (first)							
Address:	P. O. Box 4	427			7. USE:			W			
					Resider		☐ Public S	NYALES CONTRACTOR	Process		
City:	Elgin	State:	SC .	Zip:29045	☐ Irrigation		☐ Air Cond		□Emerge		
					☐ Test We		☐ Monitoria		Replace		0/0000
Telephone: V	Nork: N OF WELL:		Home:		8. WELL DEP	TH (completed	)	Date Started:		9/2	8/2006
Name:			ud's Chevroi	n/Site	1 4	15	_ ft.	Date Complete	d:	12/1	5/2006
Street Add			or St./1600 T		9.  Mud Ro				✓ Bored		
					□Dug	swaose N 💌 1	☐Air Rota	ry	□Driven		
City:	Columbia,	SC	Zip:		☐Cable T	'ool	□Other				
N 19 <del>5</del> 8	Richland				10. CASING:		Welded				
	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above/	Below		
3. SYSTEM N		SYSTEM NU				☑ PVC	☐ Galvanized	Surface			
					1 .,,,,,,	□ Steel	Other	Weight		W.	
4. CUTTING	SAMPLES:	☐ Yes	✓ No		·o			Drive Shoe?			No
		4.75. i.37.				in. to				- <del></del>	AND STREET
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN						
			*Thickness of	Depth to	Type:	PVC		Diam.: Length:	4"		
For	mation Descrip	ption	Stratum	Bottom of	Slot/Gauge:				20'		
			1100 Miles Control of Control	Stratum	- Set netwee	en: <u>1</u>	ft. and 10 ft. and	_ ft. ft.			
Red/b	orown claye	y sand	27'	27'	Sieve Analy		☐ Yes	(please enclose	e)		☑ No
					12. STATIC W						
Yellow to	gray clayey	sand (wet)	18'	45'	12 DIMBINA	1 EVEL Polovi	Land Surface	ft. below land s	urgace after 24 l	nours	
							hrs. Pumping	222220000000000000000000000000000000000	G.P.M.		
				* 148	Pumping T Yield:			(please enclose			☑ No
lana n	10				14. WATER Q	UALITY					
					Chemical A		]Yes ☑ No	Bacterial An	nalysi□ Yes	No	3
8					15. ARTIFICIA	L FILTER (filte	er pack)	✓ Yes	□ No		
		1443	· · · · · · · · · · · · · · · · · · ·		Installed fro	om	44	ft. to	45	ft.	
	~~ <del>~</del>				Effective si			Uniformity Coe	fficient	- 2	
			8		Nest Ca	OUIEU?	Yes and Cement	Concrete C (	Other		
					Depth: Fro	om	10	ft. to	40		
		ASOLU II			17. NEAREST	SOURCE OF	POSSIBLE CON	NTAMINATION:	ft.		direction
	44 (04/42	7.00			l	Ty	ype well disinfect				
	77777				18. PUMP:	Date Installed	unpon compl	letion 🔽 No	Amount: Not installed	7	
					Mfr. Name:	X .		Model No.:	A CONTRACTOR OF THE CONTRACTOR		
						Volts_	Length of drop		ft. Capacity	VI	gpm
						Submersible Jet (deep)	□Jet (sha □Recipro		☐Turbine ☐Centrifu		
					19. WELL DR	ILLER:	Robyn Barkley		934		
					Address:	2485 Watson Elgin, SC 290	and a control with the control of the section of th		33.		
*Indicate Wa	iter Bearing Zo	nes (Use	100 TABLE 1000 TA		1	., =					
	nd sheet if nee				]						
5. REMARKS	3:				Telephone		(803)438-1331				
					Company of the control of the contro		ACTOR'S CERTII ue to the best of n			under	my
					Signed: R	l. B	ash lo	Date:	12/27/2006		
						zed Representative	- Variation		1212112000		
	(C) (C)(V) (VX	80 M 10 M 10 M							19/10/04/05/05/05/05/05/05/05/05/05/05/05/05/05/		



1. WELL OWNER INFORMATION:			6. PERMIT NU	IMBER:	877				
Name: Palmetto Environmenta (last)						<del></del>			
Address: P. O. Box 427	,	1000 C C C C C C C C C C C C C C C C C C	7. USE:		22 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	v420.00 0.1 0000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	v=1\ <u>V</u> 2003	
		ì	□Residen		☐ Public Su		Process		,
City: Elgin State: S	SC Z	Zip:29045	☐Irrigation		☐ Air Condi	CONTROL CONTROL CONTROL	☐ Emerger		
		ì	☐ Test We		□Monitorin		Replace		
	Home:		8. WELL DEP	TH (completed)	)	Date Started:		9/2	8/2006
2. LOCATION OF WELL: AS-17	1970 marr	4000000	l		-			<u> </u>	
Name: Handy Pantry #65/Clou				15		Date Complete		12/1	5/2006
Street Address: 2367 Taylor			9.  Mud Ro	ntary	□Jetted	Anno	Bored	200	-
).= 		ì	□Dug	1004	☐Air Rotar	ry	□Driven		
N 17	Zip:	ĺ,	☐Cable T	THE REAL PROPERTY OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO	Other				
COUNTY: Richland	Yes	i	10. CASING:		Welded		<u> </u>		5
Latitude: 34°00.77 Longitude: 8			Diam.:			Height: Above			
3. SYSTEM NAME: SYSTEM NUM	IBER:		Туре:	<b>☑</b> PVC		Surface			
				☐ Steel		Weight		۰	2024
4. CUTTING SAMPLES:	☑ No	3	0			Drive Shoe?	☐ Yes	$\square$	No
	<u>a_</u> 10			in. to	feet depth	<u> </u>			
Geophysical Logs: ☐ Yes	☑ No		11. SCREEN	D1 /2		D!	An .	and the state of t	
Formation Description	*Thickness of	Depth to		PVC 020		Diam.: Length:	<u>4"</u> 20'		
Formation Description	Stratum	Bottom of Stratum	Slot/Gauge: Set Betwee		ft. and 10	ft.			
	10 100 100 100 100 100 100 100 100 100		1		ft. and	ft.			
Red/brown clayey sand	27'	27'	Sieve Analy		☐ Yes	(please enclos	se)		No No
	18'	45'	12. STATIC W	VATER LEVEL		ft helmula-1	surgace after 24 h	Our	
Yellow to gray clayey sand (wet)	10		13. PUMPINE	LEVEL Below		" "" neinm igud	veryave diter 24 i	.vui S	
				ft. after	_ hrs. Pumping		G.P.M.		
			Pumping T			(please enclos	<ul> <li>Princeso princeso.</li> </ul>		₩ No
			Yield:	IIAI ITV					
			14. WATER Q Chemical A		Yes 🗸 No	Bacterial A	∖nalysi⊟ Yes	No√	7
			Please end	close lab results	<b>S</b>			-134.	
				AL FILTER (filte		✓ Yes	□ No	A	
			Installed fro Effective si	rom	_44	ft. to Uniformity Cod	45 efficient	ft.	
			16. WELL GR	OUTED?	✓ Yes	□ No			
			☑ Neat Ce	ement  Sa	and Cement	Concrete	Other		7/
			Depth: Fro	om	10	ft. to	40		dire
			IV. NEAREST		POSSIBLE CON ype well disinfecte				direction
			4 4 2200	1)	ype well disinlecte unpon comple		Amount:		
			18. PUMP:	Date Installed:			Not installed	Z	
			Mfr. Name	o:	Length of drop	Model No.:	ft. Capacity		
				Volts Submersible	Length of drop   Jet (shal		ft. Capacity Turbine		gpm
			1	Jet (deep)	□Reciproc	cating	☐ Centrifu	ıgal	
			19. WELL DR	ILLER:	Robyn Barkley		934		
	2015	<del> </del>		2485 Watson Elgin, SC, 290					
Indicate Mater Possing 7			1	Elgin, SC 290	, T-U				1
Indicate Water Bearing Zones (Use a 2nd sheet if needed)	1								
5. REMARKS:			Telephone		(803)438-1331			_	
			20. WATER W	VELL CONTRA	ACTOR'S CERTIF		nis well was drilled	under	my
					ue to the best of n				
			1	Ø					
			h	1. 10	41	92 <u>-</u> 17 88	48 15	W.	
			Signed: Authoris	Tyn Ba	wen	_ Date:	12/27/2006	<u>'</u>	
			Authori.	zeg Representative			No. 1. Parado Sea Cara		



1. WELL OW	NER INFORMA	TION:			6. PERMIT NU	MBER:	877		000		t extensión de la companya de la com
Name:	Palmetto Er			C. (first)		1991 WOW 1991 SEE SEE					
Address:	P. O. Box 4	5			7. USE:						
					☐ Resider	ntial	☐ Public S		Pro		
City:	Elgin S	State:	SC	Zip:29045	☐Irrigatio		☐ Air Cond			ergency	
and the second s					☐ Test We		□Monitoriı		□Rep	lacement	
Telephone:		2011 A CONTRACTOR OF THE PARTY	Home:		8. WELL DEP	TH (completed	)	Date Started:		9/3	28/2006
2. LOCATIO	N OF WELL:							5 4 6 4		10/	15/2006
Name:	Handy Pant					5	_ ft. □Jetted	Date Complete	ea:  Bon		13/2000
Street Add	iress:	236/ Taylo	r St./1600 T	wo Notch	9. Mud Ro	tary	□Jetted □Air Rota	n.	□ Driv		
2	O-1	20	4		☐ ☐Cable 1	-ool	□Other	ıy	2011	CII	
City:	Columbia, S Richland	50	Zip:		10. CASING:		Welded			,	
Fig. 10 Company of the Company of th			04000 07		E CONTRACTOR AND AND AND AND AND AND AND AND AND AND	LI Micaucu	1 <sup>11</sup>	Height: Above	/Below		
	34°00.77				Diam.:	<b>☑</b> PVC		Surface			17
3. SYSTEM	NAME:	SYSTEM NUI	NREK:		Type:	□ Steel	☐ Other	Weight			-
4 CUTTING	SAMPLES:	☐ Yes	✓ No		1 0	20 200-		Drive Shoe?			No
4. COTTING	SAMPLES.	L 163	SEL INO			in. to	feet depth				(0.00)
Geophysic	cal Logs:	☐ Yes	☑ No		11. SCREEN						<u></u>
Geophysic	oza Łogo.			Depth to	Type:	PVC		Diam.:	4"		
Fo	rmation Descrip	tion	Thickness of Stratum	Bottom of	Slot/Gauge		- N J - 18	Length:	20'	M 50	
			Od ditain.	Stratum	Set Between	en: <u>1</u>	ft. and 10 ft. and	_ ft. _ ft.			
Red/	brown clayey	sand	27'	27'	Sieve Anal	ysis		(please enclos	e)		No No
						ATER LEVEL	ki			04 h	
Yellow to	gray clayey	sand (wet)	18'	45'	42 BUNDING	TEVEL Relow	Land Surface	ft. below land	surgace atter	24 nours	
							_hrs. Pumping	2	G.P.M.		
					Pumping 1		☐ Yes	s (please enclos	e)		☑ No
		***			Yield:	III AL ITY					
į					14. WATER C		Yes 🔽 No	Bacterial A	nalysi⊟ Y	es No	<b>7</b> 1
-	<del></del>				Please en	close lab result	ts				
						AL FILTER (filt		✓ Yes	□ No	ft.	
		000 PFA-98 19-5-58 T10-5			Installed fi	rom	44	ft. to Uniformity Cos	45 efficient	H.	
					16. WELL GR	OUTED?	✓ Yes	☐ No			
					✓ Neat C	ement 🔲 Sa	and Cement	Concrete	Other	40.0	
					Depth: Fr	om	POSSIBLE CO	) ft. to		40 ft.	direction
	<del></del>		<b>.</b>		17. NEAKES		ype well disinfect			"-	unconon
	00. 5.5 H00030 925 W7002 H700	W. Carrier					unpon comp	letion 🗹 No	Amount:		
					18. PUMP:	Date Installed	:	Model No.:	Not insta	illed 🔽	
					Mfr. Name H.P.	ots Volts	Length of drop		ft. Capacit	ly	gpm
1			1			Submersible	☐Jet (sha	allow)	□Tu	rbine	
					7 🗀	Jet (deep)	□Recipro		□Ce	ntrifugal	
				<b></b>	19. WELL DR	IILLER: 2485 Watson		y CERT. NO.:		934	
					Audiess.	Elgin, SC 29					
*Indicate W	ater Bearing Zo	nes (Use			7						
	2nd sheet if nee			<u> </u>	200 to 000	-22		<b>1</b> 8			
5. REMARK	(S:				Telephone	e No.:	(803)438-1331 ACTOR'S CERT		ie well was d	rilled unde	er mv
					direction and	this report is to	ue to the best of	my knowledge a	and belief.	mou unde	<del>,</del>
					an court and	spect to to					
1					1	1 1	1 4				
					Signed: Ka	for B	arklan	_ Date:	12/27/2	006	
						izer Representativa	,				
<u></u>		<del></del>				William Control					



1. WELL OWNER INFORMATION:	Siv	6. PERMIT NUMBER: 877
Name: Palmetto Environmental (last)	Group, Inc. (first)	
Address: P. O. Box 427		7. USE:
		☐ Residential ☐ Public Supply ☑ Process
City: Elgin State: SC	Zip:29045	□ Irrigation □ Air Conditioning □ Emergency
		☐Test Well ☐Monitoring Well ☐Replacement
	ome:	8. WELL DEPTH (completed) Date Started: 9/28/2006
2. LOCATION OF WELL: AS-19		
Name: Handy Pantry #65/Cloud		ft. Date Completed: 12/15/2006
Street Address: 2367 Taylor S	St./1600 Two Notch	9. ☐Mud Rotary ☐Jetted ☑Bored
		☐Dug ☐Air Rotary ☐Driven
City: Columbia, SC Zip	p:	□Cable Tool □Other
COUNTY: Richland		10. CASING: ☐ Threaded ☑ Welded
Latitude: 34°00.77 Longitude: 81	1°00.97	Diam.: 1" Height: Above/Below
3. SYSTEM NAME: SYSTEM NUMB	BER:	Type: ☑ PVC ☐ Galvanized Surface
		☐ Steel ☐ Other Weight
4. CUTTING SAMPLES:  Yes	☑ No	0 in. to45 feet depth Drive Shoe? □ Yes ☑ No
		in. to feet depth
Geophysical Logs:   Yes	☑ No	11. SCREEN
Г	hickness of Bettern of	Type: PVC Diam.: 4" Slot/Gauge: 020 Length: 20'
Formation Description	Stratum Bottom of Stratum	.020
	Suaturi	Set Between: 1 tt. and 10 tt. ft.
Red/brown clayey sand	27' 27'	Sieve Analysis Yes (please enclose) No
Valley to see alexander of (t)	461 461	12. STATIC WATER LEVEL
Yellow to gray clayey sand (wet)	18' 45'	ft. below land surgace after 24 hours  13. PUMPING LEVEL Below Land Surface
		ft. after hrs. Pumping G.P.M.
		Pumping Test: ☐ Yes (please enclose) ☑ No
		Yield:
1		14. WATER QUALITY  Chemical Analysis ☐ Yes ☑ No Bacterial Analysi☐ Yes No☑
		Please enclose lab results
		15. ARTIFICIAL FILTER (filter pack)  Yes  No
		Installed from 44 ft. to 45 ft.
		Effective size Uniformity Coefficient  16. WELL GROUTED? ✓ Yes □ No
		✓ Neat Cement □ Sand Cement □ Concrete □ Other
		Depth: From 10 ft. to 40 ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction
		Type well disinfected Yes Type:  unpon completion No Amount:
		18. PUMP: Date installed: Not installed
		Mfr. Name: Model No.:
		H.P. Volts Length of drop pipe ft. Capacity gpm
		Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Robyn Barkley CERT. NO.: 934
		Address: 2485 Watson Elgin, SC 29045
*Indicate Water Bearing Zones (Use		- mgm, 40 200.0
a 2nd sheet if needed)		
5. REMARKS:		Telephone No.: (803)438-1331
		20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
		1 1 1 1
		Signed: Kolyn Burkey Date: 12/27/2006
<u> </u>		Authorized Representative



1. WELL OW	NER INFORMA	TION:			6. PERMIT NU	MBER:	877				
Name:	Palmetto Er	ivironment last)		C. (first)					0.000		3 3
Address:	P. O. Box 4	27			7. USE:					10 to 10 to	
					□Resider	ntial	☐ Public S	uppi <del>y</del>	✓ Process	3	
City:	Elgin S	State:	SC	Zip:29045	☐ Irrigation	n	☐ Air Cond	litioning	□Emerge	епсу	
					☐ Test We	eli	□Monitori	ng Well	Replace	ement	
Telephone: \	Nork:	<u> </u>	Home:		8. WELL DEP	TH (completed)	)	Date Started:		9/28	/2006
2. LOCATIO	N OF WELL:	AS-20	\$4 di								
Name:	Handy Pant	ry #65/Clo	ud's Chevro	n/Site	4	5	ft.	Date Complet		12/15	/2006
Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9. Mud Ro	tary	□Jetted		✓ Bored		100 00
					□Dug		☐Air Rota	ry	□Driven		
City:	Columbia, S	C	Zip:		☐Cable T		□Other				
COUNTY:	Richland				10. CASING:	☐Threaded	Welded				
Latitude:	34°00.77 L	ongitude:	81°00.97		Diam.:		<u> 1"                                   </u>	Height: Above	e/Below		
3. SYSTEM I	NAME: S	SYSTEM NUI	MBER:		Type:	<b>☑</b> PVC	☐ Galvanized	Surface			
						☐ Steel	☐ Other	Weight		-	
4. CUTTING	SAMPLES:	☐ Yes	☑ No		0	in. to 45	feet depth	Drive Shoe?	☐ Yes	<b>☑</b> N	lo
						in. to	feet depth				
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN	38 fa 12 - 0.00 ( ) 10 ( ) 3				100 P 200 V	
	2 (E)		'Thickness of	Depth to		PVC		Diam.:	4"		_
For	mation Descript	ion	Stratum	Bottom of	Slot/Gauge		A 45	Length:	20'		-
			UNION ADMINISTRA	Stratum	Set Betwee	n: <u>      1                              </u>	ft. and 10 ft. and	. ft. . ft.			
Red/t	orown clayey	sand	27'	27'	Sieve Analy	rsis	************	(please enclo	se)		√ No
8 10 40 40					12. STATIC W	ATER LEVEL			2002 10000000	- Victoria	4.51101-05-05-05-0
Yellow to	gray clayey s	and (wet)	18'	45'	13. PUMPING	TEVEL Below	Tand Curlons	ft. below land	surgace after 24	hours	
							hrs. Pumping		G.P.M.		i i
					Pumping T			(please enclos	A STANDARD BOTTOLES	E	Z No
	-51 10 20	992 W St	×		Yield:			33.			-
33333					14. WATER Q						
					Chemical A	Analysis ⊔ :lose lab result:	Yes 🔽 No	Bacterial A	∖nalysi⊡ Yes	No	
9			27		15. ARTIFICIA			✓ Yes	□ No	<del></del>	
	· · · · · · · · · · · · · · · · · · ·	*				om`	44	ft. to	45	ft.	1
					Effective si			Uniformity Co	efficient		
					16. WELL GR		✓ Yes and Cement 🏻	□ No	Othor		
	···				Depth: Fro		ind Cerneil ()	ft. to	40	ft.	
							POSSIBLE CON				lirection
					1	Ту	pe well disinfect				
					18. PUMP:	Date Installed:	unpon compl	etion 🕢 No	Not installed		
					Mfr. Name:			Model No.:	IAOL IIISIAIIEO	لكت	
		***				Volts	Length of drop		ft. Capacity		gpm
					A SE CONTRACTO DE LA CONTRACTOR DE LA CONTRACTO DE LA CONTRACTO DE LA CONTRACTO DE LA CONTRACTOR DEL CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR	Submersible	□Jet (sha		□Turbine		_
					19. WELL DRI	Jet (deep)	☐Recipro		☐Centrifu 934		-
						2485 Watson	Robyn Barkley	CERT. NO.:	934	•	
						Elgin, SC 290	45				
*Indicate Wa	iter Bearing Zon	es (Use			1	<b>3</b> 2 15					
a 2	nd sheet if need										
5. REMARKS	S:				Telephone		(803)438-1331		<del>,</del>		
									nis well was drilled	under m	iy
					unection and ti	ns report is tru	e to the best of r	ny knowledge a	and Delief.		
					1 4	1 -	. 1				
					Signed Well	n. Ru	Man -	Date:	12/27/2006		
					Signed: ////	d Representative	and a second	Date	IZIZIIZUUU	<del> </del>	
					1 /	,					



1. WELL OW	NER INFORM	ATION:	80 <u>12 25 25 25 25 25 25 25 25 25 25 25 25 25</u>		6. PERMIT NU	MBER:	877					
Name:	Palmetto E	Environmenta (last)	al Group, Inc	C. (first)	(9	<u> </u>			20 17/100 -			
Address:	P. O. Box	427			7. USE:				= E		- 10	Water Constitution
					☐ Resider	ntial	☐ Public St	upply	¥	Process	•	
City:	Elgin	State:	SC :	Zip:29045	☐ Irrigation	n	☐ Air Cond	litioning	E	⊒Emerge≀	ncy	
1200	(SE)			40	☐ Test We	ell	☐ Monitorir	ng Well		□Replace		
Telephone: V	Nork:		Home:		8. WELL DEP	TH (completed	0	Date Started:			9/2	28/2006
	N OF WELL:	AS-21			7							
Name:	Handy Par	ntry #65/Clo	ud's Chevror	n/Site	4	5	_ft.	Date Complete	ed:		12/1	5/2006
Street Add			or St./1600 T		9.  Mud Ro		□Jetted		V	Bored		1300
6		₹			□Dug		☐Air Rota	ry	Ľ	□Driven		
City:	Columbia,	SC	Zip:		□Cable T		□Other				-	
	Richland		1550		10. CASING:	☐Threaded	Welded					
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	:/Below			
3. SYSTEM N		SYSTEM NU				<b>☑</b> PVC	☐ Galvanized	Surface				
	<u> </u>					☐ Steel	Other	Weight				
4. CUTTING	SAMPLES:	☐ Yes	<b>✓</b> No		10	in. to 45	feet depth	Drive Shoe?		Yes	V	No
			######################################			in. to	feet depth		<u> </u>			
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN		SC 105303 - 20	2004-01-00 (F-200) (D		9348-260		59 8 95
		2 20/1/2 5 1333 ME	*Thickness of	Depth to		PVC		Diam.:	4"			
For	mation Descri	ption	Stratum	Bottom of	Slot/Gauge		ft and	Length:ft.	20'		-	
			WATER STREET, TO THE	Stratum	Set Betwee	<sup>111.</sup> —1—	ft. and 10 ft. and	_ N. N.				
Red/b	orown claye	y sand	27'	27'	Sieve Analy		☐ Yes	(please enclos	se)		10.10.10.10.10.10.10.10.10.10.10.10.10.1	☑ No
	10/2002				12. STATIC W							N. S. L. V. S. L. V. S. L. V. S. L. V. S. L. V. S. L. V. S. L. V. S. L. V. S. L. V. S. L. V. S. L. V. S. L. V.
reliow to	gray clayey	sand (wet)	18'	45'	13. PUMPING	TEVEL BUT	Land Curfors	ft. below land	surgace	after 24 h	nours	
							Land Surface hrs. Pumping		G.P.I	VI.		
			<del>                                     </del>		Pumping T			(please enclos		:d20)		☑ No
New St. March Conference on	400.0000 - 40.000000000 - 6.000				Yield:	20 00 00 00 00 00 00 00 00 00 00 00 00 0	_				uses y	
	278.60 20		A Company of the Comp		14. WATER Q		I V	B				7
					Chemical /	Analysis □ close lab result	]Yes ☑ No is	Bacterial A	u iaiysi	) Yes	No	u u
		i		1000	15. ARTIFICIA			✓ Yes		No		
					Installed fro	om		ft. to	45		ft.	
					Effective si	ize		Uniformity Co	efficient			
			[		IV. WELL GR	ement   Se	✓ Yes and Cement □		Other			
			<del>                                     </del>	- 3 - 1	Depth: Fro	om	10	ft. to		40		
		<b>.</b>				SOURCE OF	POSSIBLE CON	NOITANIMATION		ft.		direction
* <del></del>		in the	1 1			T)	ype well disinfect			and.		<del> </del>
<del></del>		-			18. PUMP:	Date Installed	unpon compl	letion 🗹 No			1	
hoopeanitates -	201		ļ İ		Mfr. Name		100 100 100 100 100 100 100 100 100 100	Model No.:	,401		لک	
					H.P	Volts	Length of drop	pipe		apacity		gpn
					20 4.00 7.00 1.00 1.00 1.00 1.00 1.00 1.00 1	Submersible	☐Jet (shal			☐Turbine		- Andrewski
		1			19. WELL DR	Jet (deep)	☐Reciprod Robyn Barkley		1	□Centrifu 934		-
						2485 Watson Elgin, SC 290				-		
*Indicate Wa	ater Bearing Zo	ones (Use			1							
	nd sheet if nee		<u></u>		]							
5. REMARKS	S:		3. 10.2.10		Telephone		(803)438-1331					
							ACTOR'S CERTIL ue to the best of n				under	my
					1	1 h	11					
		<u> </u>			Signed: Authoriz	zed Representative	whley	_ Date:	12/	27/2006		
					<del></del>							



4 14007 - 6111	100 IN-65-				la ===========		0.7				
	NER INFORM				6. PERMIT NU	IMBER:	877	Ā			
Name:		(last)	al Group, Ind	C. (first)							
Address:	P. O. Box	427			7. USE:						
					□Reside	ntial	☐ Public 8	Supply	Process	•	
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio	n	☐ Air Con	ditioning	☐ Emerge	псу	
( <del>=</del> )	850			**	☐ Test W	ell	☐Monitor	ing Well	□Replace		
Telephone: V			Home:		8. WELL DEP	TH (complet	ed)	Date Started:		9/2	8/2006
	OF WELL:				9 9					40.00	-
Name:			ud's Chevro	n/Site		5	ft.	Date Complet		12/1	5/2006
Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9. Mud Ro	otary	☐Jetted		Bored		
					□Dug		□Air Rota	ary	□Driven		
City:	Columbia,	SC	Zip:		☐Cable 1		Other				
	Richland				10. CASING:	☐ Threade	d Welded				
The State of the S		Longitude:			Diam.:		1"	Height: Above			
3. SYSTEM N	IAME:	SYSTEM NUI	VIBER:		Туре:	PVC	☐ Galvanized	The second secon			
			[2]		4 .	☐ Steel	Other	Weight	10.0	- 	
4. CUTTING	SAMPLES:	☐ Yes	☑ No		0			Drive Shoe?	☐ Yes	<b>V</b>	NO
0	all an-	п	(7)		44 500	in. to	feet depth				
Geophysic	aı Logs:	☐ Yes	<b>☑</b> No	Depth to	11. SCREEN Type:	PVC		Diam.:	<b>4</b> "		2
For	mation Descri	ption	Thickness of	Bottom of	Slot/Gauge		0	Length:	4" 20'		_
65 arija:		F	Stratum	Stratum	Set Betwee		ft. and 10	ft.			
D - 40			6		1		ft. and	ft.	704.00 <b>X</b>		
Red/t	prown claye	y sand	27'	27'	Sieve Anal		☐ Ye	s (please enclo	se)		✓ No
Yellow to	gray clayey	sand (wet)	18'	45'	IZ SIAIIC W	IAIEN LEVI		ft. below land	surgace after 24 l	nours	
				<del></del>			ow Land Surface			<del>-, ,</del>	
×	* * * * * * * * * * * * * * * * * * * *						hrs. Pumping		G.P.M.		- N-
e e e e e e e e e e e e e e e e e e e					Pumping T Yield:	est:	☐ Ye	s (please enclo	se)		₩ No
	313/349			-	14. WATER Q						2 2 1021
						Analysis close lab res		Bacterial A	nalysi□ Yes	No.	l
6			÷r;		15. ARTIFICIA	L FILTER (	filter pack)	✓ Yes	□ No		
							44	ft. to	45	ft.	
					Effective s			Uniformity Co	efficient	2 8	
()			-		16. WELL GR	OUTED?	✓ Yes Sand Cement □	Concrete C	Other		i
					Depth: Fro	om	10	ft. to	40	ft.	
					17. NEAREST	SOURCE	F POSSIBLE CO	NTAMINATION	: ft.		direction
							Type well disinfed	ted☐ Yes T	уре:		
· · · · · ·					18. PUMP:	Date Install	unpon comp	eletion 🔽 No	Not installed		
81					Mfr. Name			Model No.:	, tot inotaned	الكلا	1
***********		· · · · · · · · · · · · · · · · · · ·			H.P	Volts	Length of drop		ft. Capacity		gpm
				-		Submersible			☐Turbine		
					19. WELL DR	Jet (deep)	Recipro	y CERT. NO.:	☐Centrifu 934		
			0. 1000000	<del>*</del>		2485 Watso	on	,	301		
					-	Elgin, SC 2	9045				
	ter Bearing Zo	12									
5. REMARKS	nd sheet if nee	ucu)	L		Telephone	No :	(803)438-1331	Ü			0
o. Kenpukka	••						RACTOR'S CERT		is well was drilled	under r	ny
-					and the state of t		true to the best of				
					2	1					
					Starrage Man	1. 1	Rabo.	C Date:	12/27/2006		9
pi					Signed: ///	zed Representat	ve swickery	Date:	IZIZIIZUUO	<u> </u>	
	- 2 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4				1	7				- 12	



1.	WELL OW	NER INFOR	MATION:			6. PERMIT NU	JMBER:	877				
	Name:	Palmetto i	Environment (last)		C. (first)							
	Address:	P. O. Box				7. USE:		and the state				
			erceve — Gr			□Reside	ntial	☐ Public S	upply	✓ Process		
	City:	Elgin	State:	SC	Zip:29045	□Irrigatio		☐ Air Cond	ACCOUNT ALTONOMY	□Emerge		
			5 165		_,,	☐ Test W		☐ Monitorii	ng Well	□Replace	ment	
T	elephone: \	Nork:		Home:		8. WELL DEP	TH (completed		Date Started:		9/2	8/2006
		OF WELL:	AS-23				to est					
2000	Name:	Handy Pa	ntry #65/Clo				15	_ ft.	Date Complet		12/1	5/2006
	Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9.  Mud Ro	otary	□Jetted		<b>☑</b> Bored	or consider a factor	
			A750			□Dug		☐Air Rota	ry	□Driven		8
1000	City:	Columbia	SC	Zip:		☐Cable 1		Other				
		Richland		<u> </u>		10. CASING:	☐ Threaded	Welded				
	<del>~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ </del>		Longitude:			Diam.:		1"	Height: Above			
3.	SYSTEM I	NAME:	SYSTEM NU	MBER:	22 M	Туре:	<b>☑</b> PVC	☐ Galvanized	1985 C. C. C. C. C. C. C. C. C. C. C. C. C.			
6						700	□ Steel	Other	Weight		·	
4.	CUTTING	SAMPLES:	☐ Yes	V No		0	in. to <u>45</u>		Drive Shoe?	☐ Yes		No
							in. to	feet depth	<u> </u>		- /////	
	Geophysic	al Logs:	☐ Yes	<b>☑</b> No	Don't to	11. SCREEN	DVC		Diam :	<b>4</b> "		
	For	mation Descr	ription	*Thickness of	Depth to Bottom of	Type: Slot/Gauge	PVC : .020		Diam.: Length:	20'		
	, 0,		-Paoi	Stratum	Stratum	Set Between		ft. and 10	ft.		esin e	
					esense			ft. and	ft.	sides <b>N</b> et		
	Red/t	prown claye	ey sand	27'	27'	Sieve Anal	ysis /ATER LEVEL	☐ Yes	(please enclos	se)	- 184	No No
,	fellow to	gray clave	sand (wet)	18'	45'	12. STATIC W	MIER LEVEL		ft. below land	surgace after 24 h	tours	
Т						Paradespara and parade in the commen	LEVEL Below					
L								hrs. Pumping	(-)	G.P.M.		- u
						Pumping 1 Yield:	Test:	☐ Yes	(please enclos	se)		No No
-						14. WATER C	UALITY	A 20 - 20 - 20 - 20 - 20 - 20 - 20 - 20				
						Chemical .	Analysis	Yes 🕢 No	Bacterial A	inalysi⊟ Yes	No.	1
							close lab result		✓ Yes	□ No		
-			· · · · · · · · · · · · · · · · · · ·		-		om Om		ft. to	45	ft.	
						Effective s	ize		<b>Uniformity Co</b>		1986 286 E	
Г				N 2002-0000 000	3 10	16. WELL GR		✓ Yes	□ No	Other		
$\vdash$	41-41 959					✓ Neat C Depth: Fr		and Cement   10	Concrete ☐ ft. to	Other	ft.	
								POSSIBLE CO				direction
Γ								ype well disinfect	ed Yes T	Гуре:		as 1000 5000
L						40 51115	Date List # 1	unpon comp	letion 🔽 No	Amount:	<b>T</b> A	
1000				1		18. PUMP: Mfr. Name	Date Installed	•	Model No.:	Not installed	¥	
						H.P.	Volts	Length of drop		ft. Capacity	2	gpm
						Type:	Submersible	☐Jet (sha	liow)	□Turbine		— n /1√565
							Jet (deep)	☐Recipro		☐Centrifu		
-	a to a					19. WELL DR Address:	2485 Watson		CERI. NU.:	934	E.	
L					7130 4 3 S S S S S S S S S S S S S S S S S S	4	Elgin, SC 290	045				
		iter Bearing Z ind sheet if ne		75,570	and the constitution of th							
5	REMARK	S:				Telephone		(803)438-1331		de conflicte de de la conflict		
100000								ACTOR'S CERTI ue to the best of r		nis well was drilled and belief.	under	my
						n	1 m	11				
						Signed: 10	byn B	arklen	Date:	12/27/2006		
						The second secon	zed Representative					
-						<del></del>						



1	WELL OW	NER INFORM	IATION:			6. PERMIT NU	MBER:	877					
••	Name:	ame: Palmetto Environmental Group, Inc.											
		VIV I	(last)		(first)	60							
	Address:	P. O. Box	(a)	*		7. USE:		38	100 Maria (1986 1986 1986 1986 1986 1986 1986 1986	. W 1000		on49%	
						□Resider	ntial	☐ Public St			Process		
88	City:	Elgin	State:	SC 2	Zip:29045	☐ Irrigation		☐ Air Cond	A CONTRACTOR OF THE PARTY OF TH		☐ Emerger	204 2003	
	4647	14200 14200	20			☐ Test We	ell	☐ Monitorir	ng Weil		Replace	- Start Continued Continued	
	elephone: V			Home:	terminal and the second	8. WELL DEP	TH (completed	0	Date Started:			9/2	8/2006
		N OF WELL:	AS-24			70.000	The state of the s					2000	
No.			ntry #65/Clou	ud's Chevror		-	<del>1</del> 5		Date Comple			12/1	5/2006
	Street Addr	(1 <del>10</del> )		or St./1600 Tv		9.  Mud Ro	ntary	□Jetted	m53150-615		✓ Bored		viv.
ļ,			() · · · · · · · · · · · · · · · · · · ·			□Dug		☐Air Rotar	гу	ı	□Driven		
	UNITED STATE (	Columbia,	SC	Zip:		☐Cable T		Other					
	COUNTY:	Richland				10. CASING:	Threaded						
			Longitude:	81°00.97		Diam.:			Height: Above	e/Below	ř		
3	SYSTEM N	THE PROPERTY AND PARTY.	SYSTEM NUM	and the second state of th	3		<b>☑</b> PVC	☐ Galvanized	Surface				
							☐ Steel	Other	Weight			•	
4	CUTTING	SAMPLES:	☐ Yes	<b>☑</b> No		] 0	in. to <u>45</u>		Drive Shoe?		Yes		No
			us-off Android				in. to	feet depth			\$16.00 to 200 to		
	Geophysic	al Logs:	☐ Yes	<b>☑</b> No		11. SCREEN				10-111 T		74(40)	
			2	Thickness of	Depth to	Type:	PVC		Diam.:	4"			-10-0
	For	rmation Descri	iption	Thickness of Stratum	Bottom of	Slot/Gauge			Length:	20'			
L					Stratum	Set Betwee	en:1	ft. and 10 ft. and	_ ft. ft.				-
	Red/h	brown claye	y sand	27'	27'	Sieve Analy	ysis		_π. s (please enclo	ise)			No No
						12. STATIC W	VATER LEVEL	•					
1	Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land	1 surgaci	e after 24 i	nours	
	make vittes Stati Se		ALBERT PROPERTY.	-				v Land Surface		C.D.	NA.		
-		***************************************				Pumping T		_ hrs. Pumping □ Yes	(please enclo	_ G.P. ose)	.iVł.		☑ No
				1		Yield:			- Wicase elitil				<b>41</b> 140
T						14. WATER Q		- Aller Control of the Control of th					
L						Chemical /	Analysis	Yes 🕢 No	Bacterial A	Analysi[_	] Yes	No	1
						Please en	close lab result AL FILTER (filte	ts	✓ Yes	-	l No		
-				$\vdash$		Installation for	rom	ter pack) 44	ft. to	45	, 140	ft.	
						Effective s		1 500	Uniformity Co		t		
Г						16. WELL GR	OUTED?	✓ Yes	☐ No				
H				<u> </u>				and Cement []	Concrete   ft. to	Other.	40	P	
				1	1	Depth: Fro	'SOURCE OF	10 POSSIBLE CON		V:	40 ft.		direction
				<b>†***</b>		TRES!		ype well disinfect	ted□ Yes *	Type:	— ч		
L		Section of the Assessment Control of the Ass						unpon compl		to Ame	ount:		
	92	175				18. PUMP:	Date Installed		W	No	t installed	¥	
H		-		<del>                                     </del>		Mfr. Name H.P.	volts	Length of drop	Model No.: _	8 0	apacity	VIII. 4.5	gpm
8			l l	ţ l	1		Submersible	_ Length of drop   □Jet (shal			apacity □Turbine		abiti
_			<del></del>		-	1 -	Jet (deep)	□Reciproc	cating		☐ Centrifu	igal	
L	-					19. WELL DR	ILLER:	Robyn Barkley			934		
	votat till Vil					Address:	2485 Watson						
-	Indicat- 141	yter Poor	mee "	<del>                                     </del>		1	Elgin, SC 290	<del>510</del>					1
		ater Bearing Zo		1	1	1							1
F	. REMARKS		Juouj		····	Telephone	No.:	(803)438-1331					
٥	: APPARILLES .					20. WATER W	VELL CONTRA	ACTOR'S CERTI		his well v	was drilled	under	my
								ue to the best of n					
							(Amil)						
e.						1 An	0 1	11					
						Signed:	1m /3	arklez	_ Date:	12	/27/2006		
L	6 AU			-		Authori	ized Representative						
-												100000000000000000000000000000000000000	



1. WELL OWNER INFORMATION:	6. PERMIT NUMBER: 877
Name: Palmetto Environmental Group, Inc. (last) (first)	
Address: P. O. Box 427	7. USE:
	☐ Residential ☐ Public Supply ☐ Process
City: Elgin State: SC Zip:29045	☐ Irrigation ☐ Air Conditioning ☐ Emergency
	☐ Test Well ☐ Monitoring Well ☐ Replacement
Telephone: Work: Home: 2. LOCATION OF WELL: AS-25	8. WELL DEPTH (completed) Date Started: 9/28/2006
	ft. Date Completed: 12/15/2006
	9.
Sheet Address. 2307 Taylor St.71000 Two Notch	□Dug □Air Rotary □Driven
City: Columbia, SC Zip:	□Cable Tool □Other
COUNTY: Richland	10. CASING: □Threaded ☑Welded
Latitude: 34°00.77 Longitude: 81°00.97	Diam.: Height: Above/Below
3. SYSTEM NAME: SYSTEM NUMBER:	Type: PVC Galvanized Surface
3. 3131 EM NAME: SISIEM NUMBER.	Steel Other Weight
4. CUTTING SAMPLES:   Yes  No	O in. to 45 feet depth Drive Shoe? ☐ Yes ☑ No
4. 901 INCOMM ELO. E. 103 E. 110	in. to feet depth
Geophysical Logs: ☐ Yes ☑ No	11. SCREEN
Denth to	Type: PVC Diam.: 4"
Formation Description Thickness of Stratum Bottom of	Slot/Gauge: .020 Length: 20'
Stratum Stratum	Set Between: 1 ft. and 10 ft.
Red/brown clayey sand 27' 27'	ft. and ft.  Sieve Analysis
Troubletini dayey dana Zi Zi	12. STATIC WATER LEVEL
Yellow to gray clayey sand (wet) 18' 45'	ft. below land surgace after 24 hours
	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
	ft. after hrs. Pumping G.P.M. Pumping Test:
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☐ Yes ☑ No Bacterial Analysi☐ Yes No☑ Please enclose lab results
	15. ARTIFICIAL FILTER (filter pack) ✓ Yes ☐ No
	Installed from 44 ft. to 45 ft.  Effective size Uniformity Coefficient
	Effective size Uniformity Coefficient  16. WELL GROUTED? ✓ Yes □ No
	▼ Neat Cement □ Sand Cement □ Concrete □ Other
	Depth: From 10 ft. to 40 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
	Type well disinfected Yes Type: unpon completion No Amount:
	18. PUMP: Date Installed: Not installed ✓
	Mfr. Name: Model No.:
	H.P. Volts Length of drop pipe ft. Capacity gpm Type: Submersible Jet (shallow)
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Robyn Barkley CERT. NO.: 934
	Address: 2485 Watson Elgin, SC 29045
*Indicate Water Bearing Zones (Use	
a 2nd sheet if needed)	
5. REMARKS:	Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my
	direction and this report is true to the best of my knowledge and belief.
	p   b   b
	Signed: Mary 1344 Blen Date: 12/27/2006
	Authorized Representative



1. WELL OW	NER INFORMA	ATION:			6. PERMIT NU	MBER:	877				
Name:	Palmetto Er	nvironment <sup>(last)</sup>		C. (first)	4	1 Server - Care	100 mg		4		
Address:	P. O. Box 4	27			7. USE:						
					☐Resider	ntial	☐ Public S	ирріу	✓ Process	3	
City:	Elgin (	State:	SC	Zip:29045	☐Irrigatio	n	☐ Air Cond	litioning	□Emerge		(4)
					☐ Test W		☐Monitoria	ng Well	☐ Replace		
Telephone: V			Home:		8. WELL DEP	TH (completed	)	Date Started:		9/28/200	6
	OF WELL:									461451666	
	Handy Pant					5	_ft.	Date Complete		12/15/200	6
Street Add	ress:	236/ Taylo	or St./1600 T	wo Notch	9.	tary	□Jetted		Bored		
	O-1	20			□ □ Dug □ Cable T		☐Air Rotar	ry	□Driven		
N 13 <del>5</del> 1	Columbia, S Richland	SC	Zip:		10. CASING:			,			-
			04900 07			□ Inreaged	₩Welded	Lieleht: Abere	/Polour		
	34°00.77 I			•••	Diam.:	- Anyo		Height: Above			
3. SYSTEM N	IAME:	SYSTEM NU	MBEK:		Type:	☑ PVC ☐ Steel	☐ Galvanized ☐ Other	Surface Weight			
4. CUTTING	SAMDI ES-	☐ Yes	✓ No		1 0	25 (20 C) 20 C)		Drive Shoe?		- ☑ No	
4. 00 i i ilia	SAIN LES.	LJ 168	140			in. to	feet depth	Dilve Silver	ш 163		
Geophysica	al I oue.	☐ Yes	☑ No		11. SCREEN	111.10	icet depui	4			2000
Осоријова	Logo.			Depth to		PVC		Diam.:	4"		3
For	mation Descript	tion	Thickness of Stratum	Bottom of	Slot/Gauge		\$ 80 B	Length:	20'		
			Stratum	Stratum	Set Betwee	on:1	ft. and	ft.			
Red/b	rown clayey	sand	27'	27'	Sieve Analy	eia,	ft. and	_ it. (please enclos	se)	<b>☑</b> N	No
					12. STATIC W	ATER LEVEL	——————————————————————————————————————				
Yellow to	gray clayey s	sand (wet)	18'	45'	13. PUMPING	TEVEL BALA	Land Confess	ft. below land	surgace after 24	hours	_
6							_ hrs. Pumping		G.P.M.		139
3					Pumping T			(please enclos			Vo
	20				Yield:						
					14. WATER Q		IVaa 🖼 Na	Dominial A	nahmil'i Van	No.	
	and second 1					Analysis 🔲 close lab result	Yes 🔽 No	Bacterial A	nalysi∐ Yes	No <mark>√</mark>	
8	00.000				15. ARTIFICIA	L FILTER (filte	er pack)	✓ Yes	□ No		
	8:10°	300 - 20 <b>1</b> 200 - 3				om	44	ft. to	45	ft.	
					Effective s		✓ Yes	Uniformity Co	emcient		-
		9					and Cement		Other		_
					Depth: Fro	om	10	ft. to	40	ft.	
					17. NEAREST		POSSIBLE CON pe well disinfect			direction	on
						'	pe well distrilecti unpon compl		ype. Amount:		ä
					18. PUMP:	Date installed	THE RESERVE THE PARTY OF THE PA		Not installed	Z	$\neg$
					Mfr. Name		I amoth of door	Model No.:	A Compat.		
6						Volts Submersible	Length of drop ☐Jet (sha		_ ft. Capacity ☐Turbine	gp	m
						Jet (deep)	☐Reciprod	00000000000000000000000000000000000000	□ Centrifu		i
					19. WELL DR	ILLER:	Robyn Barkley	CERT. NO.:	934		
emin was vin 1990 18085 1 1		BOOK BOOK STORY			Address:	2485 Watson Elgin, SC 290	145				
Indicate Wa	ter Bearing Zon	nes (Use		····	1		·				
	nd sheet if need										
5. REMARKS	):				Telephone		(803)438-1331				
					A CONTRACTOR OF THE PROPERTY O				is well was drilled	under my	4 8
					uirection and t	ins report is tru	e to the best of n	ny knowledge a	and Uchel.		
					n	1 .	20 20 <u>4</u> 2 2044				
					Signed:	Gun B	arblen/	Date:	12/27/2006	<b>i</b>	
						red Representative	1			<del> </del>	
			<del> </del>		4	<del></del>	·/				_



	T			077	******			
Name: Palmetto Environmental Group, Inc.  (lest)  (first)	ľ	6. PERMIT NU	MBER:	877				
(last) (first) Address: P. O. Box 427	ļ.,	7. USE:	******					
Address: P. O. Box 427	ľ	7. USE: □Residen	tial	☐ Public Su	vique	<b>☑</b> Process	i	
City: Elgin State: SC Zip:29	145	☐ Irrigation		☐ Air Condi		☐ Emerger		
City: Elgin State: SC Zip:290	U-10	☐ Test We		☐ Monitorin		☐ Replace	3.7	Ε.
Telephone: Work: Home:	1,		TH (completed)		Date Started:		9/28/2	2006
2. LOCATION OF WELL: AS-27	$\neg \neg$		,	ā: '				
Name: Handy Pantry #65/Cloud's Chevron/Site	İ	4	5	ft.	Date Complete	ed:	12/15/2	2006
Street Address: 2367 Taylor St./1600 Two N	\$ 50 E	9.		□Jetted		✓ Bored		
		□Dug		☐Air Rotar	ry	□Driven		
City: Columbia, SC Zip:	1	□Cable T		□Other				
COUNTY: Richland	Į.	10. CASING:	☐Threaded	✓Welded				
Latitude: 34°00.77 Longitude: 81°00.97		Diam.:	And the second second	1"	Height: Above			
3. SYSTEM NAME: SYSTEM NUMBER:		Type:	<b>☑</b> PVC		Surface			
			☐ Steel	Other	Weight			
4. CUTTING SAMPLES: Yes V No		0	in. to <u>45</u>		Drive Shoe?	☐ Yes	☑ No	)
The second secon	1		in. to	feet depth				
Geophysical Logs: ☐ Yes ☑ No		11. SCREEN	DI **	h 375	D'-	A11		
I Thickness of	oth to		PVC	<u> </u>	Diam.: Length:	<u>4"</u> 20'		_
Stratum Description	om of	Slot/Gauge: Set Between		ft. and 10	Length: ft.			_
				ft. and	ft.			
Red/brown clayey sand 27' 2	7'	Sieve Analy		☐ Yes	(please enclos	se)	V	/ No
Yellow to gray clayey sand (wet) 18' 4	5'	12. STATIC W	AIER LEVEL		ft. helmu lend	surgace after 24 h	JOILL6	
. Show to gray diayey sallu (Wet/) 18 4		13. PUMPING	LEVEL Below		" " neina isud	year and 24		•
			ft. after	hrs. Pumping		G.P.M.		
		Pumping To			(please enclos	se)		No.
		Yield:	IIAI ITV					
		14. WATER QI Chemical A		Yes 🔽 No	Bacterial A	nalysi□ Yes	No.	
		Please end	close lab results	8				
		15. ARTIFICIA	L FILTER (filte	er pack)	Y Yes	□ No	ft.	
	Ì	Installed fro	om ize	44	ft. to Uniformity Cod	45 efficient	H.	
	<del> </del> ,	16. WELL GRO	OUTED?	✓ Yes	☐ No		<del></del>	
		✓ Neat Ce	ement 🛘 Sa	and Cement	Concrete	Other		
	1	Depth: Fro		10 POSSIBLE CON	ft. to	40 I: ft.		rection
		NEAREST		POSSIBLE CON ppe well disinfecte			. <u> </u>	. UUUN
				unpon comple		Amount:		
			Date Installed:			Not installed	¥	
	—	Mfr. Name: H.P.	: Volts	Length of drop	Model No.:	ft. Capacity	NG-2000-	gpm
			Submersible	_ Length of drop   □Jet (shal		☐Turbine		ahiii
			Jet (deep)	□Reciproc	cating	□Centrifu	ıgal	
		19. WELL DRI	ILLER:	Robyn Barkley	CERT. NO.:	934	•	
			2485 Watson Elgin, SC 290					
*Indicate Water Bearing Zones (Use	-	ļ	الاع صل بسو	w. (20)				
a 2nd sheet if needed)		ļ						
5. REMARKS:		Telephone		(803)438-1331				
		20. WATER W	VELL CONTRA			nis well was drilled	under my	У
	ŀ	girection and t	nıs report is tru	ue to the best of n	ny knowledge t	aria dellef.		100
	l		1	y ow				1
		Sinney 10.1	2. 12.	1.6/-	Date:	12/27/2006	V	
	1	Signed: Authoriz	zer Representative	men	_ Date:	1212112000		
			· Productive					



1. WELL OW	NER INFORMA	ATION:			6. PERMIT NU	JMBER:	877	_			0
Name:		nvironment (last)	al Group, Ind	C. (first)	and the second s	nerve en en el Commission de la commission de la commission de la commission de la commission de la commission	punic Structure		JP.		
Address:	P. O. Box 4	27			7. USE:						-88
					□Reside	ntial	□ Public S	upply	✓ Process	ŀ	
City:	Elgin :	State:	sc	Zip:29045	☐ Irrigatio	n	☐ Air Cond	litioning	☐ Emerge	ncy	
2.90					☐ Test W	'eli	☐ Monitorii	ng Well	☐ Replace	ment	
Telephone: V	Nork:	2: 515	Home:		8. WELL DEP	TH (completed	i)	Date Started:		9/28	3/2006
2. LOCATION	OF WELL:	AS-28									
Name:	<b>Handy Pant</b>	try #65/Clo	ud's Chevro	n/Site		15	_ ft.	Date Complete		12/15	5/2006
Street Addi	ress:	2367 Taylo	r St./1600 T	wo Notch	9.	otary	□Jetted		✓ Bored		
e.					□Dug		☐Air Rota	ry	□Driven		
City:	Columbia, S	SC	Zip:		☐Cable 1	<b>Fool</b>	☐Other	20 00			
COUNTY:	Richland				10. CASING:	☐ Threaded	✓Welded				W 10 10 18
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	/Below		
3. SYSTEM N		SYSTEM NU			Type:	<b>☑</b> PVC	☐ Galvanized	Surface			
					.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	☐ Steel	☐ Other	Weight		_	
4. CUTTING	SAMPLES:	☐ Yes	<b>✓</b> No		1 0			Drive Shoe?	☐ Yes	Ø	No
						in. to	feet depth			_	
Geophysic	al Loos:	☐ Yes	☑ No		11. SCREEN		1001.000	<u> </u>		<del></del>	
СССРПУСК	a. Lugu.			Depth to	Type:	PVC		Diam.:	4"		
For	mation Descript	tion	Thickness of	Bottom of	Slot/Gauge	: .020		Length:	20'		
			Stratum	Stratum	Set Between	en: <u>1</u>	ft. and 10	_ft.	750-002559 - 007	.01: 38.83 (5	
Ded/h	orown clayey	eand	27'	27'	Sinus Anal		ft. and	_ft.	.a\	r	Cal No
1,60/1	NOWIT Clayey	Saliu	21		Sieve Anal	ysis /ATFR I FVFI	LI Tes	(please enclos	ie)		<b>√</b> No
Yellow to	gray clayey s	sand (wet)	18'	45'	I CIAIIO		•	ft. below land	surgace after 24 h	tours	
							v Land Surface	18			
							_ hrs. Pumping			,	
9					Pumping T Yield:	est:	☐ Yes	(please enclos	ie)	,	No No
<u> </u>	************	******			14. WATER C	UALITY					
		FORBS WAS IN FORMS	Ti No es y		Chemical		Yes 🔽 No	Bacterial A	nalysi□ Yes	No.	
8					15. ARTIFICIA	close lab resul	er nack)	✓ Yes	□ No		
						om		ft. to	45	ft.	
8					Effective s			Uniformity Co	efficient		
() () ()		W			16. WELL GR			□ No			
							and Cement		Other40		
					Depth: Fr	om SOURCE OF	POSSIBLE CO	ft. to			direction
					TO NACIONALO		ype well disinfect			— `	un cougn
							unpon compl				
90 - 100 T. T. T. T. T. T. T. T. T. T. T. T. T.					18, PUMP:	Date Installed	:	14-4-14	Not installed	V	
					Mfr. Name H.P.	: Volts	Length of drop	Model No.:	ft. Capacity		Com
8						Submersible	_ Length of drop □Jet (sha		_ n. Capacity Turbine		_ gpm
				* * * * * * * * * * * * * * * * * * * *		Jet (deep)	□Recipro	cating	☐ Centrifu		
					19. WELL DR		Robyn Barkley	CERT. NO.:	934		
					Address:	2485 Watson Elgin, SC 29					
*Indicate \Ma	ter Bearing Zon	nes (Use			1	_igni, 00 20	<i></i>				
	nd sheet if need										
5. REMARKS					Telephone	No.:	(803)438-1331		The second secon		
	coef				20. WATER V	VELL CONTRA	ACTOR'S CERTI		s well was drilled	under n	ny
					direction and t	this report is tr	ue to the best of r	ny knowledge a	ınd belief.		
Č					100	1 h	- 11				
É					Signed: My	yn Be	apley	Date:	12/27/2006		
		Secret .			Author	ed Representative					



1. WE	LL OW	NER INFORM	MATION:			6. PERMIT NU	MBER:	877				
Nai	me:	Palmetto I	Environmenta (last)		C. (first)							
Add	dress:	P. O. Box	427			7. USE:		- 544 545 54 - 54		DE PRODUCTOR DE LA COMPANSIONE DEL COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE DE LA COMPANSIONE D		1
						□Resider	ntial	☐ Public St	u <b>pply</b>	Process		8
City	r.	Elgin	State:	sc :	Zip:29045	☐ Irrigation	n	☐ Air Cond	litioning	☐ Emerge		
		N=0			min.	☐ Test We	ell	□Monitorir	ng Well	☐ Replace		1
	hone: V			Home:		8. WELL DEP	TH (completed)	)	Date Started:		9/2	8/2006
2. LO	CATIO	N OF WELL:		ESS (1999)		Ant					20.00	
Na	me:	Handy Pa	ntry #65/Clo				5	_ft	Date Complete		12/1	5/2006
Str	eet Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9.   Mud Ro	itary	□Jetted		Bored		
						□Dug	26 /102	☐Air Rota	ry	□Driven		33
City		Columbia,	SC	Zip:		☐Cable T	- Warner - W	□Other	T			
		Richland		0		10. CASING:		Welded				
-			Longitude:			Diam.:		<u>1"</u>	Height: Above			
3. SY	STEM I	NAME:	SYSTEM NU	MBER:		Type:	PVC			<del> </del>		
						]	☐ Steel	Other	Weight			
4. CU	TTING	SAMPLES:	☐ Yes	<b>✓</b> No		0	in. to <u>45</u>		Drive Shoe?	☐ Yes	$\checkmark$	No
		11. A C					in. to	feet depth	<u> </u>			AND - 44 S V - 22 S V - 25
Ge	ophysic	al Logs:	☐ Yes	☑ No	Depth to	11. SCREEN	PVC		Diam.:	4"		
	For	rmation Descr	iption	*Thickness of	Bottom of	Type: Slot/Gauge			Length:	20'		_
			1	Stratum	Stratum	Set Betwee		ft. and 10	ft.		-	
10	D-10			67	07	99,000000 1 2 1000000000000000000000000000		ft. and	_ft. 			
	Ked/l	orown claye	y sand	27'	27'	Sieve Analy	ysis Ated i ever	☐ Yes	(please enclos	se)		<b>✓</b> No
Yell	ow to	gray clave	sand (wet)	18'	45'	IZ. SIAHO W	AIER LEVEL		ft. below land	surgace after 24	hours	
		<u> </u>				13. PUMPING				Access of the Control		
				<u> </u>				hrs. Pumping		G.P.M.		
8			62.0	n - 19 - 19 - 19 - 19 - 19 - 19 - 19 - 1		Pumping T Yield:	est:	☐ Yes	(please enclos	se)		✓ No
				<del>                                     </del>		14. WATER Q	UALITY					
	— Videologija na rijet		100000000000000000000000000000000000000			Chemical /	Analysis 🔲	Yes 📝 No	Bacterial A	nalysi□ Yes	No	3
						Please end	close lab result	S pools	T# V		- 10 202 0	
							L FILTER (filter om	er pack) 44	Yes ft. to	☐ No 45	ft.	
						Effective s		At 28 08382 At	Uniformity Cod			
						16. WELL GR	OUTED?	✓ Yes	□ No			
								and Cement 🗆	Concrete  ft. to	Other	) ft.	
8				-	1	Depth: Fro		POSSIBLE CON			J n.	direction
	i managaran					1		pe well disinfect	ed□ Yes T	уре:		
								unpon compl	letion 🗸 No	Amount:		
						18. PUMP:	Date Installed:	:	Model No.:	Not installed	$\checkmark$	
						Mfr. Name H.P.	: Volts	Length of drop		ft. Capacity		gpm
	<u> </u>	<u> </u>					Submersible	☐Jet (sha	llow)			SP
		1,					Jet (deep)	□Recipro		☐ Centrife		
						19. WELL DR	ILLER: 2485 Watson	Robyn Barkley	CERT. NO.:	93	4	
				1		Address:	Elgin, SC 290	145				
India	cate Wa	ater Bearing Z	ones (Use	f		1	J ,					
		nd sheet if ne										
5. RE	MARK	S:				Telephone	No.:	(803)438-1331	EIO 4 PRO 6			
										is well was drilled	under	my
l.						unection and t	uns report is tru	e to the best of r	ny knowieage £	and Sellet.		
						₩	1					
						Signed: Roll	a Pro	Alene	Date:	12/27/2006	3	
							zyd Representative	-prof		1212112000		
20 20 20												



1.	WELL OW	NER INFORM	TATION:			6. PERMIT NU	IMBER:	877					
	Name:		Environment	tal Group, Inc	C.		m an 2000 1990 2000.						1
			(last)		(first)								
	Address:	P. O. Box	427			7. USE:			7	_	D		
8	200	E200 19	227	200		Resider	20000000	☐ Public St	(1)( <del>-1</del> )(-1)(-1)(-1)	7	Process	uma-r	
	City:	Elgin	State:	SC :	Zip:29045	☐ Irrigation		☐ Air Cond	PATRICIA DE PORTO DE SENTE		Emergen	10000	5
						☐ Test We		☐ Monitorir			Replacer		0/0000
_	elephone: V			Home:		8. WELL DEP	TH (completed	1)	Date Started:			9/2	8/2006
		N OF WELL:			. (5.1	12	\ <del>-</del>		2 2 2			404	E ISSS
	Name:	3.70		ud's Chevror			4 <u>5</u>	_ ft.	Date Complet		Decr.	12/1	5/2006
	Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9.  Mud Ro	otary	☐Jetted		(A-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	Bored		
	0"	O-1 · ·	66	731		□ Dug	'ocl	☐Air Rotai	u y	٤	Driven		
	City:	Columbia,	, <b>၁</b> ೮	Zip:		Cable T		☐Other	T		ICON ST.	365	
8 .		Richland	in them as	04000		10. CASING:	⊔ inreaded		U-!	VP-1			
_			Longitude:			Diam.:		<u>1"</u>	Height: Above				
3.	SYSTEM N	NAME:	SYSTEM NU	MBER:		Туре:	PVC		Surface				
		0477					□ Steel	Other	Weight	# Q			N-
4.	CUTTING	SAMPLES:	☐ Yes	✓ No		0			Drive Shoe?		res	Ø	No
				-		44	in. to	feet depth	<u></u>	The second second second			
_	Geophysic	al Logs:	☐ Yes	T	Dorth 1	11. SCREEN	PVC		Diam.:	<b>⊿</b> "			
	For	rmation Descri	iption	*Thickness of	Depth to Bottom of	Type: Slot/Gauge	PVC .020		Diam.: Length:	20'			
	- FOI			Stratum	Stratum	Set Betwee		ft. and10	ft.				
Γ	<u> </u>		72.2					ft. and	_ft.				
_	Red/t	brown claye	y sand	27'	27'	Sieve Analy			(please enclo	se)	10.72 15.00		☑ No
v	(ellow to	grav clave	y sand (wet)	18'	45'	12. STATIC W	VATER LEVEL		ft. below land	surne~ -	after 24 h	Oline	
+	OJ WUILL	gray Gaye)	Janu (Wet)	10	40	13. PUMPING	LEVEL Below	v Land Surface	NeiOM ISUO	Jungatt E	64 N	-u10	
							ft. after	hrs. Pumping	<del></del>	G.P.M.			Elightrans
						Pumping T			s (please enclo	se)			☑ No
_						Yield:	HALIFO						
				b	1	14. WATER Q Chemical		Yes 🕢 No	Bacterial A	\nalvsil <sup>-</sup>	Yes	No	7
-	<del> </del>			<b>†</b>	<u> </u>	Please end	close lab result	ts		1 <del>-</del> 4 (27:30)			<u></u>
L						15. ARTIFICIA	AL FILTER (filte	ter pack)	✓ Yes				
			mare establishment in the			Installed fr		44	ft. to Uniformity Co	45 nefficient		ft.	
				<del> </del>		Effective s	OUTED?	✓ Yes	☐ No				
					<u></u>	✓ Neat Co	ement  Se	and Cement	Concrete	Other			
						Depth: Fro	om	10	ft. to	200 7 70 70	40		
		<u> </u>				17. NEAREST		POSSIBLE CON			ft.		direction
				1			T	ype well disinfect unpon compl			int:		
						18. PUMP:	Date Installed				nstalled	V	
						Mfr. Name	ə:		Model No.:	W 1		_	
						H.P.	Voits	Length of drop		ft. Cap	5. S. S. S. S. S. S. S. S. S. S. S. S. S.		gpm
-	1.00						Submersible Jet (deep)	☐Jet (sha ☐Recipro			]Turbine ]Centrifug	lar	
					1	19. WELL DR	ILLER:	Robyn Barkley		بالمار المار المار المار المار المار المار المار المار المار المار المار المار المار المار المار المار المار ا	934		
Г							2485 Watson						
Ļ		1				4	Elgin, SC 290	U <b>4</b> 5					
1		ater Bearing Z		1 7	1	1							
Ļ		and sheet if ne	eded)	<u></u>	L	Telest	No:	(800)490 4001					
ð.	. REMARKS	<b>o</b> :				Telephone 20. WATER W		(803)438-1331 ACTOR'S CERTI		ris well we	is drilled	under	mv
								ue to the best of r					.oif <b>#</b> l
							(f)						
						An .	1 1	1 0					
						Signed: Var	un Ba	rpen	_ Date:	12/2	7/2006		
					<u>-220                                   </u>		ized Representative		entit t			91.00	
_							<del></del>						



1. WELL OW	NER INFORM	ATION:	277		6. PERMIT NU	JMBER:		877	1.05044	W. S. W.			1
Name:		nvironment (last)	al Group, In	C. (first)					<u> </u>		40 <u>00 U</u> 1888000		
Address:	P. O. Box 4				7. USE:					***			
8					□Reside	ntial		☐ Public S	upply	6	Process		
City:	Elgin	State:	SC	Zip:29045	□Irrigatio	n		☐ Air Cond	litioning	1	□ Emerge	ncy	
5	18 <del>0.</del> 0				☐ Test W	elt		☐ Monitoria	ng Well		Replace	ment	
Telephone: V	Vork:		Home:		8. WELL DEP	TH (comple	eted)		Date Started	l:	Art 100	9/2	8/2006
2. LOCATION	OF WELL:	AS-31				100-U0-0-0-14-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0							
Name:	Handy Pan	try #65/Clo	ud's Chevro	n/Site	4	15	ft.		Date Comple	eted:		12/1	5/2006
Street Add		7	or St./1600 T		9.	otary		□Jetted			Bored		
					□Dug			☐Air Rota	гу		□Driven		
City:	Columbia,	SC	Zip:		☐Cable 1	<b>Fool</b>		□Other					
	Richland		*300 €300		10. CASING:	☐Thread	ed 🗹	Velded					
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:	**************************************	1"		Height: Abov	re/Below			
3. SYSTEM N		SYSTEM NU		7	Type:	<b>☑</b> PVC		Salvanized	Surface				
					1,750.	☐ Steel		Other	Weight	20			3
4. CUTTING	SAMPLES:	☐ Yes	☑ No		1 0				Drive Shoe?		Yes		No
						in. to		feet depth					
Geophysic	al Long.	☐ Yes	☑ No		11. SCREEN	11. 00		icct acpai	L				
Соортуско	a. Logo.		Control of the Contro	Depth to	Type:	PVC			Diam.:	4"			9
For	mation Descrip	otion	Thickness of	Bottom of	Slot/Gauge	: .02	20		Length:	20'			
			Stratum	Stratum	Set Betwee	en: <u>1</u>	ft. a		ft.				- A
Ped/h	roum claves	cond	27'	27'	Ciarra Amar		ft.a		_ft. _/=lance_and	\			CB No
Neur	prown clayey	Sanu	21		Sieve Anal	ysis /ΔTFR I FV	/FI		(please encl	ose)			No No
Yellow to	gray clayey	sand (wet)	18'	45'	I CIANO				ft. below lan	d surgaci	e after 24 h	nours	
				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13. PUMPING					other mode			
						ft. after _	hrs.	Pumping		G.P.	M.		
					Pumping 1 Yield:	est:		☐ Yes	(please encl	ose)			₩ No
*************			<u> </u>		14. WATER O	UALITY							
				36 W	Chemical		☐ Yes	<b>✓</b> No	Bacterial	Analysi 🗌	Yes	No	3
						close lab re		.,c,					
					15. ARTIFICIA			(E)	✓ Yes		No	ft.	
					Effective s	om ize	44		ft. to Uniformity C	45 cefficient		IL.	
					16. WELL GR		V	Yes	☐ No	3011101011			
					☑ Neat C	ement 🛚	Sand C	ement 🗆	Concrete	Other .			,
		7 P. D. O. O. O. O. O. O. O. O. O. O. O. O. O.			Depth: Fro	om		10	ft. to		40		<del></del>
					17. NEAREST	SOURCE			NTAMINATIO ed⊟ Yes		ft.		direction
								npon compl		io Am	ount:		
					18. PUMP:	Date Insta		, -:- :-::E	v stanovni talian saa			V	
				-	Mfr. Name				Model No.:				
					H.P	Volts Submersib		gth of drop			apacity □Turbine		gpm
						Jet (deep)	ne	☐Jet (sha			∐ i urbine ∐Centrifu	gal	
		(3)		80 =	19. WELL DR		Ro		CERT. NO.:		934		
	2311				Address:	2485 Wats Elgin, SC	son	u un persona Arresta con esperante de Carteria de Arresta de Persona de Carteria de Carteria de Carteria de Ca					
	ter Bearing Zo				]	taser 2005							
THE RESERVE OF THE PARTY OF THE	nd sheet if nee	ded)					3932 500						
5. REMARKS	3:				Telephone			3)438-1331	FIGATION: "	Tala P	الدالية مسا	·md-	
					20. WATER Water direction and t							unaer	ıny
					n	1	h	9 1					
					Signed: Authorit	zed Representa	13%	ley	Date:	12/	27/2006		
					1	7					8 8		



1. WELL OWNER INFORMATION:	6. PERMIT NUMBER: 877
Name: Palmetto Environmental Group, Inc. (last) (first)	
Address: P. O. Box 427	7. USE:
	☐ Residential ☐ Public Supply ☑ Process
City: Elgin State: SC Zip:2904	☐ Irrigation ☐ Air Conditioning ☐ Emergency
5	☐Test Well ☐Monitoring Well ☐Replacement
Telephone: Work: Home:	8. WELL DEPTH (completed) Date Started: 9/28/2006
2. LOCATION OF WELL: AS-32	
Name: Handy Pantry #65/Cloud's Chevron/Site	ft. Date Completed: 12/15/2006
Street Address: 2367 Taylor St./1600 Two Not	
5000 <b>- 1</b> 10 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	□Dug □Air Rotary □Driven
City: Columbia, SC Zip:	□Cable Tool □Other
COUNTY: Richland	10. CASING: ☐ Threaded ☑ Welded
Latitude: 34°00.77 Longitude: 81°00.97	Diam.: 1" Height: Above/Below
3. SYSTEM NAME: SYSTEM NUMBER:	Type: ☑ PVC ☐ Galvanized Surface
	☐ Steel ☐ Other Weight
4. CUTTING SAMPLES: Yes V No	0 in. to45 feet depth Drive Shoe?
	in. to feet depth
Geophysical Logs: Yes V No	11. SCREEN  Type: PVC Diam.: 4"
Formation Description Thickness of Bottom	
Stratum Stratu	
Dad/harry alayer and 071 071	ft. andft.
Red/brown clayey sand 27' 27'	Sieve Analysis
Yellow to gray clayey sand (wet) 18' 45'	ft. below land surgace after 24 hours
	13. PUMPING LEVEL Below Land Surface
	ft. after hrs. Pumping G.P.M.
	Pumping Test: Yes (please enclose) No Yield:
	14. WATER QUALITY
	Chemical Analysis ☐ Yes ☑ No Bacterial Analysi☐ Yes No☑
	Please enclose lab results  15. ARTIFICIAL FILTER (filter pack) ✓ Yes □ No
	Installed from 44 ft. to 45 ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED?
	Depth: From 10 ft. to 40 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: fi. direction
	Type well disinfected ☐ Yes Type:
	unpon completion No Amount:  18. PUMP: Date Installed: Not installed
	Mfr. Name: Model No.:
	H.P. Volts Length of drop pipe ft. Capacity gpm
	Type: Submersible Set (shallow) Secretification
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal  19. WELL DRILLER: Robyn Barkley CERT. NO.: 934
	Address: 2485 Watson
	Elgin, SC 29045
Indicate Water Bearing Zones (Use	
a 2nd sheet if needed)  5. REMARKS:	Telephone No.: (803)438-1331
o. Neikhillo:	20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my
	direction and this report is true to the best of my knowledge and belief.
	N MI
	Signed: 12/27/2006 Date: 12/27/2006
	Authorized Representative



WELL OWNER INFORMATION:     Name: Palmetto Environmental Group, Inc.					6. PERMIT NU	JMBER:	877				
Name:		nvironment (last)		C. (first)			50 4000				
Address:	P. O. Box 4	27		A	7. USE:						
					Reside	ntial	☐ Public S	upply	Process		-
City:	Elgin	State:	SC	Zip:29045	☐Irrigatio	n	☐ Air Cond	litioning	□ Emerge	ncy	
)-2-9 					☐Test W	eli	☐ Monitorii	ng Well	□Replace	ment	
Telephone: V	Nork:		Home:		8. WELL DEP	TH (completed	D	Date Started:		9/2	8/2006
2. LOCATION	N OF WELL:	AS-33									
Name:	Handy Pan	try #65/Clo	ud's Chevro	n/Site		15	_ ft.	Date Complete		12/1	5/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted		<b>☑</b> Bored	sa 10.20	
					□Dug		☐Air Rota	ry	□Driven		
City:	Columbia,	SC	Zip:		☐Cable 1		□Other				
COUNTY:	Richland				10. CASING:	☐Threaded	Welded	60 Ji 15			
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above/	Below		38
3. SYSTEM N	NAME:	SYSTEM NUI	MBER:		Type;	<b>☑</b> PVC	☐ Galvanized	Surface			61
	2 1000000	n) 50				☐ Steel	☐ Other	Weight			1
4. CUTTING	SAMPLES:	☐ Yes	<b>✓</b> No		0	in. to 45	feet depth	Drive Shoe?	☐ Yes	$\checkmark$	No
						in. to	feet depth		5 52 52		
Geophysic	al Logs:	☐ Yes	<b>☑</b> No		11. SCREEN			2007		(3)	4
			*Thickness of	Depth to	Type:	PVC		Diam.:	4"	110	- W
For	mation Descrip	otion	Stratum	Bottom of	Slot/Gauge		ft, and 10	Length:	20'		
				Stratum	Set Betwee	en: <u>1</u>	ft. and 10	_ft. ft.			18
Red/b	orown clayey	sand	27'	27'	Sieve Anal	ysis		(please enclose	e)		No No
					12. STATIC W	ATER LEVEL					
Yellow to	gray clayey	sand (wet)	18'	45'	43 500000000		Land Surface	ft. below land s	urgace after 24 i	iours	
							_ hrs. Pumping		G.P.M.		
					Pumping 1			(please enclose			No No
0003					Yield:						
4		341 - Fano 332 - 341 - 34	5		14. WATER O		=				74
	<del></del>				Chemical A	Analysis L close lab result	Yes ☑ No	Bacterial An	alysi□ Yes	No	1
					15. ARTIFICIA	AL FILTER (file	er pack)	✓ Yes	□ No		
	Night Date	12 22 1			Installed fr	om		ft. to	45	ft.	
					Effective s			Uniformity Coe	fficient		
					16. WELL GR		Yes and Cement	☐ No	Other		
					Depth: Fr		ت	ft. to	40	ft.	
			12 20 - 20 - 20 - 20 - 20 - 20 - 20 - 20	2004		SOURCE OF	POSSIBLE CON	TAMINATION:	ft.		direction
						Ty	ype well disinfect	ed□ Yes Ty			
					18. PUMP:	Date Installed	unpon compl	etion 🔽 No	Amount: Not installed	Z	
					Mfr. Name		•	Model No.:	Not albidied	C.L.	
					H.P	Volts	Length of drop	pipe	ft. Capacity		gpm
					A CONTRACTOR OF THE PROPERTY O	Submersible	☐Jet (sha		☐Turbine		
					19. WELL DR	Jet (deep)	☐Reciprod Robyn Barkley		☐Centrifu 934		
	-					2485 Watson	Nobyli Daikley	JENI. NO	334		
					10 a 2000 p. p. 10 10 20 20 20 20 20 20 20 20 20 20 20 20 20	Elgin, SC 290	)45				
	iter Bearing Zor										
	nd sheet if need	ded)				/ <b>4</b> 4	(888) (FE 185)				
5. REMARKS	5:				Telephone		(803)438-1331	EICATION: The	well wee delled	undo-	mv
							ACTOR'S CERTING to the to the best of r			urider	шу
i C					ancouon and t	roport to tit	LO TO THE OCOL OF I	, morriouge ai	wondi.		
c .					A 1	1 1.					
					Signed:	man Ba	hlon	Date:	12/27/2006		104500 1 SEC 40444 11
						zed Representative	and y	aiv	122112000		
				č							



1. WELL OW	NER INFORM				6. PERMIT NUM	1BER:	877				3
Name:		(last)	tal Group, Ind	C. (first)				<u> </u>		<u>10 - 11 - 140-201</u> 1	
Address:	P. O. Box	1990	,		7. USE:				greatours		
					☐ Residentia	al	☐ Public Su		✓ Process		
City:	Elgin	State:	SC :	Zip:29045	☐ Irrigation		☐ Air Condi		☐ Emerge		
, <del></del>	MMTC1				☐ Test Well		☐ Monitorin	ng Well	Replace		
Telephone: V	Nork:	e1	Home:	Thus agreements of substantial	8. WELL DEPTH	I (completed)		Date Started:		9/2	8/2006
	N OF WELL:			•	1	and the second section of the section of t					
Name:			ud's Chevror	n/Site	45	f	ft.	Date Complete		_12/1	5/2006
Street Add	(5)		or St./1600 T		9.		□Jetted		<b>☑</b> Bored		
<b>0</b> 24	Calmakia	90	7:		□Dug	4	☐Air Rotar ☐Other	ıy	□Driven		
City:	Columbia, Richland	JU	Zip:		□Cable Too		UOther ✓ Welded				
		l acció	81 <sup>0</sup> 00 07		MACONING CONTRACTOR CO		0 <del>00000</del> 000 10	Height: Above	(Below		
Latitude: 3. SYSTEM N				No. 20	Diam.:		Manager and the second	March 1907			
ə. ə 181EM A	wante:	SYSTEM NU	HOEK:		St. (1995) 1997) 1997		☐ Galvanized ☐ Other	Surface Weight			
4. CUTTING	SAMDI ES-	☐ Yes	✓ No					Drive Shoe?		- Z	No
vui ling	JAMITLES:	∟ı Yes	No No			in. to <u>45</u> in. to	feet depth feet depth	Silve Silve?	⊔ 1€S	<b>GZ</b>	.10
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN				<b>4</b> 77	XXXXXXX 5-	
		nti a -	Thickness of	Depth to		OCC OCC		Diam.:	4" 20'		
For	rmation Descri	ιρασπ	Stratum	Bottom of Stratum	Slot/Gauge: Set Between:	.020		Length:	<u> 4</u> V		-
<del></del>					- Set Between:		ft. and	ft.			
Red/b	prown claye	y sand	27'	27'	Sieve Analysi	is		(please enclos	se)		☑ No
Yellow to	grav clave	sand (wet)	18'	45'	12. STATIC WAT	IER LEVEL		ft. below land	surgace after 24	hours	
	3 J Jidyoy	(1131)	<del></del>		13. PUMPING L		and Surface		10 - 10 10 10 10 10 10 10 10 10 10 10 10 10		
						t. after h		<b>/-</b>	G.P.M.		أبي
	VIII (250 - 250 N)				Pumping Tes Yield:	st:	☐ Yes	(please enclos	se)		☑ No
			<del></del>		14. WATER QUA	ALITY					
	<u> </u>		20-20 E		Chemical An	nalysis 🔲 Y		Bacterial Ar	ınalysi□ Yes	No	7
					Please enclo	ose lab results	= 8				
140					15. ARTIFICIAL		pack) 44	Yes ft. to	□ No 45	ft.	İ
<u> </u>				1	Effective size	е	**	Uniformity Coe			
					16. WELL GROU	UTED?	✓ Yes	□ No			
							d Cement	Concrete  ft. to	Other	D ft.	<del></del>
		1		1	Depth: From					t.	direction
							e well disinfecte	ed Yes Ty	ype:		Journ
	% AMA						unpon comple		Amount:		
)			- cm - 13 - 1 - 123 - 224		18. PUMP: D Mfr. Name:	Date Installed:		Model No.:	Not installed	Z	
			<del>                                     </del>	<del></del>		oltsL	Length of drop		ft. Capacity		gpm
					Type: ☐ Su	ubmersible	☐Jet (shall	llow)			
47%						et (deep)	☐Reciproc		☐ Centrift		
			<del>                                     </del>		19. WELL DRILL Address: 24		Robyn Barkley	JER1. NO.:	934	<del>-1</del>	ì
3						Elgin, SC 29045	5				ŀ
	ater Bearing Zo					and the second s					ŀ
N	nd sheet if nee	eded)			Talant.	lo:	(803)430 4004				į
5. REMARKS	J.				Telephone N 20. WATER WE		(803)438-1331 CTOR'S CERTIF	-ICATION- The	is well was drilled	i under	my
					direction and this						
						1					Ì
					10.1	1 1	61	Dat-	10/07/00-	2	l
					Signed: /// X	dRepresentative	serent.	Date:	12/27/2006	ā	
	<del> </del>		<u> </u>		Authorize	A. Observed Herrang				100.000	



1.	WELL OW	/ELL OWNER INFORMATION:						MBER:			877					ì
	Name:	Palmetto	Environmenta	al Group, Inc	C.											ľ
			(last)	•	(first)		0.000									
	Address:	P. O. Box	427			7. USE:								<del></del>		
							esiden	95/34/95/7			Public S	13-16L F)		Process		
	City:	Elgin	State:	SC	Zip:29045	□In	rigation	n			Air Cond			□ Emerge	2550	10
						□ T	est We	ell			Monitori			☐ Replace		
Te	elephone: V	Vork:		Home:		8. WELL	DEPT	TH (comp	pleted)	)		Date Starte	ed:		9/2	28/2006
2.	LOCATION	OF WELL:	AS-35		18000000											
	Name:	Handy Pa	intry #65/Clou	ud's Chevro	n/Site		4	5		ft.		Date Comp	pleted:		12/1	5/2006
	Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9. 🗆 M	lud Ro	tary			Jetted			✓ Bored		
											Air Rota	ry		□Driven		
	City:	Columbia	, SC	Zip:			able T	School Com-			Other					
	COUNTY:	Richland				10. CAS	ING:	☐ Threa	aded	<b>☑</b> We	lded					
	Latitude:	34°00.77	Longitude:	81°00.97		Diam				1"	<del></del>	Height: Ab	ove/Belov	N		1
3.	SYSTEM N	IAME:	SYSTEM NU	MBER:		Туре	:	<b>☑</b> PVC		☐ Gal	vanized	Surface _				1
						18,054		☐ Steel	l	□ Oth	er	Weight _				
4.	CUTTING	SAMPLES:	☐ Yes	✓ No			0	in. to	45	fee	et depth	Drive Shoo	? 🛘	Yes	$\checkmark$	No
80750		eophysical Logs: 🔲 Yes 🛂 No						in. to	1	fee	et depth			2000		
	Geophysic	al Logs:	☐ Yes	☑ No		11. SCR	REEN						P879.0.			
				*Thickness of	Depth to	Туре		PVC			_	Diam.:	4"			
	For	mation Desc	ription	Stratum	Bottom of		Gauge:		020	<del></del> ,		Length:	20	<u> </u>		
				Oddidiii	Stratum	Set E	Betwee	n:1	L	ft. and		_ ft. ft.				
	Red/h	rown clav	ev sand	27'	27'	Sieve	e Analy	eis.		, it. airu		(please en	close)			₩ No
۲	1100/2	JI OHIT CIQY	oy cana			12. STA	TIC W	ATER L	EVEL						****	
•	Yellow to	Red/brown clayey sand 27' 27' llow to gray clayey sand (wet) 18' 45'						W				ft. below la	ind surga	ce after 24	nours	
Г	- Strike	40		g - 92 2530 - 50 - 5		13. PUN							C	P.M.		
_						Dum	ping T	ft. after		_ ms. P	umping 	(please en	10 mm	141.		☑ No
						Yield		651.			L 100	(piodos s.				
r								UALITY						rent manes	7.000	
L						Che	mical /	Analysis			✓ No	Bacteri	al Analys	☐ Yes	No	
			7.09			Plea	ISE ENC	close lab	result	er pack)	37 370 4	✓ Yes	2000 - 200 A	] No		
H								om				ft. to	45		ft.	
						- 000 to 1000 to	ctive s					Uniformity	Coefficie	nt		
٢		4 4 7				16. WEI	LL GR	OUTED'	?	Z	Yes	☐ No				
L		,,,							☐ Sa	and Cem	nent 🗆	Concrete [ ) ft. to	_ Othe	<u> </u>	ft.	
					8	17 NEA	th: Fro	SOLIGE	EOF	POSSII	BLE CO	NTAMINAT	ON:	— <del>→</del> C		direction
H			<u> </u>		-			200,10				ted□ Yes	Type:			
	0 0000000000000000000000000000000000000									unp	on comp		No A	nount:	-	
Γ					83 W W F 18	18. PUN		Date Ins	stalled	:		Model No.		lot installed	4	
H						Mfr. H.P.	Name	: Volts	-	Lengti	n of drop			Capacity		gpm
l								Submer	sible		Jet (sha			Turbine	, <del></del>	
t						1		Jet (dee			Recipro	cating		□Centrifu		
L						19. WE				1.50	n Barkle	CERT. NO	).:	934	ŀ	
1	overall District	944(U) N				Add	ress:	2485 W Elgin, S								
H	Indiant 184	des De este :	7					шуIII, Э	~ Z3(	V-10						
1		ater Bearing and sheet if n			1											
F	. REMARK		overe)	L	L	Tele	phone	No.:			138-1331					07722-40
ľ	· · ·	<b></b>				20. WA	TER W	VELL CO		ACTOR'	S CERT	FICATION:			unde	r my
l						direction	n and t	his repo	rt is tro	ue to the	best of	my knowled	ge and b	elief.		
1								1								
						l	M	1 /	h.	10						
						Signed:		But	Alle	New		_ Date:	1	<u>2/27/2008</u>	<u> </u>	
L						N 18	Authori	ze Repres	entative							



1. WELL OWNER INFORMATION:			6. PERMIT NU	IMBER:	877				
Name: Palmetto Environmenta (last)		(first)							
Address: P. O. Box 427	8		7. USE:		5,000		<u></u>	. 1000 - 50	
			Residen		☐ Public Su		Process		
City: Elgin State:	SC 2	Zip:29045	☐ Irrigation		☐ Air Cond		□Ernerger		
		1	☐ Test We		☐ Monitorin		□Replace	DOCO POPULATION AND AND ADDRESS OF THE PARTY	
	Home:		8. WELL DEPT	TH (completed)	)	Date Started:		9/2	8/2006
2. LOCATION OF WELL: AS-36		,,,,,,		_		white the same	50 <b>%</b> #		E IN#
Name: Handy Pantry #65/Clou				15		Date Complete		12/1	5/2006
Street Address: 2367 Taylo	or St./1600 Tv	wo Notch	9.  Mud Ro	otary	☐Jetted	V	☑ Bored ☐Driven		
Ohn Calumbia CO	7im.		□Dug □Cable T	'ool	☐Air Rotar ☐Other	עי	mouven.		
City: Columbia, SC COUNTY: Richland	Zip:	i	10. CASING:		✓Welded				**********
Latitude: 34°00.77 Longitude:	81000 07	i i		— meaued	30770-00	Height: Above/	/Below		
Latitude: 34°00.// Longitude: 3. SYSTEM NAME: SYSTEM NUM		· · · · · · · · · · · · · · · · · · ·	Diam.:	☑ PVC		A STANDARD CONTRACTOR	/Below		
C. C. G. I. STOTEM NUI	moer:	i	Type:	Steel □	Production Control	Surface		e e	
4. CUTTING SAMPLES:	✓ No	·	0			Drive Shoe?		_ Ø	No
Tes	140	i		in. to 45	feet depth	- Unios r	00		
Geophysical Logs:   Yes	☑ No	i	11. SCREEN		wopui	<del>*************************************</del>			
		Depth to	Type:	PVC		Diam.:	4"	- 0 - 0 - 0	
Formation Description	Thickness of Stratum	Bottom of	Slot/Gauge:		8 == -	Length:	20'		
	-uusull	Stratum	Set Betwee	en: <u>1</u>	ft. and	. ft. ft.			
Red/brown clayey sand	27'	27'	Sieve Analy	rsis	☐ Yes	ιι. (please enclos	ie)		☑ No
	<del></del>		12. STATIC W	ATER LEVEL	C.		1 1 1 10 10		
Yellow to gray clayey sand (wet)	18'	45'	13. PHUBING	LEVEL Below		π. pelow land :	surgace after 24 h	nours	
	[ ]	1			hrs. Pumping				
			Pumping T			(please enclos			No No
	<b>  </b>	1	Yield:	UALITY					
		1	Chemical A	Analysis 🔲	Yes 🔽 No	Bacterial Ar	nalysi□ Yes	No	f
	<b>(</b> )	1		close lab results		✓ Yes	□ No	<del></del>	
	<del>                                     </del>	1 <del></del>	Installed fro	rom		ft. to	45	ft.	
		1 	Effective si	ize		Uniformity Coe			
		65 A S	16. WELL GR	OUTED?	✓ Yes and Cement 🗆	☐ No Concrete ☐ (	Other		
	<del>  </del>		Depth: Fro	om	10	ft. to	40		
				SOURCE OF	POSSIBLE CON	NTAMINATION:	: ft.		direction
				Ty	ype well disinfecte				
	<del></del>	<u> </u>	18. PUMP:	Date Installed:	unpon comple	etion 🔽 No	Not installed	7	
	1	·	Mfr. Name:	i.		Model No.:	10000000 V		
			H.P	Volts	Length of drop	pipe	ft. Capacity	), ————————————————————————————————————	gpm
	<del>                                     </del>			Submersible Jet (deep)	☐Jet (shal ☐Reciprod	ACCORD 2017 (COMPAN)	☐Turbine ☐Centrifu		
			19. WELL DRI	ILLER:	Robyn Barkley		☐Centritu		
			Address:	2485 Watson Elgin, SC 290					
Indicate Water Bearing Zones (Use			1						
a 2nd sheet if needed) 5 REMARKS:			Telephone	No.	(803)438-1331				1
5. REMARKS:						FICATION: The	is well was drilled	under	my
			And the second of the second o		ue to the best of n				outer (170 € E
				0		1425			
			10	1 h	.11 -	2	184		
			Signed: //	rya Br	unen/	Date:	12/27/2006	<u> </u>	
			Authoria	zer Representative					



1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	IMBER:	877				
Name:	Palmetto E	invironment (last)	al Group, Inc	C. (first)		5. of Noosestation to	SV SV		100000		
Address:	P. O. Box	427			7. USE:			\$ 5.0 PERS 1	9		
					Reside	ntial	☐ Public Se	upply	Process	•	
City:	Elgin	State:	SC .	Zip:29045	☐Irrigatio	n	☐ Air Cond	litioning	□ Emerge	ncy	
e se s <del>e</del> s					☐ Test W	eli	☐ Monitorir	ng Well	Replace	ement	
Telephone: \	Nork:		Home:		8. WELL DEP	TH (completed	)	Date Started:		9/28/	2006
2. LOCATIO	N OF WELL:	AS-37	***								
Name:	Handy Par	itry #65/Clo	ud's Chevroi	n/Site	4	5	_ft.	Date Complete		12/15/	2006
Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9. 🖾 Mud Ro	itary	□Jetted	0-000	<b>☑</b> Bored		
					□Dug		☐Air Rota	ry	□Driven		
City:	Columbia,	SC	Zip:		☐Cable 1		□Other				
COUNTY:	Richland				10. CASING:	☐Threaded	Welded				(3
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	/Below		
3. SYSTEM I	NAME:	SYSTEM NU	MBER:	10 May 11	Type:	<b>☑</b> PVC	☐ Galvanized	Surface			10
Selection State						☐ Steel	☐ Other	Weight		<b>-</b>	10
4. CUTTING	SAMPLES:	☐ Yes	✓ No		0	in. to 45	feet depth	Drive Shoe?	☐ Yes	☑ No	0
						in. to	feet depth			0000	
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN		d Seetles W			10701/1 MAY 18	
			*Thickness of	Depth to	Type:	PVC		Diam.:	4"		_
Foi	mation Descri	ption	Stratum	Bottom of	Slot/Gauge		A ==1 46	Length:	20'		-
	<del></del>			Stratum	Set Betwee	en: <u>1</u>	ft. and 10 ft. and	. ft. ft.			
Red/l	orown claye	v sand	27'	27'	Sieve Anal	vsis		(please enclos	se)	E.	7) No
					12. STATIC W	ATER LEVEL					
Yellow to	gray clayey	sand (wet)	18'	45'	13. PUMPING		Lond Curton	ft. below land	surgace after 24	hours	
							hrs. Pumping	-	GPM		
					Pumping 1			(please enclos			Z No
					Yield:						
			V		14. WATER C			<b>5</b>		No.	
	- <del> </del>			***	Chemical	Anaiysis ∟ close lab resulf	Yes 🔽 No	Bacterial A	ınalysi∐ Yes	No.	
					15. ARTIFICIA			✓ Yes	□ No		
S 1 53	al Talanta				Installed fr	om		ft. to	45	ft.	
					Effective s			Uniformity Co	efficient		
					16. WELL GR		Yes and Cement	Concrete C	Other		
					Depth: Fr		10 Centent 🖸	ft. to	40	ft.	
<u> </u>		- Na 49 - 200 - A		Paragram (Was San (Wes) - Fra	17. NEAREST	SOURCE OF	POSSIBLE CO			di	irection
					]	T	ype well disinfect				
					18. PUMP:	Date Installed	unpon comp	etion V No	Not installed	V	
			1		Mfr. Name		·	Model No.:	1404 Informed	Œ	10 10%
					H.P.	Volts	Length of drop	pipe	ft. Capacity		gpm
127V N 983						Submersible	☐Jet (sha		☐Turbine		
					19. WELL DR	Jet (deep)	☐Reciprod Robyn Barkley		☐Centrifu 934		
1997 BAD				9.8		2485 Watson	. wayn bandy		. 55-		
						Elgin, SC 290	045				
	ater Bearing Zo										
	nd sheet if nee	eded)			1	2 <b>0.2</b> 0.201	(000) 400 400 4				
5. REMARK	S:				Telephone		(803)438-1331	EICATION: Th	is well was drilled	under m	v
1							ue to the best of r			anuel III	7
ł					an obtained			,			
1					h	1	1 -				
l					Signed:	lown Be	uklen	Date:	12/27/2008	<b>.</b>	
						zed Representative	-				
					•		,				1000



Street Address:	1. WELL OW	NER INFORMA	ATION:			6. PERMIT NU	JMBER:	877				
City: Eigin State: SC Zip:29045  City: Eigin State: SC Zip:29045    City: Columbic Supply #   Plocess   Columbic State   Colu	Name:						10001600	econocidio				
Columbia   Sc   Zip.28046	Address:	P. O. Box 4	27			7. USE:						
Teel Welt						Reside	ntial	☐ Public S	upply	✓ Process	)e	
Telephone: Work:   Home:   AS-38   Name:   Handy Pantry #85/Cloud's Chevron/Site   Street Address:   2387 Taylor St./1600 Two Notch   Street Address:   2387 Taylor St./1600 Two Notch   Street Address:   2387 Taylor St./1600 Two Notch   Street Address:   2387 Taylor St./1600 Two Notch   Street Address:   2387 Taylor St./1600 Two Notch   Street Address:   2387 Taylor St./1600 Two Notch   Street Two Notch   Street Two Notch   Street Two Notch   Street Two Notch   Street Two Notch   Street Notch	City:	Elgin :	State:	SC	Zip:29045	☐ Irrigatio	ın	☐ Air Cond	litioning	□ Emerge	ncy	
2. LOCATION OF WELL: AS-38   Name: Handy Pantry #85/Cloud's Chevron/Site   A5	viaen					☐ Test W	ell	☐ Monitorii	ng Well	☐ Replace	ment	
Name: Harndy Pantry #85/Cloud's Chevron/Site   45	Telephone: V	Vork:	No. 10.100 - 1.10	Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/28	/2006
Street Address: 2367 Taylor St./1600 Two Notch City: Columbia, SC Zip: COUNTY: Richland Lattlude: 34°00.77 3. SYSTEM NAME: SYSTEM NUMBER:  Geophysical Logs:   Yes	2. LOCATION	OF WELL:	AS-38									
City: Columbia, SC Zip:	Name:	<b>Handy Pant</b>	try #65/Clo	ud's Chevro	n/Site		15	_ ft.	Date Complete	d:	12/15	/2006
City: Columbia, SC Zp: COUNTY: Richland Lattude: 34*00.77 Longitude: 81*00.97  3. SYSTEM NAME: SYSTEM NUMBER:  4. CUTTING SAMPLES:	Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted	X 00 X	✓ Bored		
COUNTY: Richland Lethude: 34°00.77 Longitude: 81°00.97   Similar   10. CASING:   Threaded						□Dug		□Air Rota	ry	□Driven		
Diam.: 1"   Height: Above/Bellow   System NAME: SYSTEM NAME: SYSTEM NAME: SYSTEM NAME: SYSTEM NAME: SYSTEM NAME: SYSTEM NAME: SYSTEM NAME: System   Type:   Steal   Other   O in. to   45   feet depth   Ditye Shoe?   Yes   No   No   In. to   feet depth   Ditye Shoe?   Yes   No   No   No   No   No   No   No   N	City:	Columbia, S	SC	Zip:		☐Cable 1	l'ool	□ Other				
Type:	COUNTY:	Richland				10. CASING:	☐ Threaded	✓ Welded	300	1/2		
Type:	Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above/	Below		
Steel   Other   Weight   Drive Shoe?   Yes   No   In. to   45   feet depth   In. to   45   feet depth   In. to   45   feet depth   In. to   45   feet depth   In. to   45   feet depth   In. to   45   feet depth   In. to   45   feet depth   In. to   45   In. to   45   In. to   45   In. to   In. to   45   In. to   In.	Or Salar Inches Company					Type:	<b>☑</b> PVC	☐ Galvanized	Surface			
A. CUTTING SAMPLES:	9					,	The state of the s		Market Service 10		_	
Secont   Second   S	4. CUTTING	SAMPLES:	☐ Yes	☑ No		1 0	in. to 45	feet depth	The second secon	☐ Yes	Z N	lo
Thickness of Stratum   Stratum   Stratum   Stratum   Type:   PVC   Diam:   4"   Length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   10   ft.   length:   20'   Set Between:   1   ft. and   20   ft.   length:   20'   Set Between:   1   ft. and   20'   length:   20'   Set Between:   1   ft. and   20'   length:   20'   Set Between:   1   ft. and   20'   length:   20'   Set Between:   1   ft. and   20'   length:   20'   Set Between:   1   ft. and   20'   length:   20'   Set Between:   1   ft. and   20'   length:   20'   le									1256		AFFECT AND	
Trickness of Stratum   Stream   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stratum   Stew Analysis   12. STATIC WATER LEVEL   1. the analysis   1. the stratum	Geophysica	al Logs:	☐ Yes	☑ No		11. SCREEN		<del></del>	<u> </u>			
Stratum   Stra					Depth to		The second second second					
Red/brown clayey sand   27'   27'   Sieve Analysis   1. t. and 1.0   1. t. a	Fon	mation Descript	tion						The second secon	20'		
Sieve Analysis   Yes (please enclose)   No   No   Yellow to gray clayey sand (wet)   18'   45'   12. STATIC WATER LEVEL   ft. below land surgace after 24 hours   13. PUMPING LEVEL Below Land Surface   ft. after   hrs. Pumping   G.P.M.   Pumping Test:   Yes (please enclose)   No   No   Yelcit:   Yes (please enclose)   Yes   No   No   Yelcit:   Yes (please enclose)   Yes   No   No   Yelcit:   Yes (please enclose)   Yes   No   No   Yes   Yes   No   No   Yes   No   Yes   No   Yes   No   Yes   No   Yes   No   Yes   No   Yes   No   Yes   No   Yes   No   Yes   No   Yes   Yes   No   Yes   No   Yes				Oralam	Stratum	Set Betwee	en: <u>1</u>					
Yellow to gray clayey sand (wet)   18'   45'   13. PUMPING LEVEL Below Land Surface	Red/b	rown clavev	sand	27'	27'	Sieve Anal	veie			e)	ū	ZI No
Yellow to gray clayey sand (wet)  18'  13. PUMPING LEVEL Below Land Surface						12. STATIC W	ATER LEVEL	. LI 100	(pioase criaice)	2 <u>.                                 </u>		
f. afterhrs. PumpingG.P.M.	Yellow to	gray clayey s	sand (wet)	18'	45'				ft. below land s	urgace after 24 i	nours	27 47434
Pumping Test:			id sidawaan							0014		5 25 39
Yield:   14. WATER QUALITY   14. WATER QUALITY   15. ARTIFICIAL FILTER (filter pack)   15. ARTIFICIAL FILTER (filter pack)   16. Vertical Analysis		····			<del></del>				/nlesses annies			a No
14. WATER QUALITY   Chemical Analysis   Yes   No   Bacterial Analysis   Yes   No   Please enclose lab results				:			est.	[] les	(piease enclose	5)	Ŀ	₹7 I/O
Please enclose lab results  15. ARTIFICIAL FILTER (filter pack)			The second second				UALITY	10.000				
15. ARTIFICIAL FILTER (filter pack)   15. ARTIFICIAL FILTER (filter pack)   15. ARTIFICIAL FILTER (filter pack)   15. to   45   ft.	· 				41				Bacterial An	alysi⊟ Yes	No.	
Installed from 44 ft. to 45 ft.  Effective size Uniformity Coefficient  16. WELL GROUTED?			*						FALV	N-	····	
Effective size			-								ft.	
16. WELL GROUTED?									Uniformity Coe		•••	
Depth: From 10 ft. to 40 ft.	ii 's							✓ Yes	☐ No			
17. NEAREST SOURCE OF POSSIBLE CONTAMINATION:   ft.   direction					N			and Cement	Concrete	Other		
Type well disinfected to unpon completion with amount:  18. PUMP: Date Installed:  Mfr. Name:  H.P. Volts Length of drop pipe ft. Capacity gpm  Type: Submersible Jet (shallow) Turbine  Jet (deep) Reciprocating Centrifugal  19. WELL DRILLER: Robyn Barkley CERT. NO.: 934  Address: 2485 Watson  Elgin, SC 29045  Indicate Water Bearing Zones a 2nd sheet if needed)  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: May Date: 12/27/2006								TO POSSIBLE COL	IL TO			irection
Unpon completion		***************************************				HEARES!					•	ııı <del>Ç</del> GQUI I
Mfr. Name:   Model No.:   H.P.   Volts   Length of drop pipe   ft. Capacity   gpm   Type:   Submersible   Jet (shallow)     Turbine     Jet (deep)     Reciprocating   Centrifugal     19. WELL DRILLER:   Robyn Barkley CERT. NO.:   934     Address: 2485 Watson     Elgin, SC 29045     Indicate Water Bearing Zones   (Use a 2nd sheet if needed)     Telephone No.:   (803)438-1331     20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.     Signed:   May   May   May   Date:   12/27/2006			0-0000									
H.P. Volts Length of drop pipe ft. Capacity gpm Type: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal  19. WELL DRILLER: Robyn Barkley CERT. NO.: 934 Address: 2485 Watson Elgin, SC 29045  Indicate Water Bearing Zones (Use a 2nd sheet if needed)  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Many Date: 12/27/2006		10 690					NET CONTRACTOR SERVICE BASIS PROPERTY.	:		Not installed	A	
Type: Submersible Jet (shallow) Turbine  Jet (deep) Reciprocating Centrifugal  19. WELL DRILLER: Robyn Barkley CERT. No.: 934  Address: 2485 Watson Elgin, SC 29045  Indicate Water Bearing Zones (Use a 2nd sheet if needed)  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Many Date: 12/27/2006								l anoth of dee-		A Canacity		ana.
Jet (deep)   Reciprocating   Centrifugal     19. WELL DRILLER: Robyn Barkley CERT. NO.: 934     Address: 2485 Watson   Elgin, SC 29045     Indicate Water Bearing Zones (Use a 2nd sheet if needed)     Telephone No.: (803)438-1331     20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.     Signed: May Bulley   Date: 12/27/2006												_ abu
19. WELL DRILLER: Robyn Barkley CERT. NO.: 934  Address: 2485 Watson Elgin, SC 29045  *Indicate Water Bearing Zones (Use a 2nd sheet if needed)  5. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: May Bulley Date: 12/27/2006												
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)  5. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed:   Signed:   Bulley Date: 12/27/2006						19. WELL DR	ILLER:	Robyn Barkley				
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)  5. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed:   Signed:   Date: 12/27/2006		nu 40000ne is 30	ap3 929/09/27 07			Address:						
a 2nd sheet if needed)  5. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed:   Signed:   Date: 12/27/2006	Indicate Wa	ter Bearing Zon	nes (Use			1	8 <del>4</del> 8 %					
20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed:     Signed:   Sulley   Date:   12/27/2006					The state of	-0231 NO 80						
direction and this report is true to the best of my knowledge and belief.  Signed:   Bulley Date: 12/27/2006	5. REMARKS	<b>3</b> :										
Signed: Noly Bulley Date: 12/27/2006											under m	ly
						no seen Vii	1					
						1	1 M	40				
Authorized/Representative							Myn D		Date:	12/27/2006		
	L					Authori	zed Representative			77 29		



1. WELL OW	NER INFORM				6. PERMIT NU	IMBER:	877				
Name:		Environmenta (last)		C. (first)							8
Address:	P. O. Box			À	7. USE:	10 20000 20		95% TX 5 TX			
					Resider		☐ Public St		Proce		
City:	Elgin	State:	sc :	Zip:29045	☐ Irrigation		☐ Air Cond		□Emer	1.00	
				<u>1</u>	☐ Test We		☐ Monitorir		□Repla	acement	
Telephone: V			Home:		8. WELL DEP	TH (completed)	)	Date Started:		9/.	28/2006
	N OF WELL:					1 <u></u>			a.i.		(FIA
1100A 11 (NICONO PEROPE)		ntry #65/Clou				45	_ ft.	Date Complete			15/2006
Street Add	ress:	2367 Taylo	or St./1600 To	wo Notch	9.	otary	☐Jetted		<b>☑</b> Bored		
2000		00			□ Dug	*10100 <b>*</b>	☐Air Rotar	ry	□Drive	71 I	
City:	Columbia,	SC	Zip:		☐Cable T	No. of the last of	☐Other				
CASSESSED IN SEC.	Richland	121	0.40		10. CASING:		Welded	United at	Dela		
Latitude:		Longitude:			Diam.:		<u>1"                                    </u>	Height: Above/			
3. SYSTEM N	NAME:	SYSTEM NUM	MBER:		Type:	☑ PVC	☐ Galvanized	Surface			
					4	☐ Steel	☐ Other	Weight	2	— <sub>—</sub>	RI-
4. CUTTING	SAMPLES:	☐ Yes	<b>☑</b> No		<u> </u>			Drive Shoe?	☐ Yes	Z	No
	52.402 (SSS)	<u>—</u> .	- man			in. to	feet depth	L			
Geophysic	al Logs:	☐ Yes	<b>☑</b> No	Der# ·	11. SCREEN	DVC		Diem ·	4"		
E	rmation Descri	otion	*Thickness of	Depth to Bottom of	Type: Slot/Gauge	PVC : .020		Diam.; Length:	20'		
			Stratum	Stratum	Set Betwee		ft. and 10	_ft.			
, <u> </u>	1						ft. and	_ft.			_
Red/t	brown claye	y sand	27'	27'	Sieve Analy			(please enclos	se)		✓ No
Yellow to	grav clave	sand (wet)	18'	45'	IL STATIC W	VATER LEVEL		ft. below land s	surgace after 2	!4 hours	
. UNUTY IO	g. wy olayey	(AAGI)		-10		LEVEL Below	Land Surface				
						ft. after	_ hrs. Pumping				
	17/09				Pumping T Yield:			s (please enclos	3e)	-	₩ No
	et' asserted for	-	<del>                                     </del>		14. WATER Q						-
					Chemical / Please end	Analysis   close lab result	] Yes		10.00	s No	<b>∠</b>
and the second of the second o	Species v				15. ARTIFICIA	AL FILTER (filte	er pack)	✓ Yes	□ No	300	
		3		1	Installed fr	rom		ft. to	45 efficient	_ ft.	
<del></del>					Effective s	size ROUTED?	✓ Yes	Uniformity Coe	emolent		
	2		<u> </u>		Neat Co	ement  Sa	and Cement	Concrete	Other	سيب	5,430,0
	- 10				Depth: Fro	om	10	) ft. to		40 ft.	
			<u> </u>		17. NEAREST	SOURCE OF	POSSIBLE CON			ft	direction
			ļ <u> </u>	1			ype well disinfect unpon compl				
-			<del>                                     </del>		18. PUMP:	Date Installed			Not installe	ed 📝	
			l		Mfr. Name	o:		Model No.:			
					H.P.	Volts_	Length of drop		ft. Capacity ☐Turbi		gpm
				<u> </u>		Submersible Jet (deep)	☐Jet (sha		□ Turbi □ Cent		
		1			19. WELL DR	ULLER:	Robyn Barkley			934	
u. N						2485 Watson Elgin, SC 290					
Indicate Wa	ater Bearing Zo	ones (Use	<del>                                     </del>	· · · · · ·	-	g, JU &81	venstari				
	and sheet if nee						2000-000-00				
5. REMARKS	s:				Telephone		(803)438-1331		la sec-Pl	local .	
							ACTOR'S CERTIL ue to the best of r			ued unde	ır my
						1	and the state of t				
					1 h	1. h	60				
					Signed: 200	My Ba	unley	_ Date:	12/27/20	106	
<u> </u>					Authori	ized Representative					



1.1	WELL OW	NER INFORM	ATION:			6. PERMIT NU	MBER:	877				
	Name:	Palmetto E		al Group, In	C. (first)			20 S a 2000 Arbert -	- 1210 Br o 1980	W SNEED	50.5	
1	Address:	P. O. Box 4	300-0-3000		•	7. USE:					2.000	
						Resider	ntial	☐ Public S	upply	✓ Proce	8S	
(	City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio	n	☐ Air Cond	litioning	□Emen	jency	
85	1.50.E	28			3,53	☐ Test We	ell	☐ Monitorii	ng Well	☐ Repla	cement	
Tel	lephone: V	Vork:		Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/2	28/2006
2. 1	LOCATION	OF WELL:	AS-40			1						
١	Name:	Handy Pan	try #65/Clo	ud's Chevro	n/Site	4	5	_ ft.	Date Complet			15/2006
	Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9.   Mud Ro	itary	□Jetted	339 3300	<b>☑</b> Bored		
						□Dug		☐Air Rota	ry	□Driver	1	
(	City:	Columbia,	SC	Zip:		☐Cable T	ool	☐ Other				
(	COUNTY:	Richland				10. CASING:	☐Threaded	✓ Welded				
1	Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	e/Below		
3. 5	SYSTEM N	IAME:	SYSTEM NU	MBER:		Туре:	<b>☑</b> PVC	☐ Galvanized	Surface		_	
S						1	☐ Steel	☐ Other	Weight			
4. (	CUTTING	SAMPLES:	☐ Yes	✓ No		10	in. to 45	feet depth	Drive Shoe?	☐ Yes	V	No
K.				ACTUAL VANCOUS			in. to	feet depth	1 P. VANDO 1871 NA			
	Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN						
				*Thickness of	Depth to		PVC		Diam.:	4"		
S. III	For	mation Descrip	otion	Stratum	Bottom of	Slot/Gauge			Length:	20'		
		•		- Caracan	Stratum	Set Betwee	en: <u>1</u>	ft. and 10 ft. and	. ft. ft.			
	Red/b	rown clayey	/ sand	27'	27'	Sieve Analy	vsis	-	_ it. (please enclo	se)		₩ No
_						12. STATIC W	ATER LEVEL	<del> </del>	<u>.u</u>			
Y	ellow to	gray clayey	sand (wet)	18'	45'				ft. below land	surgace after 2	4 hours	
			0000	7				v Land Surface _ hrs. Pumping		G.P.M.		
-						Pumping T			(please enclo	10 10 10 10 10 10 10 10 10 10 10 10 10 1		☑ No
						Yield:	<b></b>		(produce criticio			
		NOOD WATERWAY				14. WATER Q						
						Chemical A	Analysis E close lab resul	Yes 🔽 No	Bacterial A	knalysi⊡ Yes	No	
						15. ARTIFICIA			✓ Yes	□ No	0000001002	
_			********		7 70		om	44	ft. to	45	ft.	
						Effective s			Uniformity Co	efficient		
						16. WELL GR		Yes	□ No	04		
_				<del></del>		Depth: Fr		and Cement   10	ft. to	Other	Oft.	
						17. NEAREST	SOURCE OF	POSSIBLE CO	TAMINATION		ft.	direction
								ype well disinfect	ed□ Yes 1	уре:		
_					<del></del>		5	unpon comp	etion 🔽 No			
i i						18. PUMP: Mfr. Name	Date installed	· ——	Model No.:	Not installe		
							Volts	Length of drop		ft. Capacity		gpm
		<u> </u>					Submersible			□Turbir		
							Jet (deep)	□Recipro		□Centr		
	8: 1/a					19. WELL DR	ILLER: 2485 Watson	Robyn Barkley	CERT. NO.:	9	34	
						Address:	Elgin, SC 29					;
°lr	ndicate Wa	ter Bearing Zo	nes (Use			1						
ľ		nd sheet if nee										
5.	REMARKS	<b>3</b> :	<del></del>	· · · · · · · · · · · · · · · · · · ·		Telephone		(803)438-1331				
								ACTOR'S CERTI			ed under	my
						direction and t	nis report is tri	ue to the best of r	ny knowledge :	and belief.		
							Α .	_				
						101	1	Pa. h		40/07/00/	10	ļ
						Signed: //	zed Representative	userey	Date:	12/27/200	10	
ـــا		AND WE				I Addiona	- A representative					10 to 10



1.	WELL OW	NER INFOR	MATION:		- Tr	6. PERMIT NU	IMBER:	877				
-12808	Name:	Palmetto	Environment									
			(last)		(first)							
	Address:	P. O. Box	427			7. USE:		200701	NovaMona <b>A</b> ssino			
						Reside		☐ Public S		Process		
	City:	Elgin	State:	SC	Zip:29045	☐Irrigatio		☐ Air Cond		□Emerge	2000000	
						☐ Test W		☐ Monitori		Replace		0/0000
-	elephone: \			Home:		8. WELL DEP	TH (completed	)	Date Started:		9/2	8/2006
2.		N OF WELL:								Fa ndor∎ss:	4014	EIGGGG
	Name:	1990	ntry #65/Clo				15	. ft.	Date Complet		12/1	5/2006
S	Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9.  Mud Ro	otary	☐Jetted	220	Bored		3
3	122			2000		□Dug		☐Air Rota	ту	□Driven		2
	City:	Columbia	, SC	Zip:		□Cable 1		Other				
		Richland				10. CASING:	LJ Threaded	Welded		322		
_			Longitude:			Diam.:		<u>1"</u>	Height: Above			
3.	SYSTEM I	NAME:	SYSTEM NU	MBER:		Type:	PVC		Surface			
£.,	-2000-0					T Nati	☐ Steel	Other	Weight			(S)(S)
4.	CUTTING	SAMPLES:	☐ Yes	☑ No		0			Drive Shoe?	☐ Yes	Ø	No
							in, to	feet depth	L			
9	Geophysic	al Logs:	☐ Yes	₩ No		11. SCREEN			D1	4"		
	E	mation Dec	dation	*Thickness of	Depth to	Type:	PVC		Diam.: Length:	<u>4"</u> 20'		
	FOI	mation Desci	ipaon	Stratum	Bottom of Stratum	Slot/Gauge Set Between		ft. and 10	ft.			_
-				<del> </del>		- COLDENTER	<u></u>	ft. and	ft.			
	Red/t	orown claye	ey sand	27'	27'	Sieve Anal	ysis	☐ Yes	(please enclos	se)	% o -82-383	No No
	/allow to	aray alays	road (	18'	AEI	12. STATIC W	ATER LEVEL		A below land	01170000 nB4= 04 1	house	
7	ellow to	gray claye	y sand (wet)	18	45'	13 PIIMPING	LEVEL Below	Land Surface	π. below land	surgace after 24 l	nours	
								_ hrs. Pumping		G.P.M.		
Т	- 2 <sup>2</sup> 3%					Pumping 1		☐ Yes	(please enclos			No No
						Yield:				<del></del>		
						14. WATER C		Yes 🔽 No	Bacterial A	ınalysi⊟ Yes	No	<b>7</b> 1
-					<del></del>	Chemical . Please en	close lab result		Dacterial A	инанузны тез	NON	4
		HORE THIS NAME OF THE PARTY.					AL FILTER (filte		✓ Yes	□ No		
		* *					rom	44	ft. to	45	ft.	
_						Effective s		✓ Yes	Uniformity Co	efficient		
6						Neat C	ement □ Sa	and Cement	Concrete I	Other		
-				<b> </b>		Depth: Fr	om	10	ft. to	40	ft.	
L					\$3,1955.40		SOURCE OF	POSSIBLE CO	NOTAMINATION			direction
							T <u>y</u>	ype well disinfect				
						18. PUMP:	Date Installed	unpon comp	etion 🔽 No	Not installed		
						Mfr. Name		*	Model No.:	. vot a sotaneu	الك	
			<u></u>			H.P	Volts	Length of drop	pipe	ft. Capacity		gpm
L							Submersible	□Jet (sha		Turbine		2.0455
						19, WELL DR	Jet (deep)	☐Recipro Robyn Barkley		☐Centrifu 934		
-							2485 Watson	Nobyli Barkle)	JERT. NU.:	934		
						]	Elgin, SC 290	045				
ì	ndicate Wa	ter Bearing Z	ones (Use			1	(Fair 1997)					
	a 2	nd sheet if ne										
5.	REMARK	S:				Telephone		(803)438-1331		Ja	- L-1-	
						and the second s				is well was drilled	under	my
						direction and	uus report is tru	ue to the best of r	ily Kilowiedge i	and Denet.		
						144	1					
						Signad:	In Ba	bloom	Date:	12/27/2006		
						Signed: 194	zer Representative	yary	Date	12/2/12000		<del></del>
_			- X				1	<u> </u>	<del></del>			



1.	WELL OW	NER INFORM	ATION:			6. PERMIT NU	MBER:	877					
	Name:			al Group, Inc		gracion							
	Address:	P. O. Box		8.		7. USE:						2582043	
						□Resider	ntial	☐ Public St	upply	A	Process		
	City:	Elgin	State:	sc :	Zip:29045	☐ Irrigation	n	☐ Air Cond			Emerger		
	20186	sortio			nava*	☐ Test We		☐Monitorin	ng Well		Replacer		
	elephone: V			Home:		8. WELL DEP	TH (completed	)	Date Started:			9/2	8/2006
		N OF WELL:			AZASZERIAN		192	28					<b>.</b>
Í	Name:	197		ud's Chevror		-	15	_ ft.	Date Complet		In .	12/1	5/2006
	Street Addi	ress:	2367 Taylo	or St./1600 To	wo Notch	9.	otary	☐Jetted	LEPSE)		Bored		
	200000		00	<u></u>		□ Dug	Ya. 2.1	☐Air Rotai	ry		1Driven		8
10000	City:	Columbia,	SC	Zip:		☐Cable T		Other	<del></del>			<del></del>	
2		Richland	gr 300 44	04000		10. CASING:		Welded		m-!-			
			Longitude:	<del></del>		Diam.:		<u>1"                                    </u>	Height: Above				
3.	SYSTEM N	VAME:	SYSTEM NUI	MBER:		Type:	PVC		and the second s		-		
-	O1 15	DATE:		[7] ··			□ Steel	Other	Weight		lac .	Ø	No
4.	CUTTING	SAMPLES:	☐ Yes	☑ No					Drive Shoe?	LI	1622	W.	No
	Gaselente	al Locar	□ v	☑ No		11 SODEEN	in. to	feet depth	L				
d	Geophysic	aı Lugs:	☐ Yes		Depth to	11. SCREEN Type:	PVC		Diam.:	4"	240000 M	T.p.	NAME AND ADDRESS OF THE PARTY O
	For	mation Descri	ption	*Thickness of	Bottom of	Slot/Gauge	.020		Length:	20'			_ 1
				Stratum	Stratum	Set Betwee		ft. and 10	ft.				-
	Pod/	orown claye	y gand	27'	27'	Sieve Analy	reie ——	ft. and	ft. (please enclos	3e)			☑ No
-	neu/L	JOWII Claye	y Janu		<u> </u>	12. STATIC W	ATER LEVEL	res	/hiease elicio	<del>~</del> /			BAE INU
1	ellow to	gray clayey	sand (wet)	18'	45'				ft. below land	surgace a	after 24 h	ours	
						13. PUMPING				000	,		
ļ						Pumping T		hrs. Pumping	(please enclos	G.P.M se)	L.		☑ No
					1 3 1	Yield:			Chicago CHOIG	,		<u></u>	47 :40
						14. WATER Q			_	HATEN			
ŀ						Chemical /	Analysis □ close lab result	Yes 🕢 No	Bacterial A	nalysi□	Yes	No.	1
						15. ARTIFICIA	L FILTER (filte	er pack)	✓ Yes				
						Installed fr	rom		ft. to	45		ft.	
L						Effective s		✓ Yes	Uniformity Co	etticient	-		
			g:					Yes and Cement □		Other			
Г				<del>                                     </del>		Depth: Fro	om	10	ft. to		40		
_							SOURCE OF	POSSIBLE CON			ft.		direction
							T <sub>3</sub>	ype well disinfect unpon compl	TOTAL STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET,		int-		
-	······					18. PUMP:	Date Installed		CHOIL ME INC			Z	
	***************************************					Mfr. Name	ł		Model No.:		200 2		
						H.P.	Volts_	Length of drop		_ ft. Cap			gpm
		<u> </u>		12.00			Submersible Jet (deep)	☐Jet (shal			]Turbine ]Centrifug	ıal	
	Walter and the second	<u> </u>				19. WELL DR	ILLER:	Robyn Barkley			934		
							2485 Watson Elgin, SC 290		38 H				
٠		iter Bearing Zo				1							
	a 2ı	nd sheet if nee					1970	<b></b>					
5	. REMARKS	5:				Telephone	No.:	(803)438-1331 ACTOR'S CERTII	EICATION: TL	ie wall	المالم ود	ında-	my
								ACTOR'S CERTII ue to the best of n				arider	ıııy
						h	1 M	1.11					
						Signed: Authoriz	zeg Representative		_ Date:	12/2	7/2006		<u> </u>
-						<b></b>	<i>g</i>				<del></del>	**	10000



1. WELL OW	NER INFORM	ATION:			6. PERMIT N	JMBER:	877		<del>1022</del> U.1	
Name:		nvironment (last)	al Group, In	C. (first)						
Address:	P. O. Box 4	27		3	7. USE:					*** **** **** ***
e ii cor					□Reside	ntial	☐ Public S	upply	Process	
City:	Elgin	State:	SC	Zip:29045	☐Irrigatio	n	☐ Air Cond	ditioning	☐ Emerge	ncy
8					☐Test W	'ell	☐ Monitori	ng Well	Replace	ment
Telephone: V		and the same of th	Home:		8. WELL DEP	TH (completed	i)	Date Started:		9/28/2006
2. LOCATION	N OF WELL:									
Name:	3.50	100	ud's Chevro			<del>1</del> 5	_ ft.	Date Completed		12/15/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary	☐Jetted		✓ Bored	
50 to 50 4.00					□Dug		☐Air Rota	ry	Driven	
City:	Columbia,	SC	Zip:		☐Cable 1		□Other			
SC XXX VA130	Richland		<u> </u>		10. CASING:	☐ Threaded	✓ Welded	.c		
	34°00.77				Diam.:		1"	Height: Above/B	elow	
3. SYSTEM N	VAME:	SYSTEM NUI	MBER:		Type:	<b>☑</b> PVC		Surface	· · · · · · · · · · · · · · · · · · ·	
						☐ Steel	☐ Other	Weight		_
4. CUTTING	SAMPLES:	☐ Yes	<b>✓</b> No		<u>_</u>	in. to <u>45</u>		Drive Shoe?	☐ Yes	✓ No
	2004-202-0-350-050-0		_			in. to	feet depth	<u> </u>		
Geophysic	al Logs:	☐ Yes	☑ No	Dandle 4e	11. SCREEN	D) (O		Diam.	4"	
For	mation Descrip	tion	*Thickness of	Depth to Bottom of	Type: Slot/Gauge	PVC .020			20'	
			Stratum	Stratum	Set Betwee		ft. and 10	ft.	<del>-y</del>	
					į.		ft. and	ft.		
Red/b	prown clayey	sand	27'	27'	Sieve Anal	ysis	☐ Yes	(please enclose)	<u> </u>	V No
Yellow to	gray clayey	sand (wet)	18'	45'	12. STATIC W	ATER LEVEL	•	ft. below land su	roace after 24 h	tours
	J - , - , - ,				13. PUMPING	LEVEL Below	Land Surface		.g	
							_ hrs. Pumping		G.P.M.	68
					Pumping 1 Yield:		☐ Yes	(please enclose)	): 	☑ No
				198 - 80	14. WATER C		]Yes ☑ No	Bacterial Ana	lysi□ Yes	No.
					Please en	close lab resuit	ts —			
						AL FILTER (filt			☐ No 45	ft.
					Effective s	om		ft. to Uniformity Coeff		11.
	· · · · · · · · · · · · · · · · · · ·				16. WELL GR	OUTED?	✓ Yes	□ No	100	
					✓ Neat C	ement 🔲 Sa	and Cement	Concrete  O	her	
					Depth: Fr	om SOURCE OF	POSSIBLE CO	ft. to	40 ft.	
	****				17. NEARES			ed  Yes Typ		direction
							_ unpon compl		Amount:	
					18. PUMP:	Date installed	:		Not installed	$\square$
					Mfr. Name H.P.	voits	Length of drop	Model No.:	ft. Capacity	gpn
0 E						Submersible	_ Length of drop ☐Jet (sha		Turbine	ab
						Jet (deep)	□Recipro	cating	□ Centrifu	
4					19. WELL DR		Robyn Barkley	CERT. NO.:	934	
8					Address:	2485 Watson Elgin, SC 290				
	ter Bearing Zor			100 t. tell 1	ĺ	g, 00 _0.				
5. REMARKS		,	L		Telephone	No.:	(803)438-1331			
					20. WATER W	ELL CONTRA	ACTOR'S CERTI	FICATION: This may knowledge and		under my
ii					1 h	1 1	1.0			
5					Signed: Authorit	zed Representative	andley	Date:	12/27/2006	
					l	/				



1. WELL OW	NER INFORM	ATION:			6. PERMIT N	JMBER:	877				
Name:		nvironment (last)	al Group, In	C. (first)							
Address:	P. O. Box 4	127			7. USE:					*	
					□Reside	ntial	☐ Public S	upply	✓ Process	ij	
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio	on	☐ Air Cond	ditioning	☐ Emerge	псу	
	15. <del>53</del> 8			TO MODEL SEPARATE	☐ Test W	'ell	☐ Monitorii	ng Well	□Replace	ment	
Telephone: V	Vork:		Home:		8. WELL DEP	TH (completed	)	Date Started:		9/2	8/2006
2. LOCATION	OF WELL:	AS-44				200 AV 100 4 400 00 00 00 00 00 00 00 00 00 00 0	~				
Name:	Handy Pan	try #65/Clo	ud's Chevro	n/Site	l	45	_ ft.	Date Completed	d:	12/1	5/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9.  Mud Re	otary	□Jetted		<b>☑</b> Bored		
		•			□Dug		☐Air Rota	ry	□Driven		
City:	Columbia,	SC	Zip:		□Cable 1	<b>Fool</b>	□Other				9
li − − − − − − − − − − − − − − − − − − −	Richland		2 <b>3</b> .1		10. CASING:	☐Threaded	Welded	T			
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above/E	Below		8
3. SYSTEM N		SYSTEM NU			Type:	PVC	☐ Galvanized	Surface			N.
					1,400.	☐ Steel	Other	Weight			3
4. CUTTING	SAMPLES:	☐ Yes	✓ No	-	1 0			Drive Shoe?	☐ Yes		No
	Orani ELO:	_ ,00	<b>67</b> 140			in. to	feet depth	Dilve Grice:	_ ,05		.10
Geophysic	al I one:	☐ Yes	☑ No		11. SCREEN	и. ю	icet depui	L			
Осорнува	ai Logs.	L 168		Depth to	Type:	PVC		Diam.:	4"		
For	mation Descrip	otion	Thickness of	Bottom of	Slot/Gauge			Length:	20'		
			Stratum	Stratum	Set Between		ft. and 10	ft.			
Dod/h			071	271	]		ft. and	_ft.			M
Reu/L	rown clayey	Sanu	27'	27'	Sieve Anal	ysis /ATER LEVEL	Yes	(please enclose	)		√ No
Yellow to	gray clayey	sand (wet)	18'	45'	IZ SIAIIO	MILK LLVEL		ft. below land su	urgace after 24 h	lours	
N S	18				PERSONAL SERVICE SERVICES SERVICES	LEVEL Below			5 W 103 B 54		
							_hrs. Pumping				
					Pumping 1 Yield:	rest:	☐ Yes	(please enclose	<del>)</del> )		₩ No
					14. WATER C		5				
					Chemical . Please en	Analysis □ close lab result	lYes ☑ No s	Bacterial Ana	alysi□ Yes	No.	
						AL FILTER (filte		✓ Yes	□ No		
INE SI INA SESSI	2013-040 di					om	44	ft. to	45	ft.	9
					Effective s		✓ Yes	Uniformity Coef  No	ticient	-	
								Concrete C	ther		
					Depth: Fr	om	10	ft. to	40	ft.	Water of
					17. NEAREST		POSSIBLE CON		ft.		direction
						T)	pe well disinfect	ed□ Yes Typ			
					18. PUMP:	Date Installed	unpon compl	etion 🔽 No	Amount: Not installed		
					Mfr. Name			Model No.:	.101000.00	السكا	
					H.P.	Volts	Length of drop	pipe	ft. Capacity		gpm
20 20 20						Submersible	□Jet (sha		Turbine		
					19. WELL DR	Jet (deep)	☐Reciprod Robyn Barkley		☐Centrifu 934		
				-		2485 Watson Elgin, SC 290		VERTI. NV	<b>734</b>		
Indicate Wa	ter Bearing Zor	nes (Use			1	Ligiti, OU 230					9
a 2r	nd sheet if nee										
5. REMARKS	3:			8	Telephone		(803)438-1331				
i :								FICATION: This my knowledge an		under i	пу
					10	1 10	10		15000 (1500 Par - 1 1500 March 1500 Par - 1		
					Signed: // Authori	zes Representative	rpley	Date:	12/27/2006		
N 11					l	<i>y</i>					



1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	JMBER:	877	)	a w s		
Name:		nvironment (last)	al Group, Ind	C. (first)			50000000000000000000000000000000000000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Address:	P. O. Box 4				7. USE:						
ı,					□Reside	ntial	☐ Public S	upply	✓ Process		×
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio	n	☐ Air Cond	ditioning	□ Emerge	псу	8
	15. <del>-1.</del> 20			Marco 286 (0)	☐ Test W	ell	□ Monitori	ng Well	☐ Replace	ement	
Telephone: V	Vork:	01 MW	Home:		8. WELL DEP	TH (complete	ed)	Date Started:		9/2	8/2006
2. LOCATION	OF WELL:	AS-45		3.0							
Name:	<b>Handy Pan</b>	try #65/Clo	ud's Chevro	n/Site		15	ft.	Date Complete	d:	12/1	5/2006
Street Addi	ress:	2367 Taylo	r St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted		✓ Bored		
		-			□Dug		☐Air Rota	ry	□Driven		3
City:	Columbia,	SC	Zip:		☐Cable 1	<b>Fool</b>	☐Other				_
COUNTY:	Richland				10. CASING:	☐Threaded	✓ Welded				
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above/	Below		
3. SYSTEM N		SYSTEM NU			Type:	<b>☑</b> PVC	☐ Galvanized	Surface			
					,,,,,,,	☐ Steel	☐ Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	✓ No		1 0	in. to 45		Drive Shoe?	☐ Yes		No
						in. to	feet depth				
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN			*			
				Depth to	Type:	PVC		Diam.:	4"		
For	mation Descrip	otion	*Thickness of Stratum	Bottom of	Slot/Gauge	.020	<u>*</u>	Length:	20'		
- NO			Suatum	Stratum	Set Betwee	en: <u>1</u>	ft. and10	_ ft.			S
Ped/h	rown clayey	, cand	27'	27'	Cinum Amel		ft. and	_ft. s (please enclose			☑ No
INCUID	nown claye	Sailu		<u> </u>	Sieve Anal	ATER LEVE	L Tes	(please enclose	<del>3)</del>	-	M NO
Yellow to	gray clayey	sand (wet)	18'	45'			_	ft. below land s	urgace after 24 i	nours	
	CANCEL CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF T						w Land Surface		( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )		
							hrs. Pumping	(-			No.
		9			Pumping 1 Yield:	est	☐ Yes	(please enclose	e)		No No
					14. WATER O	UALITY					
	a_10000 0000 00000 V			8 8	Chemical		Yes 🔽 No	Bacterial An	alysi⊟ Yes	No.	<u> </u>
				1.00		close lab resu					
		ar K			15. ARTIFICIA	AL FILTER (1) 'OM		Y Yes	□ No 45	ft.	
					Effective s			Uniformity Coe		IL.	
					16. WELL GR	OUTED?		□ No			
							Sand Cement	Concrete	Other		
					Depth: Fr	om	10 F POSSIBLE CO	ft. to	40 ft.		din din
-					17. NEARES		r POSSIBLE COI Type well disinfect				direction
						# <del>***</del> **	unpon comp		Amount:		
		Wil Was			18. PUMP:	Date Installe			Not installed	Z	10.0
					Mfr. Name			Model No.:	A 0		
5					H.P.	Voits Submersible	Length of drop ☐Jet (sha		ft. Capacity ☐Turbine		gpm
						Jet (deep)	⊟Recipro		☐ Centrifu		
					19. WELL DR		Robyn Barkley		934		
		in the state of th			Address:	2485 Watso Elgin, SC 29					
Indicate Wa	ter Bearing Zo	nes (Use			1						
	nd sheet if nee				1						
5. REMARKS	):				Telephone		(803)438-1331				
							ACTOR'S CERTI			under	my
					direction and t	inis report is t	rue to the best of r	ny knowledge ar	na beliet.		
						a					
8					10.	1 1	Berle	B	40/07/0000		
1					Signed: 10	zed Representativ	sourcent	_ Date:	12/27/2006		<del></del>
					Aumon	con kelti esentativ			2 30 2		



1. WELL OW	NER INFORMA	TION:			6. PERMIT NU	JMBER:	877				
Name:	Palmetto Er	nvironment (last)		C. (first)			- consequently.		<u> </u>		18
Address:	P. O. Box 4	27		1	7. USE:						
					□Reside	ntial	☐ Public S	upply	Process	ı	
City:	Elgin S	State:	SC .	Zip:29045	☐Imigatio	n	☐ Air Cond	litioning	☐ Emerge	ncy	
362	5,-0				☐ Test W	elt	☐ Monitori	ng Well	☐ Replace	ment	
Telephone: V	Work:		Home:	X .	8. WELL DEP	TH (completed	)	Date Started:		9/28	/2006
2. LOCATION	N OF WELL:	AS-46	Sev-000000000000000000000000000000000000								New Assessment
Name:	Handy Pant	ry #65/Clo	ud's Chevroi	n/Site		15	_ft.	Date Complete	d:	12/15	/2006
Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted		✓ Bored		
					□Dug		☐Air Rota	гу	□Driven		
City:	Columbia, S	SC	Zip:		☐Cable 1		□Other				
COUNTY:	Richland				10. CASING:	☐Threaded	✓Welded	700	50 600		
Latitude:	34°00.77 L	_ongitude:	81°00.97		Diam.:		1"	Height: Above/	Below		
3. SYSTEM N	NAME: S	SYSTEM NUI	MBER:		Type:	<b>☑</b> PVC	☐ Galvanized	Surface			
		4-3-0-36	2028 CB1 421	- managa kana man-man		☐ Steel	☐ Other	Weight		-	
4. CUTTING	SAMPLES:	☐ Yes	✓ No		]o	in. to 45	feet depth	Drive Shoe?	☐ Yes	☑ N	0
						in. to	feet depth				
Geophysic	al Logs:	☐ Yes	☑ No	200202 0000 0000	11. SCREEN			72	1000		
		•	*Thickness of	Depth to	Type:	PVC		Diam.:	4"		_
For	mation Descript	ion	Stratum	Bottom of	Slot/Gauge		- A 40	Length:	20'	38	-
		****		Stratum	Set Betwee	an: <u>1</u>	ft. and 10 ft. and	- 1C. ft.			
Red/b	prown clayey	sand	27'	27'	Sieve Anal	ysis	☐ Yes	(please enclose	e)	E	7 No
V			4.51		12. STATIC W	ATER LEVEL					
Yellow to	gray clayey s	and (wet)	18'	45'	12 BUNDING	TEVEL Bolov	Land Surface	ft. below land s	urgace after 24 l	nours	
					SALLY TO SALLY STATE OF THE SALL		hrs. Pumping		G.P.M.		
					Pumping 1 Yield:		☐ Yes	(please enclose		6	Z] No
					14. WATER C		4				,
				<del></del>	Chemical . Piease en	Analysis   close lab result	]Yes [☑]No hs	Bacterial An	alysi□ Yes	No√	
		100 - 100 - 110 -		99		AL FILTER (file		✓ Yes	□ No		
		·A		2008		om	44	ft. to Uniformity Coe	45	ft.	
	· · · · · · · · · · · · · · · · · · ·				Effective s		✓ Yes	□ No	maent		
							and Cement 🔲		Other		
					Depth: Fr	om		ft. to	40		
					17. NEAREST		POSSIBLE CON			d	irection
					-		ype well disinfect unpon compl		Amount:		
					18. PUMP:	Date Installed		G	Not installed	Z	
					Mfr. Name		•	Model No.:		10 <sup>77</sup> - 10	
i i					H.P.	Volts	Length of drop ☐Jet (sha		ft. Capacity ☐Turbine		gpm
						Submersible Jet (deep)	☐Recipro		☐ Centrifu		
	<u> </u>			81 25 5 <u>7</u>	19. WELL DR	ILLER:	Robyn Barkley		934		3 33 3
				· ·	Address:	2485 Watson Elgin, SC 290	045				
	ter Bearing Zon		, , /	Carlotte Carlot Value	1						
	nd sheet if need	ed)									
5. REMARKS	S:			net st	Telephone		(803)438-1331	EICATION. TH	umli uma dalli-d	ımder -	
							ACTOR'S CERTIL ue to the best of r			uluer m	У
					1	1 1					
					Signed: Ro	lyn B	uplen	Date:	12/27/2006		
<u></u>			With the transfer		Authori	zed Representative		0 Martin Walan 2005			



. 16/51   610	NED INCOMME		<del></del>		6. PERMIT NU	MOCD.		877			30, 10,00		10000	
	NER INFORMATION Palmetto Environ		al Group In-		O. PERMIT NU	midel(;		Of f						
Name:	(las	st)		c. (first)			200							
Address:	P. O. Box 427	7			7. USE:					_	<b>7</b> 0-			
					Resider			☐ Public Su		100	Process			
City:	Elgin Stat	ite:	SC 2	Zip:29045	☐ Irrigation			☐ Air Condi	Mark 1997 - MAR		☐ Emerger	50.00		
2000					☐ Test We			Monitorin			Replace		19/20	Oe.
Telephone: V			Home:	The second	8. WELL DEP	TH (compl	reted)		Date Started:	•		8/2	28/20	UO
	N OF WELL: AS Handy Pantry		id's Chausa-	y/Site		15	4	ft.	Date Comple	ted:		12/1	15/20	06
Name: Street Add			or St./1600 Ti		9.  Mud Ro			UJetted			Bored			- •
Oueel AGG		or rayio	. JUI 1000 I	110(6)	Dug	3		□Air Rotar	Y		Driven			
City:	Columbia, SC	) 1	Zip:		□Cable T	rool .		Other						
	Richland	N.	-r		10. CASING:		J bet	Welded						
Latitude:		ngitude:	81°00.97		Diam.:		1		Height: Above	e/Below	<b>S</b>			
3. SYSTEM N		STEM NUM				<b>☑</b> PVC			Surface					
			5 B	772	]	☐ Steel	-		Weight			•		
4. CUTTING	SAMPLES:	☐ Yes	<b>√</b> No		0		errore.		Drive Shoe?		Yes		No	
<del></del>						in. to		feet depth						
Geophysic	al Logs:	☐ Yes	<b>☑</b> No		11. SCREEN									
		1	*Thickness of	Depth to	Type:	PVC	120		Diam.:	4" 20'				
For	rmation Description	11	Stratum	Bottom of Stratum	Slot/Gauge Set Betwee		)20 f	ft. and 10	Length:ft.	ZÚ.				
	_		Annual transaction description		7			ft. and	ft.					
Red/t	brown clayey sa	and	27'	27'	Sieve Analy				(please enclo	ose)			V	No
Yellow 4-	gray clayey sar	nd (was	18'	45'	12. STATIC W	VATER LE	VEL	power	ft. below land	i suma	e after 24 L	JOHE		
I CHOM (O	gray clayey sa	in (MG()	10	70	13. PUMPING	LEVEL B	elow L	and Surface	TIBI WOOD	. vergati				
						ft. after		hrs. Pumping		G.P.	.M.		_	
					Pumping T	Test:		☐ Yes	(please enclo	ose)			$\square$	No
			<del>                                     </del>		Yield:	UALITY								
					Chemical /	Analysis	١٦	CONTRACTOR CONTRACTOR	Bacterial /	AnalysiC	Yes	No	7	
				21/27 P. T. T. T. T. T. T. T. T. T. T. T. T. T.	Please end				71 V		No			_
			1		15. ARTIFICIA	AL FILTER rom			Yes ft. to	45	, 140	ft.		
Workship on the con-					Effective s	size	1784		Uniformity Co		t			
					16. WELL GR	OUTED?	S. Carriero	✓ Yes	☐ No					
			1		✓ Neat C Depth: Fr		J San	nd Cement   10	Concrete □	Other .	40	ft.		
		1000 mm		1	17. NEAREST	SOURCE	OFP	OSSIBLE CON	IOITAMINATIO	N:	ft.		direc	tion
			1				Тур	e well disinfecte	ed□ Yes '	Type:				_
					40 BIHES	Date L	officer.	unpon comple	etion 🗸 N		ount: ot installed			
			1		18. PUMP: Mfr. Name	Date Insta	wallett.	N	Model No.:	INC	a iotalicu	لكت		
					Н.Р.	Volts		Length of drop	pipe		apacity		6	gpm
						Submersi		☐Jet (shal			Turbine			
				1	19. WELL DR	Jet (deep)	<u>"</u>	☐Reciprod Robyn Barkley			☐Centrifu 934	-		-
	_ 5 5 <u>5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5</u>					2485 Wat		, warnie)			50			
	100				4	Elgin, SC		15						
	ater Bearing Zones			-	I									
	2nd sheet if needed	9)		L	Talant	a No ·		(R03)439 4354						
5. REMARK	.a.				Telephone 20. WATER V			(803)438-1331 CTOR'S CERTII		his well	was drilled	under	my	
								to the best of n					N 30	
								-	<b>-</b>					
					h	1	M	£						
					Signed: <b>U</b>	Tryn	Ba	Don	_ Date:	12	/27/2006	<u>i                                      </u>		-
						tzer Represen	ntative							
								- neverth at the second	30(100-00)		- A - A - A - A - A - A - A - A - A - A	47. 30.50		



4 WELL 014	NED WEADY	ATION-		1 1000	6. PERMIT NU	MDED.	877				
	NER INFORMA		ol Cross Inc		O. PERMIT NU	MDEK:	0/1				
Name:		nvironment (last)	al Group, Inc	(first)			<b></b>				
Address:	P. O. Box 4	27			7. USE:		7 <u></u>				
					Resider		☐ Public S	100000000000000000000000000000000000000	Process		
City:	Elgin	State:	SC	Zip:29045	□lrrigatio		☐ Air Cond		□ Emerge	10.700	
omenico de <mark>e</mark> podíti	er yelde⊒ te Red				☐Test W		□Monitori		☐ Replace		0/0000
Telephone: \	Work: N OF WELL:		Home:		8. WELL DEP	TH (completed	d)	Date Started:		9/2	8/2006
			ud's Chevroi	1/Site		15	_ ft.	Date Complete	ad.	12/1	5/2006
Name:	9.50		ua's Chevroi or St./1600 T		9. Mud Ro		_ IL.	Date Compact	Bored	1507 1	
Street Add	1685.	2301 Taylo	i OLTIOUU I	WO NUCLE	Dug	rui y	☐Air Rota	rv	□Driven		
City	Columbia	90	7in:		☐Cable 1	Foot	□Other	-2			
City:	Columbia, Richland	30	Zip:		10. CASING:			T			
		l anothule:	81°00.97		TO SERVICE STATE OF THE PROPERTY AND THE	- HICAUCU	4n	Height: Above	/Below		
Latitude:				10 to 10	Diam.:	PVC	☐ Galvanized				
3. SYSTEM I	NAME:	SYSTEM NUI	MBEK:		Type:	Steel	☐ Galvanizeo	Weight	(		
4. CUTTING	SAMPI ES-	☐ Yes	✓ No		d o		C	Drive Shoe?	☐ Yes		No
7. UU I IIIU	want LEG.	L (69	ALI NU		<del></del>	in. to	feet depth				
Geophysic	al Lone.	☐ Yes	☑ No		11. SCREEN				····		
Copilysic	A. LVIO.			Depth to	Type:	PVC		Diam.:	4"		
For	rmation Descrip	otion	Thickness of Stratum	Bottom of	Slot/Gauge			Length:	20'		
	77		OURIUM	Stratum	Set Betwee	en: <u>1</u>	ft. and 10	_ ft. ft.			
Red/i	brown clayey	v sand	27'	27'	Sieve Anat	vsis	ft. and Yes	_π. s (please enclos	se)		No.
Total Section 1	400	estate comm			12. STATIC V					rescalcan	
Yellow to	gray clayey	sand (wet)	18'	45'	40 MINISTER	rrever nor	w Land Surface	ft. below land	surgace after 24	rours	
N. Santos					13. PUMPING		w Land Surface hrs. Pumping		G.P.M.		
Park to					Pumping 1			s (please enclos			☑ No
					Yield:						
					14. WATER C		T Vac Et Na	Bacterial A	nalvsi⊟ Yes	No	7
				-	Chemical Please en	close lab resu	]Yes [2]No fits	Dauena A	ialysiLI Tes	MON	
					15. ARTIFICI	AL FILTER (fil	ter pack)	✓ Yes	□ No	_	
	0.			3. 3.3		rom	44	ft. to Uniformity Con	45	ft.	
					Effective s	The second secon	✓ Yes	☐ No	entaerit		
					✓ Neat C	ement 🗆 S	Sand Cement	Concrete	Other		-
					Depth: Fr	om	10	) ft. to	40	ft.	-#4*-
					17. NEARES	SOURCE O	F POSSIBLE CO	NTAMINATION	ft	-	direction
					<b>—</b>		Type well disinfect unpon comp				
	300 0 2020				18. PUMP:	Date Installe			Not installed	V	
					Mfr. Name			Model No.:	A C		
	· 00				H.P.	Voits Submersible	Length of drop ☐Jet (sha	-	_ ft. Capacity ☐Turbine		gpm
				<del></del>		Jet (deep)	☐Recipro		☐ Centrift		2010
1000					19. WELL DR	ULLER:	Robyn Barkle	y CERT. NO.:	934	_	
					Address:	2485 Watson					
Indianta M	ater Booring 7a	nae Ales			1	Elgin, SC 29	2013				
	ater Bearing Zo 2nd sheet if nee										
5. REMARK			J		Telephone		(803)438-1331				
	<del></del>				20. WATER V	VELL CONTR	ACTOR'S CERT			under	my
					direction and	this report is t	rue to the best of	my knowledge a	and belief.		
}						Λ					
l					10		h.10.		40 107 1000	•	
					Signed: //	m./	Barkley	_ Date:	12/27/2006	<u> </u>	
					Author	ized Representativ					



1.	WELL OW	NER INFOR	MATION:			6. PERMIT NU	IMRER:	877		<del></del>	W W.	- 19
•	Name:		Environmen			J. I LJ WIAT INC		•				
	11 M 1 M 1 M 1 M 1 M 1 M 1 M 1 M 1 M 1		(last)		(first)							
	Address:	P. O. Box	(427			7. USE:	WE 12		AND ELECTION			
						Resider		☐ Public S		Process		
	City:	Elgin	State:	SC	Zip:29045	☐Irrigatio		☐ Air Cond		☐ Ernerge	1000	
						☐ Test W		☐Monitori	ng Well	Replace		
_	elephone: V			Home:		8. WELL DEP	TH (completed	i)	Date Started:		9/2	8/2006
2.	LOCATIO	N OF WELL:	V E 2000 5000									
	Name:	51 <del>5</del> 2	antry #65/Clo				5	_ft_	Date Complete		12/1	5/2006
	Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9.  Mud Ro	otary	□Jetted		✓ Bored		
						Dug		☐Air Rota	ry	☐ Driven		
	City:	Columbia	ı, SC	Zip:		☐Cable 1		☐Other				
		Richland				10. CASING:	☐ Threaded	✓ Welded				
	Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	Below		
3.	SYSTEM !	AME:	SYSTEM NU	MBER:	i kangalawa Mara	Туре:	<b>☑</b> PVC	☐ Galvanized	Surface			
							☐ Steel	☐ Other	Weight		-	
4.	CUTTING	SAMPLES:	☐ Yes	No		10	in. to 45	feet depth	Drive Shoe?	☐ Yes	V	No
							in. to	feet depth				
	Geophysic	al Logs:	☐ Yes	No		11. SCREEN						
				*Thickness of	Depth to	Type:	PVC		Diam.:	4" 20'		
	For	mation Desc	ription	Stratum	Bottom of	Slot/Gauge			Length:	20'		
_				Olididiii	Stratum	Set Betwee	en: <u>1</u>	ft. and 10	_ft. ft.			
	Red/k	prown clay	ev sand	27'	27'	Sieve Analy	eie	ft. and	_ 1L s (please enclos	<b>a)</b>		No
-			o, cana			12. STATIC W		<u> </u>	(predoc encice	<u>., </u>		N/I IN
1	fellow to	gray claye	y sand (wet)	18'	45'				ft. below land :	surgace after 24 l	nours	
								/ Land Surface	17			
_				<u> </u>		Pumping T	n. atter	_ hrs. Pumping	(please enclos	G.P.M.		⊏a No
				1 .		Yield:	CSL	П	(picase circios	·c)		No No
						14. WATER Q	UALITY					
						Chemical /		Yes 🔽 No	Bacterial A	nalysi□ Yes	No	3
							close lab result		- Fa V			
				-		15. ARTIFICIA	om Om		Yes ft. to	☐ No 45	ft.	
						Effective s			Uniformity Cos		14.	
			12010			16. WELL GR	OUTED?	✓ Yes	☐ No			
_								and Cement 🔲				<del></del> .
						Depth: Fro	om SOURCE OF	POSSIBLE CO	ft. to	40	ft.	direction
						II. NEAREST	SOURCE OF	ype well disinfect	ed Yes Ti	me.	—	onecoon
								unpon comp				
	· · · · · · · · · · · · · · · · · · ·					18. PUMP:	Date installed			Not installed	V	
	2			<b>.</b>		Mfr. Name		1 amade - £ 4	Model No.:	A 0		
							Volts Submersible	_ Length of drop ☐ Jet (sha		ft. Capacity  Turbine		gpm
-				<u> </u>			Jet (deep)	☐Recipro		☐ Centrifu		
			22_00000			19. WELL DR		Robyn Barkley		934		
							2485 Watson					
•.			-	<b> </b>		4	Elgin, SC 290	<b>)45</b>				
		ter Bearing 2		1		Į						ĵ
ë		nd sheet if no	edea)	<u>L</u>		Tolonhoro	Mo.	/803\/30 1331				
J.	REMARKS	2.				Telephone		(803)438-1331 ACTOR'S CERTI		s well was drilled	under	mv
								e to the best of r				
						1	1	6 10				
						Signed: Ita	Inn 1	Sarkler	Date:	12/27/2006		
						1 - V	red Pepresentative	-				
-			2010-			*****						



1. WELL OW	NER INFORM	ATION:		100 - 100 to 200 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to 100 to	6. PERMIT NU	JMBER:	877				
Name:		(last)	al Group, Inc	C. (first)							
Address:	P. O. Box 4	427			7. USE:						
					Reside	ntial	☐ Public S	5.5 5	✓ Process		
City:	Elgin	State:	SC	Zip:29045	□Irrigatio		☐ Air Con		□Emerge	550	
					☐Test W		□Monitori	ng Well	□Replace		
Telephone: V			Home:		8. WELL DEP	TH (completed	)	Date Started:	v accessor and a contract	9/2	8/2006
2. LOCATION	N OF WELL:										
Name:	Handy Pan		ud's Chevro			15	_ ft	Date Complete		12/1	5/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Re	otary	☐Jettedi ☐Air Rota	·rv	☑ Bored ☐ Driven		
City:	Columbia,	SC	Zip:		□Cable 1	Foot	□Other	-,			
0.00	Richland		щ.		10. CASING:		Welded	1			
EDITOR NUMBER OF STREET WEST		Longitude:	81°00 97		Diam.:		1"	Height: Above	Below		
3. SYSTEM N		SYSTEM NU		1. 10.4%	Type:	₽ PVC	☐ Galvanized				
	1 (550000 SECUL	m 1101			, ,,,,,,	☐ Steel	Other	Weight		_	
4. CUTTING	SAMPLES:	☐ Yes	✓ No		10		feet depth	Drive Shoe?		Ø	No
						in. to	feet depth				
Geophysic	al Logs:	☐ Yes	<b>☑</b> No	201 - 1/201/2017 - 1/201/2017	11. SCREEN						
2			*Thickness of	Depth to	Type:	PVC		Diam.:	4" 20'		_
For	mation Descrip	otion	Stratum	Bottom of	Slot/Gauge		ft and 40	Length:ft.	20'		- 1
		-		Stratum	Set Betwee	en: <u>1</u>	ft. and	_ 11. ft.			
Red/b	prown claye	y sand	27'	27'	Sieve Anal	ysis	☐ Yes	(please enclos	e)		☑ No
Vellow to	gray clayey	eand (wot)	18'	45'	12. STATIC W	ATER LEVEL		A halou land	wanna char 24 t	20115	
1 GIIOM IO	gray clayey	adiin (Mel)	10	40	13. PUMPING	LEVEL Below	Land Surface	IL DEIOW ISING S	surgace after 24 h	RUIS	
				3300 TH REO		realization () - zww.commission.com	hrs. Pumping		G.P.M.		
					Pumping 7 Yîeld:	Test:	☐ Yes	(please enclos	e)		Ø No
00-					14. WATER C		IYes ☑ No	Bacterial Ar	nalysi⊟ Yes	No.	
					Please en	close lab result	S				8) 3)
						AL FILTER (filte		✓ Yes	□ No		8
					Installed fr	rom	44	ft. to Uniformity Coe	45	ft.	
					16. WELL GR		✓ Yes	☐ No	molem		
			4	. 1010	✓ Neat C	ement   Sa	ind Cement [	Concrete	Other		
					Depth: Fr		POSSIBLE CO	ft. to	40 ft.		direction
<del></del>					III. HEARES!		pe well disinfect				CBCCHO) (
		No.	il Amenday as	35 June 19 19 19 19			unpon comp		Amount:		
					18. PUMP:	Date Installed	:	10-0-10-	Not installed	Z	
-					Mfr. Name H.P.	: Volts	Length of drop	Model No.:	ft. Capacity	6.5	gpm
			9			Submersible	_ Lengar or drop ☐ Jet (sha		Turbine		_ ahun
		****			1 0	Jet (deep)	□Recipro	cating	□Centrifu	gal	
	-				19. WELL DR		Robyn Barkley	CERT. NO.:	934	2000 2000	
					Audress:	2485 Watson Elgin, SC 290	145				
Indicate Wa	ter Bearing Zo	nes (Use			1						19
a 2r	nd sheet if nee			9	1						33
5. REMARKS	3:				Telephone		(803)438-1331				
							CTOR'S CERTI te to the best of t		s well was drilled nd belief.	under r	пу
					M	1	. 1.				
					Signed: Mr	Myn B	arller	Date:	12/27/2006		
	S 55					zed depresentative					



1. WELL OW	NER INFORM	ATION:	CATALON CONTRACTOR		6. PERMIT NU	IMBER:	877				
Name:		nvironment (last)	al Group, Inc	C. (first)							
Address:	P. O. Box 4			lmori	7. USE:						
Audiess.	1 . O. DOX -	121			□Reside	ntial	☐ Public S	amnly	Process	io:	
City:	Elgin	State:	SC	Zip:29045	□Irrigatio		☐ Air Con		□Emerge		
Ony.	Ligai	SIAIG.	<b>3</b> C	Z1p.23040	☐ Test W		☐ Monitori		□Replace	100	
Telephone: V	Mork-		Home:		8. WELL DEP			Date Started:	Длюрасс		8/2006
	N OF WELL:	AS-51	rionie.		O. WELL DEF	TTT (COMPRESSE	•	Date Glarted.		0,2	.0,2000
Name:	SOLUTION STATEMENT OF THE STATEMENT OF T	and the same of th	ud's Chevro	n/Site	4	15	_ ft.	Date Complete	ď	12/1	5/2006
Street Add			or St./1600 T		9.		□Jetted	Date Complete	Bored	124	0,2000
Od COL FAID	1000.	zoo, rayio	# OLJ 1000 1	WO NOW!	DDug	,,,,	☐Air Rota	irv	□Driven		
City:	Columbia,	SC.	Zip:		□Cable 1	Fool	□Other	•			
	Richland	-	ωу.		10. CASING:		Welded	T			
		Longitude:	81º00 07		Diam.:	_ 1150000	19	Height: Above/	Relow		
3. SYSTEM N		SYSTEM NU				<b>☑</b> PVC	☐ Galvanized	1955			
3. 3131EM N	Public.	3131EM NO	ADEN:		Туре:	□ Stee!	Other	Weight			
4. CUTTING	CAMPLES.	☐ Yes	☑ No		۰ ا			Drive Shoe?	☐ Yes	Z	No
4. CO111NG	SAMPLES.	L res	MA NO				feet depth	Drive Shoer	Li res	œ	140
Geophysic	ol Logo:	☐ Yes	☑ No		11. SCREEN	in. to	ieei depiri	J			
Geophysic	ar Logs:	Li Tes		Depth to	Type:	PVC		Diam.:	4"		
For	mation Descrip	tion	Thickness of	Bottom of	Slot/Gauge		100	Length:	20'	200100	_
	•		Stratum	Stratum	Set Betwee		ft. and 10	ft.			
D-46			071	A71	1		ft. and	_ft.			
Reu/D	prown clayey	/ sano	27'	27'	Sieve Anal			s (please enclose	9)		No No
Yellow to	gray clayey	sand (wet)	18'	45'	IZ SIAIIO II	WIEN FEAFF		ft. below land s	urgace after 24 h	nours	
<del>2                                    </del>	<del></del>				Aviation, national investor		Land Surface	<del></del>			
							_ hrs. Pumping		G.P.M.		
					Pumping 1 Yield:	est	☐ Ye	s (please enclose	9)		☑ No
	**************************************				14. WATER O	UALITY	<del></del>				
	22.80.001				Chemical		Yes 🕢 No	Bacterial An	alysi□ Yes	No	3
						close lab resul					
					15. ARTIFICIA	om om		Yes ft. to	□ No 45	ft.	
					Effective s		44	Uniformity Coe		14.	
					16. WELL GR	OUTED?	✓ Yes	☐ No			
							and Cement [	Concrete	Other		
					Depth: Fr			) fl. to NTAMINATION:	40 fit		direction
					17. NEARES			ted Yes Ty			unecuun
	100 X1						unpon comp				
	Will Walkington	4 2 H AND			18. PUMP:	Date Installed	:		Not installed	V	
					Mfr. Name		I anoth of do-	Model No.:	A Consoit.		
					H.P	Volts Submersible	_ Length of drop ☐ Jet (sha		ft. Capacity  Turbine		gpm
8 77.						Jet (deep)	☐Recipro		☐Centrifu		
					19. WELL DR	ILLER:		CERT. NO.:	934		
					Address:	2485 Watson					
Indiant Mr.	tor Doning 7	61-			-	Elgin, SC 290	J45				
	iter Bearing Zon and sheet if need										
5. REMARKS				-	Telephone	No.:	(803)438-1331				
	<del></del>							FICATION: This	well was drilled	under	my
					direction and t	his report is tre	ue to the best of	my knowledge ar	nd belief.		30 (8
					990,400	Λ					
					10	V M	61				60 60
					Signed: //	byn /	askey	_ Date:	12/27/2006		
					Authoria	zed/Representative	0				



1. WELL OW	NER INFORMA	\TiON:			6. PERMIT NU	IMBER:	877	à				
Name:	Palmetto Er	nvironment	al Group, Inc	C.	AVAIDATE AVA							
A 44	P. O. Box 4	(last)	1	(first)	7. USE:							
Address:	F. U. DUX 4	21			7. USE: □Resider	ntial	□ Public S	עוממע	<b>⊘</b> lo.	rocess		
City	Flain	State:	sc z	Zip:29045	☐ Resider	100-20-20-0	☐ Air Cond	N7718000 00000		nocess mergency	1	
City:	Elgin :	State:	JU .	دب40دع.	☐ Test W		☐ Monitorii			eplaceme		
Telephone: V	Vork:		Home:		8. WELL DEP			Date Started:				2006
	N OF WELL:				]	,p.o.co				,		
Name:		a prima amana	ud's Chevror	n/Site	4	45	_ ft.	Date Complet	ed:	12	2/15/:	2006
Street Adds			or St./1600 To		9.		□Jetted		<b>☑</b> Bo			
_		•	-	1000	□Dug		☐Air Rota	ıy	□Di	riven		
City:	Columbia, S	3C	Zip:		☐Cable 1		☐Other					
	Richland		127		10. CASING:	☐ Threaded						
Latitude:	34°00.77				Diam.:	\	<u>1"</u>	Height: Above				
3. SYSTEM N	NAME:	SYSTEM NUM	WBER:	100	Туре:	PVC		Surface				
						☐ Steel	Other	Weight	_	<del></del> -	20	
4. CUTTING	SAMPLES:	☐ Yes	<b>☑</b> No		0			Drive Shoe?	☐ Yes	s L	Z No	2
	186	2000-00 dol.0000				in. to	feet depth	<u></u>				-
Geophysic	al Logs:	☐ Yes	r r	Depth to	11. SCREEN Type:	PVC		Diam.:	<b>∆</b> n			
For	mation Descrip	tion	Thickness of	Depth to Bottom of	Slot/Gauge			Length:	20'	2 10 10 10 10 10 10 10 10 10 10 10 10 10		-
, ,,			Stratum	Stratum	Set Betwee		ft. and 10	ft.	7-22-1-22-23			- !
D-4#	Movem electric	cond	974	771	0:	umle .	ft. and	ft.	ro)		_	a v-
red/t	prown clayey	30110	27'	27'	Sieve Anal	yeis (ATER I FVFI	Yes	s (please enclo	oc)			No
Yellow to	gray clayey	sand (wet)	18'	45'	İ	TAX SINGS CONTROL TO		ft. below land	surgace after	er 24 hou	rs	0.
							w Land Surface	18 188 188 188 188 188 188 188 188 188		76 Med 80:34		
	3		<b></b>		Pumping 1		hrs. Pumping  Yes	s (please enclos	G.P.M. se)		¥	/ No
No.			<u> </u>	1	Yield:	161		- /Pi-cudo GIIGIO	,	_	<u> </u>	u ,"
					14. WATER C		7 V	D	nok-im	Von		
			<del>                                     </del>			close lab resul		Bacterial A			io 🗸	
					15. ARTIFICIA	AL FILTER (fil	ter pack)	✓ Yes	☐ No			
			1			rom	44	ft. to Uniformity Co	45	ft.		
	0807		<del>                                     </del>	* * *	Effective s		✓ Yes	Uniformity Co	emulent			
					✓ Neat C	ement 🛚 S	and Cement 🗆	Concrete	Other		-	
					Depth: Fr	rom	10	fl. to		40 ft.		roedi -
	100 003003		<del> </del>		- NEAREST	OUNCE OF	F POSSIBLE CON Type well disinfect	ed∏ Yes T	vpe:	– <sup>11.</sup> –	— an	rection
<u> </u>				<u></u>			unpon comp		o Amount			
					18. PUMP:	Date Installed			Not ins	talled 🗸	]	
	- V 5 5 5		<b> </b>		Mfr. Name H.P.	Volts	Length of drop	Model No.:	ft. Capac	vitc		gpm
				\ <u></u>		Submersible	Lerigin of drop Jet (sha			urbine		· · · ·
	<del></del>					Jet (deep)	□Recipro	cating		entrifugal		
				1	19. WELL DR	NLLER: 2485 Watson	Robyn Barkley	y CERT. NO.:		934		
					, wureas.	Elgin, SC 29						
Indicate Wa	iter Bearing Zor	nes (Use			1	. = 4005 75	24.0%					
a 2ı	nd sheet if need				1							
5. REMARKS	S:	- <u>10 S</u>	evenuello della compania		Telephone		(803)438-1331 ACTOR'S CERTI		is well	drillod	der	,
							ACTOR'S CERTI rue to the best of a			anneu UN	wet III)	,
					unit							
					h	1 1						
					Signed: 10	by E	rapley	_ Date:	12/27/	2006		
						ized representative	9					
									(0. 100)	VV PO PROMISSO TO V		V.73



1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	JMBER:	877				
Name:	Palmetto E	nvironment (last)	al Group, Inc	C. (first)		500,000,000	2000 000 000 000 000 000 000 000 000 00	- 10			
Address:	P. O. Box 4	427			7. USE:						
					□Reside	ntial	☐ Public S	upply	Process		1
City:	Elgin	State:	SC	Zip:29045	☐ trrigation	en .	☐ Air Cond	ditioning	☐ Emerge	ncy	33
					☐ Test W	'efi	☐Monitori	ng Well	□Replace	ment	
Telephone: V	Vork:	7/10/2003	Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/28	3/2006
2. LOCATION	OF WELL:	AS-53	***								13
Name:	Handy Pan	try #65/Clo	ud's Chevro	n/Site		45	_ft.	Date Complete		12/15	/2006
Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9. □Mud Ro	otary	□Jetted		✓ Bored		
					□Dug		☐Air Rota	ry	□Driven		25
City:	Columbia,	SC	Zip:		☐Cable 1	Fool .	□Other				
COUNTY:	Richland				10. CASING:	☐Threaded	Welded	Ì		10 (0)000	
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		<u> 1º</u>	Height: Above	/Below		
3. SYSTEM N	IAME:	SYSTEM NUI	MBER:		Type:	<b>☑</b> PVC	☐ Galvanized	Surface			
	file Company					☐ Steel	☐ Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	☑ No		0	in. to 45	feet depth	Drive Shoe?	☐ Yes	Ø N	ło
						in. to	feet depth	l .			
Geophysic	at Logs:	☐ Yes	✓ No		11. SCREEN						
			*Thickness of	Depth to	Type:	PVC		Diam.:	4"		
Fon	mation Descrip	otion	Stratum	Bottom of	Slot/Gauge		0 10	Length:	20'		_
				Stratum	Set Betwee	∍n: <u>1</u>	ft. and 10 ft. and	_ ft. ft.			
Red/b	rown clayer	y sand	27'	27'	Sieve Anal	vsis		_ (please enclos	ie)	ł	J No
		10,770		2000		VATER LEVEL					
Yellow to	gray clayey	sand (wet)	18'	45'			/ Land Surface	ft. below land	surgace after 24 h	nours	
					Service of the second contract received		hrs. Pumping		G.P.M.		
					Pumping 7		_ III3. 1 diriping	(please enclos		ı	✓ No
				12	Yield:	(54)					
					14. WATER C		. Von Eff No	Doctorial A	nahmi Van	No.	
· · · · · · · · · · · · · · · · · · ·					Chemical .	Analysis L close lab resuli	]Yes ☑ No	Bacterial A	nalysi□ Yes	No	240
						AL FILTER (filt		✓ Yes	☐ No		
		300 - 1 00 000				rom	44	ft. to	45	ft.	
					Effective s	ize OUTED?	✓ Yes	Uniformity Co	efficient		
					VI Neat C	ement DS	and Cement [		Other		
					Depth: Fr	om	10	ft. to	40	ft.	****
							POSSIBLE CO			0	lirection
						T	ype well disinfect unpon comp				
		32.7			18. PUMP:	Date Installed		enour M. 140	Not installed		
					Mfr. Name	reprinted to the control of the cont		Model No.:			
			2 0 2		H.P	Volts	Length of drop		ft. Capacity		gpm
						Submersible	☐Jet (sha ☐Recipro		☐Turbine	nal	
					19. WELL DR	Jet (deep)	Robyn Barkley		☐Centrifu 934		
	DE CHARLE CO					2485 Watson Etgin, SC 290					
Îndîcate Wa	ter Bearing Zo	nes (Use			1	-3-, 25					
	nd sheet if nee				1						
5. REMARKS	):				Telephone		(803)438-1331			525 25	W1954 2000
									is well was drilled	under n	ny
					direction and t	ms report is tn	e to the best of t	my knowledge a	ind belief.		
					gv	1					
					Sim D.	1. n	a bl	Date:	12/27/2006		
					Signed: 100	zed Representative	mercey	Date:	1212112000		
<u> </u>				** ····	1	- Junior Continues					



1. WELL OW	NER INFORMA	ATION:			6. PERMIT NU	JMBER:	877			
Name:	Palmetto Er	nvironment (last)		C. (first)						
Address:	P. O. Box 4	27			7. USE:				Marie 13	1 35 T
					□Reside	ntial	☐ Public S		Process	
City:	Elgin :	State:	SC	Zip:29045	☐trrigatio		☐ Air Cond		☐ Emerge	
					☐ Test W		□Monitorii		□Replace	
Telephone: \			Home:		8. WELL DEP	TH (completed	)	Date Started:		9/28/200
	N OF WELL:									401451000
Name:	Handy Pant					<u> 15                                     </u>	ft.	Date Complet		12/15/200
Street Add	ress:	236/ Taylo	r St./1600 T	WO NOTCH	9. □Mud Ro	otary	☐Jetted ☐Air Rota	ry	☑ Bored □Driven	
City:	Columbia, S	SC	Zip:		☐Cable 1	<b>Fool</b>	☐Other			
COUNTY:	Richland				10. CASING:	☐Threaded	✓ Welded			
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	e/Below	
3. SYSTEM I	NAME:	SYSTEM NUI	VBER:		Туре:	<b>☑</b> PVC	☐ Galvanized	Surface		
		5. A S				☐ Steel	☐ Other	Weight		_
4. CUTTING	SAMPLES:	☐ Yes	<b>✓</b> No		0	in. to <u>45</u>	feet depth	Drive Shoe?	☐ Yes	✓ No
			Wichigh		L	in. to	feet depth	I		
Geophysic	al Logs:	☐ Yes	<b>☑</b> No		11. SCREEN				-11	
F-0.	matica Deserio		*Thickness of	Depth to Bottom of		PVC		Diam.: Length:	<u>4"</u> 20'	
FO	rmation Descrip	aon	Stratum	Stratum	Slot/Gauge Set Between		ft. and 10	ft.	20	
					1		ft. and	ft.		
Red/t	brown clayey	sand	27'	27'	Sieve Anal	ysis	☐ Yes	(please enclo	se)	7
Yellow to	gray clayey	sand (wet)	18'	45'	12. STATIC W	ATER LEVEL		ft below land	surgace after 24 l	nours
TOROW to	3.0, 0.0,0,	sana (wor)			13. PUMPING	LEVEL Below	Land Surface	TE COIGHT HERE	ouiguo ono = ;	
					l	ft. after	hrs. Pumping		G.P.M.	<u> 1888</u>
			20 M		Pumping 7 Yield:	Test:	☐ Yes	(please enclos	se)	<b>Ø</b>
					14. WATER O			D-4-7-14		N-[7]
					Chemical / Please en	Analysis Li close lab result	iYes ☑ No s	Bacterial A	ınalysi□ Yes	No.
						AL FILTER (filte		✓ Yes	☐ No	
				10.774		rom	44	ft. to Uniformity Co	45	ft.
					Effective s		✓ Yes	□ No	eniciera	
							and Cement		Other	
					Depth: Fr	om		ft. to	40	
				OW OIL	17. NEAREST		POSSIBLE CON			directi
							unpon compl			
	****				18. PUMP:	Date Installed			Not installed	Ø
					Mfr. Name		1	Model No.:	6 Carreits	
					H.P.	Volts Submersible	_ Length of drop ☐ Jet (sha		ft. Capacity ☐ Turbine	91
	100000 8					Jet (deep)	☐Recipro		☐ Centrifu	
					19. WELL DR	ILLER:	Robyn Barkley	CERT. NO.:	934	
		earn a Bahrit sy see 1000 S.T.C.	A STATE OF THE STA	CONTRACTOR STORES	Address:	2485 Watson Elgin, SC 290	145			
1	ater Bearing Zor				1					
	nd sheet if need	160)	L	-	Tolonhan	No:	/8031/20 1224			
5. REMARKS	<b>3.</b>				Telephone		(803)438-1331 CTOR'S CERTI	FICATION: Th	is well was drilled	under mv
							e to the best of r			
						2				
					h	1	10			
					Signed:	ryn Be	whey	Date:	12/27/2006	
<u> </u>			5(6)	<del></del>	Authori	29 Representative				



1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	JMBER:	877	\$41 Asc. 101		8	
Name:	Palmetto E	invironment (last)	al Group, In	C. (first)							
Address:	P. O. Box 4	427			7. USE:						
					☐ Reside	ntiai	☐ Public S	upply	✓ Process	Č.	
City:	Elgin	State:	SC	Zip:29045	☐ frrigatio	n	☐ Air Cond	litioning	☐ Emerge	ncy	
1					☐ Test W	ell	☐ Monitorii	ng Well	□Replace	ment	
Telephone: V	Vork:		Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/2	8/2006
2. LOCATION	OF WELL:	AS-55			1						
Name:			ud's Chevro			15	_ ft.	Date Complete		12/1	5/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. □Mud Ro	otary	□Jetted		<b>☑</b> Bored		
					□Dug		☐Air Rota	гу	□Driven		
City:	Columbia,	SC	Zip:		☐Cable 1	[ool	□Other				31
COUNTY:	Richland				10. CASING:	☐Threaded	Welded			Ac.	
Latitude:	34°00.77	Longitude:	81°00.97		Diam.;		1"	Height: Above/	Below		
3. SYSTEM N	IAME:	SYSTEM NU	MBER:	<b>%</b>	Туре:	<b>☑</b> PVC	☐ Galvanized	Surface			
	20 000000					☐ Steel	☐ Other	Weight			20
4. CUTTING	SAMPLES:	☐ Yes	✓ No		10	in. to 45	feet depth	Drive Shoe?	☐ Yes	$\square$	No
						in. to	feet depth				19
Geophysic	al Logs:	☐ Yes	<b>☑</b> No		11. SCREEN						
			*Thickness of	Depth to	Туре:	PVC		Diam.:	4"		
For	mation Descrip	otion	Stratum	Bottom of	Slot/Gauge			Length:	20'		
		*		Stratum	Set Betwee	en:1	ft. and 10 ft. and	. ft.			3
Red/b	rown clayey	v sand	27'	27'	Sieve Anal	vsis ———		_ it. (please enclos	e)		No No
					12. STATIC W	ATER LEVEL					
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land s	surgace after 24 h	ours	
					Company to the company of the company		Land Surface hrs. Pumping		G.P.M.		
					Pumping 1			(please enclos			No.
					Yield:						
					14. WATER Q						•
	1 401				Chemical		Yes 🔽 No	Bacterial Ar	ıalysi⊡ Yes	No.	1
				8		close lab result AL FILTER (filte		✓ Yes	□ No		
						om		ft. to	45	ft.	8
					Effective s	ize	• · · · · · · · · · · · · · · · · · · ·	Uniformity Coe	fficient		
					16. WELL GR		✓ Yes	□ No	<b>~*</b> *		
					Depth: Fr		and Cement   10	ft. to	Juner40	Ð	
					17. NEAREST	SOURCE OF	POSSIBLE CON				direction
							ype well disinfect	ed□ Yes Ty	rpe:		
							unpon compl	etion 🔽 No		-	
					18. PUMP: Mfr. Name	Date Installed	·	Model No.:	Not installed	1	
				estable 1940	H.P.	Volts	Length of drop		ft. Capacity	K .	gpm
						Submersible	☐ Jet (sha	llow)	☐Turbine		
						Jet (deep)	□Recipro		☐Centrifu		8
					19. WELL DR	ILLER: 2485 Watson	Robyn Barkley	CERT. NO.:	934		
					Address:	Elgin, SC 290	)45				
Indicate Wa	ter Bearing Zo	nes (Use			1		(A)				
	nd sheet if nee				1						j.
5. REMARKS	):				Telephone		(803)438-1331				
					E.		CTOR'S CERTI			under	my
					direction and t	nis report is tru	ie to the best of r	ny knowledge a	nd belief.		
						0					
					100	h	a bl	<b>5</b>	40/07/0000		
					Signed: (LO)	zer Representative	more	Date:	12/27/2006		
					Aumona	CON LIGHT ASSETTING	<i>V</i>				



1. WELL OW	NER INFORM		34c		6. PERMIT NU	IMBER:	877			10 to		
Name:	Palmetto E	Environmenta (last)	tal Group, Inc	C. (first)								
Address:	P. O. Box		2		7. USE:					00		
					□Reside		☐ Public S	60000 C. C. C. C. C. C. C. C. C. C. C. C. C.		Process		
City:	Elgin	State:	SC :	Zip:29045	□Irrigatio		☐ Air Cont			1 Emerger		
				TO BOOK TO SOLVE	☐ Test W		□Monitori			1Replace		
Telephone: V			Home:		8. WELL DEP	TH (complete	ed)	Date Started:			9/2	8/2006
2. LOCATION	OF WELL:		1000 ev as				20				120-	
Name:			ud's Chevroi			15	ft	Date Complet			12/1	5/2006
Street Addr	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary	☐ Jetted	\$250.00		Bored		
<b>6</b> "	Cal	66	<b>-1</b> 1.		□ Dug	raa!	☐Air Rota	uy	Ľ	]Driven		
	Columbia,	<b>SU</b>	Zip:		☐Cable 1		☐Other			<del></del>		
	Richland	L = c = 11 · ·	04000 07		10. CASING:	⊔ inreaded		Mointe At	s/Dolo			
		Longitude:			Diam.:	Øm.c		Height: Above				
3. SYSTEM N	AME:	SYSTEM NUI	MBER:		Type:	☑ PVC	☐ Galvanized ☐ Other	Surface	- N N			
4. CUTTING	SAMDI EQ.	☐ Yes	☑ No		1 ^	☐ Steel		Weight Drive Shoe?		Vec	Ø	No
GOI ING	UNNITLES:	⊔ fes	MO MO		— u	in. to	feet depth	Drive Snoe?	۳	1 CD	Œ	INC
Geophysica	al l one:	☐ Yes	<b>☑</b> No		11. SCREEN	HI. 10	ieet depth	<u> </u>				
	u, Lugo.	L 162		Depth to		PVC		Diam.:	4"			
For	mation Descrip	otion	Thickness of Stratum	Bottom of	Slot/Gauge	.020		Length:	20'			_
			Stratum	Stratum	Set Betwee		ft. and 10					
Red/h	orown claye	v sand	27'	27'	Sieve Analy	vsis	_ ft. and Yes	_ft. s (please enclo	se)			☑ No
					12. STATIC W		L J ie					P4 140
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land	surgace	after 24 h	ours	
							w Land Surface hrs. Pumping	was arministrated point in	G.P.N	Ĺ		
			<del>  </del>	-	Pumping T			s (please enclo		rre		No.
					Yield:	none to exception					-	
					14. WATER Q			Doots:-1 4	\neb-stm	Vac	No	9
	- WEB 1750		<del> </del>		Chemical / Please end	Analysis close lab resu	□ Yes 🕢 No ⊿its	Bacterial A	-u≀aiySl∐	Yes	No	1
					15. ARTIFICIA	AL FILTER (fi	iter pack)	✓ Yes				
						rom	44	ft. to	45	-	ft.	
			<del>                                     </del>		Effective s		✓ Yes	Uniformity Co	æmcient			
							Sand Cement	Concrete	Other _			
	100-36000000				Depth: Fro	om	10	) ft. to		40		
					17. NEAREST		F POSSIBLE CO			ft.		direction
				1	l —		Type well disinfect unpon comp			unt:		
					18. PUMP:	Date Installe					Z	
				-	Mfr. Name			Model No.:				
				1	H.P.	Volts Submersible	Length of drop ☐ Jet (sha		_ ft. Cap	pacity Turbine		gpm
						Jet (deep)	∐Jet (sna ∐Recipro			_i i urbine ∃Centrifug	jai	
					19. WELL DR	ILLER:	Robyn Barkley		<del>-</del>	934		9
					Address:	2485 Watson Elgin, SC 29						S.
Îndicate Wa	ter Bearing Zo	nes (Use			1	-w, 00 2						
	nd sheet if nee			1								
5. REMARKS	<b>i</b> :				Telephone		(803)438-1331					
170							RACTOR'S CERTI				under	my
					qurection and t	uns report is t	rue to the best of I	my knowledge	anu Delie	Tie		10.
					1.	1						8
					Signed: R	12 12	arhlen-	Date:	19/9	27/2006		14
						zer Representativ	19		1414	_,,_,,000		
			-,		1	<u> </u>						



1. WELL (	WNER INFORM	MATION:			6. PERMIT NU	IMBER:	877					
Name:	Palmetto E	Environment										
		(last)	177	(first)								
Address	: P.O. Box	427			7. USE:		<b>5</b>		F20			
12.00		120	1202		□Reside		☐ Public S		Proces			
City:	Elgin	State:	SC	Zip:29045	□Irrigatio		☐ Air Cond		□ Emerge			
					☐ Test W		□Monitori		☐ Replace		0.000	~~
Telephone			Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/2	8/20	UÖ
	ION OF WELL:					.V_			00 <b>4</b> 557	4014	FIRE	^~
Name:	- A. S. S. S. S. S. S. S. S. S. S. S. S. S.	ntry #65/Clo			The same of the sa	15	_ ft.	Date Complete	the state of the s	12/1	5/20	UO
Street A	ddress:	2367 Taylo	r St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted		<b>☑</b> Bored			9000
		00	<u> </u>		□Dug	FL _8	☐Air Rota	ry .	□Driven			
City:	Columbia,	SC	Zip:		☐Cable 1		Other					
	Y: Richland		n.(0ne		10. CASING:	LJ Threaded	Welded					0.000
Latitude			- tu-tu-		Diam.:		1"	Height: Above/				
3. SYSTE	M NAME:	SYSTEM NU	MBER:		Type:	PVC	☐ Galvanized	3 - 33 - 33				
						☐ Steel	Other	Weight		- <sub>(</sub>	22	3
4. CUTTIN	IG SAMPLES:	☐ Yes	<b>✓</b> No		0			Drive Shoe?	☐ Yes	$\nabla$	No	9
			_			in. to	feet depth	L				
Geophy	sical Logs:	☐ Yes	<b>☑</b> No		11. SCREEN	D) (O		Diam	A <sup>m</sup>			
1	Formation Descr	intion	*Thickness of	Depth to Bottom of	Type: Stot/Gauge	PVC .020		Diam.: Length:	4" 20'		-	
	omaton Descr	hunı	Stratum	Stratum	Set Between		ft and 10	ft.				
	20.436		200		1		ft. and	ft.				1
Re	d/brown claye	y sand	27'	27'	Sieve Anal			(please enclos	e)		V	No
Vellow	o aray claves	reand fund	18'	45'	12. STATIC W	ATER LEVEL		A below lead o	surgace after 24	houre		
I CHOAA	to gray clayey	Salin (MC!)	10	40	13. PUMPING	LEVEL Below	/ Land Surface	IL DEIDM ISHU S	surgace alter 24	nouls		
							_hrs. Pumping		G.P.M.			
		7 10 20 21 21			Pumping 7			(please enclos	e)			No
					Yield:	MINI PERI						
					14. WATER C		Yes 🔽 No	Bacterial Ar	nalysi⊡ Yes	No	a	
						close lab resuli	ps 1.es M⊼Iu∩	Dadena A	10150E 162	. 101	4	
	29,500,000				15. ARTIFICIA	AL FILTER (filt)	er pack)	✓ Yes	□ No			
					Installed fr	om	44	ft. to	45	ft.		
			ļ		Effective s	ize OUTED?	Von	Uniformity Cos	mcient			-
					Neat C	ement DS:	✓ Yes and Cement □		Other			
					Depth: Fr			ft. to	4(	) ft.		1
					17. NEAREST		POSSIBLE CO			·	direc	tion
	920208			mm 10.00 m - 61	l —	T	ype well disinfect				1000	-
					18. PUMP:	Date Installed	unpon comp	etion 🗹 No	Amount: Not installed	(7)		
					Wifr. Name			Model No.:		لک		_ 1
	100	3 1 31 31 3			H.P	Volts	Length of drop	pipe	ft. Capacity		9	pm
					100 100 100 100 100 100 100 100 100 100	Submersible	□Jet (sha	500 St. (1985)	Turbine			
					19. WELL DR	Jet (deep)	☐Recipro Robyn Barkley		☐Centrifi 93		S ENERGY	
				797		2485 Watson		JEILI. HV	33	•		
					]	Elgin, SC 290						
Indicate	Water Bearing Z	ones (Use			7	1685 1857						
	a 2nd sheet if ne	eded)			1		SERVICE SERVICE SERVICES					
5. REMAR	RKS:				Telephone		(803)438-1331	FOATION TO		- مادور ر		
							ACTOR'S CERTI ue to the best of r			under	шу	
					Carecuon and	ada ichoit ia fit	TO THE DEST OF I	ny ratomicuge a	, a posti.			
					l n	1	1					
					Signed:	las 1	Berblen	Date:	12/27/2006	3		
						zed pepresentative			,			
										10		



4 14(=1 1 6)	NEO 11170	ATION									
	NER INFORM				6. PERMIT NU	JMBER:	877				
Name:		(last)	al Group, In	C. (first)		Management	1				
Address:	P. O. Box	427			7. USE:	0.00					
					□Reside	ntial	☐ Public S	upply	✓ Process		
City:	Elgin	State:	sc	Zip:29045	□Irrigatio	n	☐ Air Cond	ditioning	□Emerge	ncy	
					☐Test W		☐ Monitori		☐ Replace		
Telephone: V		1800	Home:		8. WELL DEP	TH (completed		Date Started:			8/2006
2. LOCATION	N OF WELL:				l						
Name:	Handy Par	try #65/Clo	ud's Chevro	n/Site		15	ft.	Date Complet		12/1	5/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted		<b>✓</b> Bored		
					□Dug		☐Air Rota	ry	□Driven		1
City:	Columbia,	SC	Zip:		☐Cable 1	roof	□Other		3		
COUNTY:	Richland				10. CASING:	☐Threaded	Welded				
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	:/Below		
3. SYSTEM N		SYSTEM NU			Type:	<b>☑</b> PVC	☐ Galvanized	Surface			
					1 -	☐ Steel	☐ Other	Weight	1000 TO		
4. CUTTING	SAMPLES:	☐ Yes	✓ No		1 o	in. to 45	feet depth	Drive Shoe?		$\square$	No
						in. to	feet depth				
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN		*******	1			
			a management of the	Depth to	Туре:	PVC		Diam.:	4"		'
For	mation Descrip	otion	Thickness of Stratum	Bottom of	Slot/Gauge			Length:	20'		
			Orallan	Stratum	Set Betwee	en: <u>1</u>	ft. and10	ft. Tr			
Red/h	orown claye	v sand	27'	27'	Sieve Anal	weie	ft. and	_ it. i (please enclo:	(as		No.
	word oray o	7 00110				ATER LEVEL		(picase crisis	<del></del>		W I II
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land	surgace after 24 h	ours	
		232300000 20					Land Surface			11455-11451111	
					Pumping 1		hrs. Pumping	(please enclo	G.P.M.		D No
					Yield:	est.	T 160	(piease endo	se)		☑ No
	100 W.W. 20				14. WATER C	UALITY				194	
					Chemical /		Yes 🔽 No	Bacterial A	ınalysi□ Yes	No	1
					15. ARTIFICIA	close lab result	s er nack)	✓ Yes	□ No		
				G37; G363.3 <del>-0</del>	Installed fr	om	44	ft. to	45	ft.	
		ng.			Effective s	ize		Uniformity Co	efficient		
					16. WELL GR	OUTED?	✓ Yes	□ No	Oth		
					Depth: Fr		and Cement ☐	ft. to	Otner40	a	<del></del>
					17. NEAREST	SOURCE OF	POSSIBLE CO	NTAMINATION	: ft.		direction
22.764 	- Ar - 10000				1		pe well disinfect	ed□ Yes T	ype:		(C. 0) (C. 0) (C. 0)
						<del>-</del>	unpon comp	etion 🔽 No			
					18. PUMP: Mfr. Name	Date Installed:	•	Model No.:	Not installed	4	
					H.P.	Volts	Length of drop		ft. Capacity	W. B	gpm
						Submersible	Jet (sha		☐Turbine		
						Jet (deep)	□Recipro		☐Centrifu		
					19. WELL DR	ILLER: 2485 Watson	Robyn Barkley	CERT. NO.:	934		
		1			Audress:	Elgin, SC 290	145				
Indicate Wa	ter Bearing Zo	nes (Use		- 10	1						
	nd sheet if nee				1						
5. REMARKS	3:				Telephone		(803)438-1331				
					A Company of war filters and the comment of the com				is well was drilled	under	my
					direction and t	nis report is tru	e to the best of r	ny knowledge a	and belief.		
						Λ					
					10	1 1	Buchla -	Deter	12/27/2006		
					Signed: //	zed Representative	millery	_ Date:	1212112000		
					i nusion,	The property of					



4 1445	*155 It 1845				C DESCRIPTION	MACC	077				
1. WELL OW Name:	NER INFORMAT Palmetto Env		al Group Inc		6. PERMIT NU	WIBEK:	877				
	(la	est)		(first)			察 勁 居 胡				**
Address:	P. O. Box 42			0.5	7. USE:		_	and the second s			and the second
					□Resider		☐ Public S		Proce		9
City:	Elgin St	rate:	SC 2	Zip:29045	□Irrigation		☐ Air Cond		□ Emerg	A 1115 E. P. O. O. O. C.	
	- Description				☐ Test We		Monitorii		□Repla		
Telephone: V			Home:	<del></del>	8. WELL DEP	TH (completed)	)	Date Started:		9/2	28/2006
	NOT A STATE OF THE PARTY OF THE	W-1	idle Charman	1016		35	_ft.	Data Complet	lari.	19/4	15/2006
Name:	Handy Pantry		ud's Chevror or St./1600 Tv		9. □Mud Ro		_π. □Jetted	Date Complet	ted:  Bored		. 512000
Street Add	uess. Z.	JUT TRAYIO	7 JUI 1000 I	WO INDICH	Dug	non y	☐Air Rota	rv	□Driver		
City:	Columbia, SC	2	Zip:		□ Cable T	ool	□ Other	35		mod (d)	
COUNTY	Richland		#0.2 H ∪ ■ CM.D.		10. CASING:		Welded			-,	
Latitude:	34° 00.77	ngitude: R	7000.97	•	Diam.:		2"	Height: Above	e/Below		
3. SYSTEM A	NAME: SY	YSTEM NUM	VIBER:		See the second s	<b>☑</b> PVC		A STATE OF THE STA		<b>=</b> 3	
-						☐ Steel	Other	Weight		_	
4. CUTTING	SAMPLES:	☐ Yes	√Z No		0	in. to <u>25</u>		Drive Shoe?	☐ Yes	V	No
			ggr. mann			in. to	feet depth	<u>L</u>			
Geophysic	al Logs:	☐ Yes	<b>☑</b> No		11. SCREEN			Control of the contro	OII		
Fa-	rmation Description	in T	*Thickness of	Depth to Bottom of	Type: Slot/Gauge	: .020		Diam.: Length:	2" 10'		<del></del>
roi	adon bescripti	41	Stratum	Stratum	Set Betwee		ft. and35				
	- Marie - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1						ft. and	_ft.			200
Red/t	brown clayey s	sand	35	35	Sieve Analy	ysis		(please enclos	ise)	<del></del>	✓ No
					12. STATIC W	AIEK LEVEL		ft. below land	surgace after 24	4 hours	
	- was			- 10		LEVEL Below			7,11		
		3					hrs. Pumping	(nlana - 1	G.P.M.		Ca Ma
					Pumping T Yield:	est:	☐ Yes	s (please enclo	196)		☑ No
			<del> </del>		14. WATER Q						_
			<u> </u>		Chemical /		Yes 🕢 No	Bacterial A	Analysi□ Yes	No	
		normando en 2005 de Su			Please end	close lab result:	er pack)	✓ Yes	□ No		<del></del>
			1	A 1. Western apericasion	Installed fr		24	ft. to	35	ft.	
			<u> </u>		Effective s			Uniformity Co	pefficient		
			1			OUTED? ement   Sa	✓ Yes and Cement □	☐ No Concrete ☐	Other		
	<del></del>		<del>                                     </del>		Depth: Fro	om		) ft. to	2	24 ft.	
						SOURCE OF	POSSIBLE CO	NTAMINATION	V:	ft	direction
					I	<i>1</i> )	ype well disinfect unpon compl		Type: o Amount:		
			<del>                                     </del>		18. PUMP:	Date Installed:			Not installe	d 🛂	-
					Mfr. Name	<b>.</b>		Model No.:		<del></del>	
						Volts Submersible	Length of drop ☐Jet (sha		ft. Capacity	<u></u>	gpm
			<del>                                     </del>			Jet (deep)	☐Jet (sna ☐Recipro		☐ Centr		<u> </u>
					19. WELL DR	ILLER:	Robyn Barkley			34	
pological to the state of the s		economic Policy (G		population with the second section of the second se	Address:	2485 Watson Elgin, SC 290	W5				
*Indicate \A/-	ater Bearing Zone	s (Use	<del>  </del>		1	LIGHT, OU ZOL	A-0				
	ater Bearing Zone Ind sheet if neede		Į 1								
5. REMARKS					Telephone		(803)438-1331				
					20. WATER W	VELL CONTRA	CTOR'S CERTI			ed under	r my
					girection and t	nis report is tru	ue to the best of r	my knowledge	and Delief.		
					-	1 -	10				
					Signed: 16	In B	arhlon	Date:	12/27/200	16	
						zed Representative					
- 2					<u></u>	<u> </u>				5 68	



1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	MBER:	877				9
Name: Palmetto Environmental Group, Inc. (last) (first)									7 9 F X		
Address:	P. O. Box			3 15	7. USE:				OFFSHAM		
NECONO (PARES CONTROL P CAPITIS					Resider	ntial	☐ Public Si	upply	✓ Process		
City:	Elgin	State:	SC :	Zip:29045	☐ Irrigation	n	☐ Air Cond	100	□Emerge		
				The second secon	☐ Test We	el1	☐Monitorii	ng Well	□Replace	- Interesting	
Telephone: \			Home:		8. WELL DEP	TH (completed	)	Date Started:		9/28	3/2006
2. LOCATIO	N OF WELL:							distribute transmission barrens		,,,,,	10000
Name:	( <del></del> )		ud's Chevroi			5	<u>_ ft</u>	Date Complete		12/15	/2006
Street Add	ress:	2367 Taylo	r St./1600 T	wo Notch	9.   Mud Ro	tary	☐Jetted		☑ Bored		
O.1-	O-l	66	-		□Dug	'aal	□Air Rotal □Other	ry	□Driven		
City:	Columbia, Richland	<b>5</b> C	Zip:		☐Cable T		✓Welded				
COUNTY:	34°00,17	Lameltonia, O	1000 97		0.00000	□ Inreaded	2"	Height: Above	/Relow		
3. SYSTEM	NAME:	SYSTEM NUI			Diam.:	PVC	☐ Galvanized		/Delow		
3. 315 IEM	MAINE:	OTOIEM NUI	NDER:		Туре:	□ Steel	☐ Other	Weight			
4. CUTTING	SAMDI ES.	☐ Yes	☑ No		1 0			Drive Shoe?		_ 20 N	No
T. 001 11110	orum EEO.	⊔ 168	4T 140			in. to	feet depth	Dillo Onioo		1	
Geophysic	al Loos:	☐ Yes	<b>☑</b> No		11. SCREEN						
Soprification	a			Depth to	Type:	PVC		Diam.:	2" 10'		
For	rmation Descrip	ption	*Thickness of Stratum	Bottom of	Slot/Gauge			Length:	10'		
			Oubluit	Stratum	Set Betwee	n: <u>25</u>	ft. and <u>35</u> ft. and	. ft. ft.			
Red/l	brown claye	v sand	35	35	Sieve Analy	vsis		_ it. (please enclos	se)	ĺ	✓ No
		4			12. STATIC W				200 D0000000 0000	-36%(Win)	
					42 DIMERINA	TEVEL DAL	I and Curface	ft. below land	surgace after 24	hours	
							Land Surface hrs. Pumping		G.P.M.		
					Pumping T			(please enclos	200 miles (100 miles)		☑ No
					Yield:			Sales was trait			
					14. WATER Q		Yes 🔽 No	Bacterial A	nalvsi⊟ Yes	No.	
-	- 9				Chemical / Please end	Analysis close lab result		Dackellal A	idiyaiLi 168	IAO[A]	
		9			15. ARTIFICIA	L FILTER (filt	er pack)	✓ Yes	□ No		
	9	8 8 6 8 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Installed fr	om	24	ft. to	35	ft.	
		<del></del>		,	Effective s		✓ Yes	Uniformity Co	emcient		<del></del>
ł							and Cement 🖂		Other		
	10 0				Depth: Fro	om	0	ft. to	24	1 ft.	
	4				17. NEAREST		POSSIBLE COM ype well disinfect			L (	direction
					-		ype well disinfect unpon comp				
	* * # 15a				18. PUMP:	Date Installed			Not installed	Z	
					Mfr. Name		1	Model No.:	8 Cait-		
l					H.P.	Volts Submersible	_ Length of drop ☐ Jet (sha		_ ft. Capacity ☐Turbine		gpm
<del></del>		All.				Jet (deep)	☐Recipro		☐ Centrife		
					19. WELL DR	ILLER:	Robyn Barkley	CERT. NO.:	93	4	
					Address:	2485 Watson Elgin, SC 290	745				
*Indicate VA	ater Bearing Zo	nes (Use			1	Ligit, 30 290	J-10				
	ater bearing 20 and sheet if nee										
5. REMARK			L		Telephone		(803)438-1331				
									is well was drilled	d under n	ny
ļ					direction and t	his report is tru	ue to the best of I	ny knowledge a	and belief.		
						1					
					17	12	a blow	Data	12/27/2006	2	
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	3. <del>-</del> 3			•	☐ Test We	ell	□Monitori	ng Welt	□Repla	cement	
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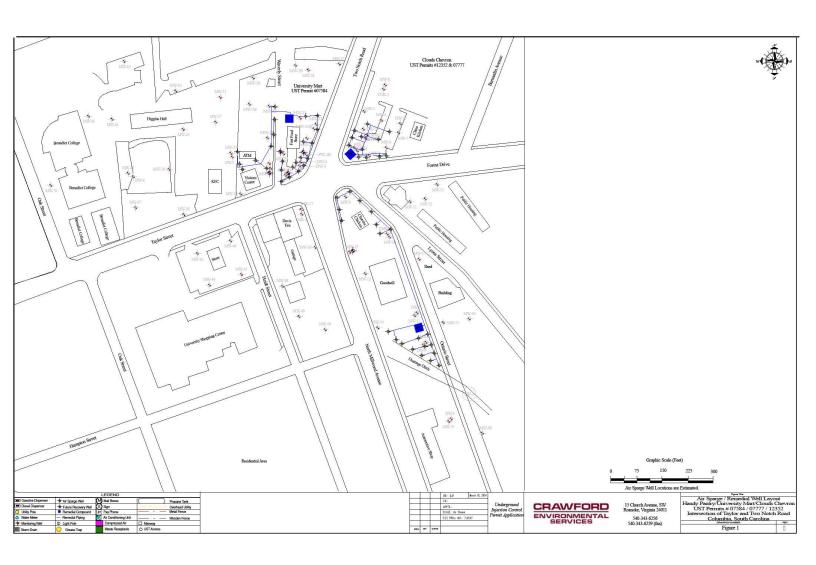
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					□Dug		☐Air Rota	гу	□Driven	
City:	Columbia, S	C	Zip:		☐Cable T		□Other			
COUNTY:	Richland	-	-, 0	_	10. CASING:	☐ Threaded	Welded			
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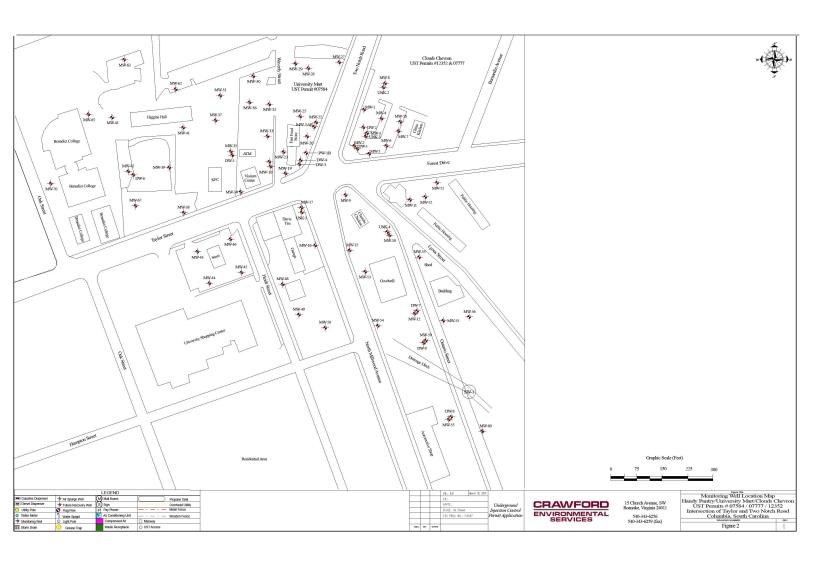
# Appendix B

Figures

Figures 1
Existing / Proposed Injection Points



# Figures 2 Monitoring Well Location Map

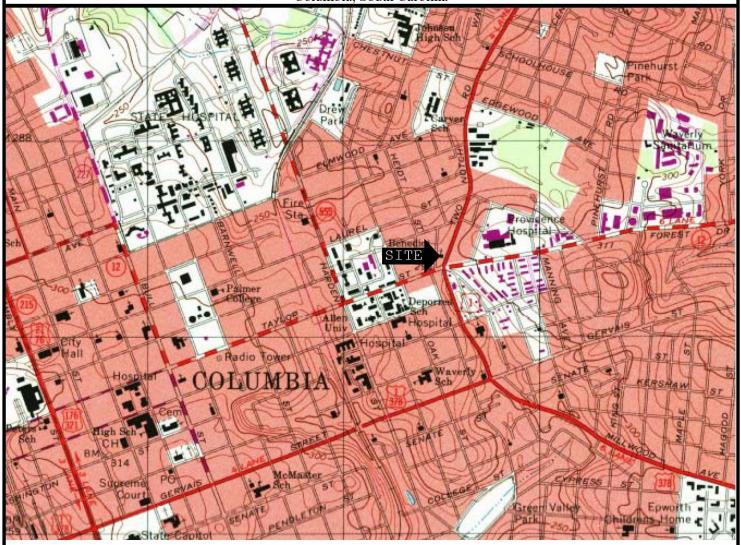


Figures 3

1/4 Mile Search Radius / Topographic Map

## FIGURE 3

1/4 Mile Search Radius / Topographic Map Handy Pantry #65 / University Mart / Clouds Chevron Intersection of Taylor Street and Two Notch Road Columbia, South Carolina



## CRAWFORD ENVIRONMENTAL SERVICES

15 Church Avenue, SW Roanoke Virginia, 24011

540-343-6256 (office) 540-343-6259 (fax)

## NORTH COLUMBIA, SOUTH CAROLINA

Source: U.S.G.S. Topographic Map of the Columbia North Quadrangle, Virginia,

7.5 Minute Series (1977, revised 1988) Scale: 1:24,000 Contour Interval: 20 Feet

Vertical Datum: National Geodetic Vertical Datum 1929

Horizontal Datum: North American Datum1927

Project: Underground Injection Control Permit Application

Client: SCDHEC

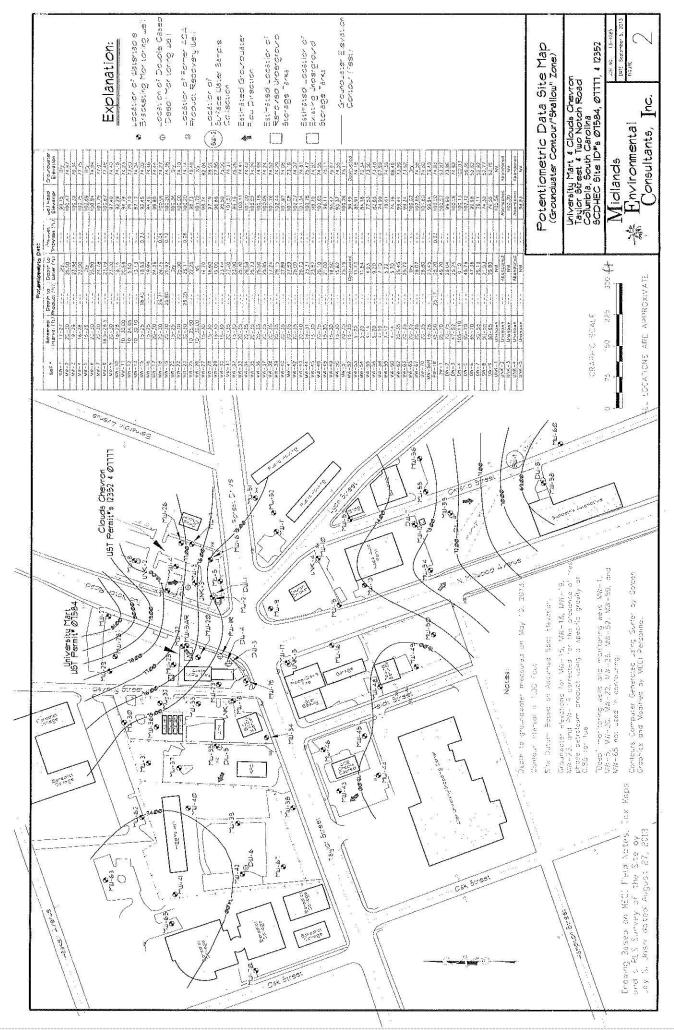
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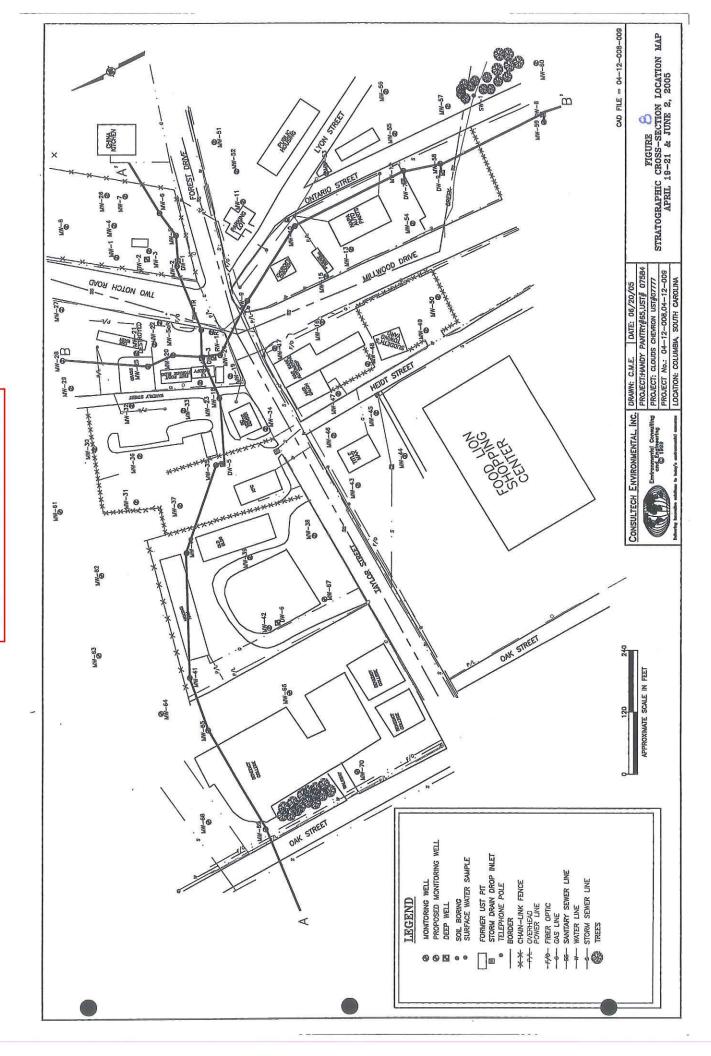
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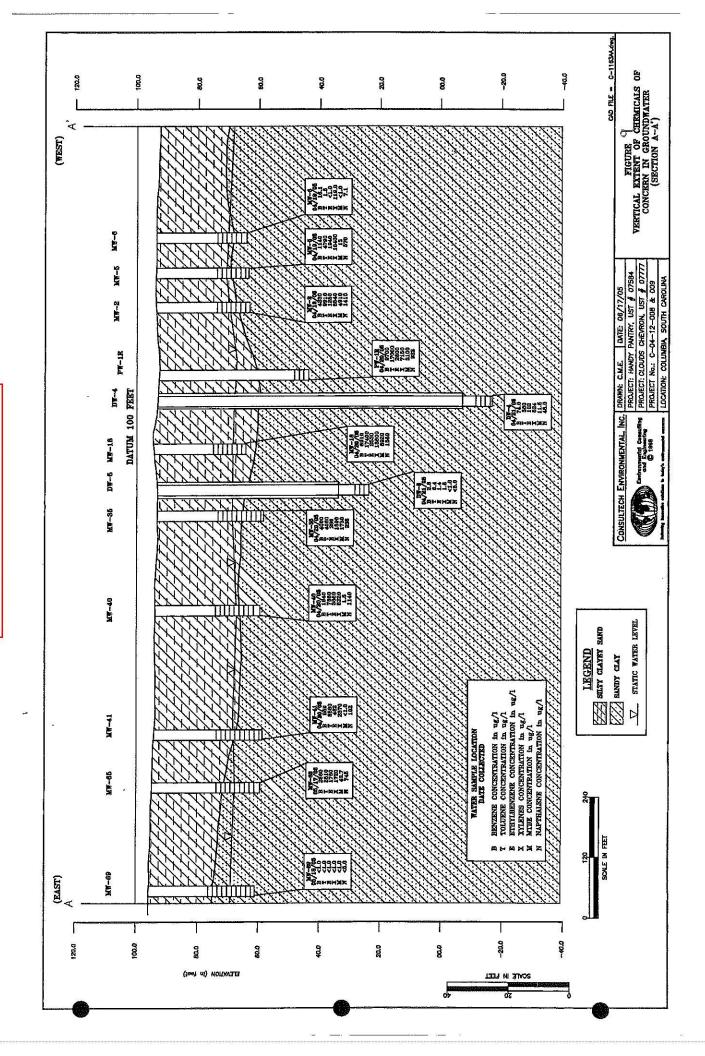
# Figures 4 Potentiometric Surface Map

Figure 4 - Potentiometric Surface Map



Figures 5 / 6
Geologic Cross Sections





# Appendix C

Material Data Safety Sheets



6635 NE 59<sup>th</sup> Place Portland, Oregon 97218 (971) 222-3903 Fax www.etecllc.com

## **Material Safety Data Sheet**

Revision Date: 09/30/2010

## Section 1: Product and Company Identification

Product Name: PetroSolv/EZT-EA<sup>TM</sup>

MSDS Number: 016 Chemical Name: Mixture

Chemical Family: Ethoxylated surfactant mixture

Recommended Use: Enzyme accelerator

Restrictions on Use: No Data

Company: ETEC, LLC

6635 NE 59<sup>th</sup> Place Portland, OR 97218

USA

**Telephone:** (971) 222-3616

**Emergency Telephone:** (800) 535-5053 **Medical Emergencies:** (800) 301-7976

**U.S. Coast Guard National** 

**Response Center:** (800) 424-8802

## Section 2: Hazards Identification

#### **Emergency Overview:**

May be harmful if swallowed or inhaled. Causes skin irritation and eye irritation.

NFPA Rating:

Health Hazard: 1
Fire: 0
Reactivity Hazard: 0

## Section 3: Composition/Information on Ingredients

Ingredients as defined by 29 CFR 1910.1200:

Chemical Ingredients:	CAS Number:	Percent Range:
Isotridecanol, ethoxylated	9043-30-5	20-50%
Fatty Acid Methyl Ester Ethoxylate	67762-39-4	20-50%
Rhamnolipid	147858-26-2	20-50%

Revision Date: 09/30/2010 Page 1 of 6

## Section 4: First Aid Measures

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if victim feels unwell.

**Skin Contact:** Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion: Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

## Section 5: Fire Fighting Measures

**Suitable Extinguishing Media:** Material is not expected to be combustible. Use extinguishing medium suitable for surrounding material.

Specific Hazards in Case of Fire: None known.

**Special Protective Equipment for Fire-Fighters:** Use protective clothing and breathing equipment appropriate for the surrounding fire.

#### Section 6: Accidental Release Measures

**Personal Precautions:** Eliminate all ignition sources and heat sources if safe to do so. Take off contaminated clothing and wash before reuse. Use protective clothing and breathing equipment.

**Environmental Precautions:** Do not flush into surface water or sanitary sewer system.

**Methods for Containment/Cleaning Up:** Contain spillage and collect with non-combustible absorbent material. Disposal should be in accordance with all applicable local, state and federal regulations.

## Section 7: Handling and Storage

**Handling:** Avoid breathing vapor or mist. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Keep out of reach of children.

**Storage:** Keep container tightly closed. Store locked up. Store at temperatures not exceeding 130°F (54°C).

## Section 8: Exposure Controls/Personal Protection

## **Exposure Limits:**

Chemical Ingredients:	CAS Number:	OSHA PEL	NIOSH REL	ACGIH TLV
Isotridecanol, ethoxylated	9043-30-5	None	None	None
isotridecarior, etrioxylated	9043-30-3	Established	Established	Established
Fatty Acid Methyl Ester	67762-39-4	None	None	None
Ethoxylate		Established	Established	Established
Rhamnolipid	147858-26-2	None	None	None
		Established	Established	Established

**Engineering Controls:** Use only outdoors or in a well-ventilated area.

Personal Protective Equipment:

Eye Protection: Wear eye protection/face protection.

Hand Protection: Wear protective gloves.

Skin and Body Protection: Use protective clothing.

Respiratory Protection: Avoid breathing vapor or mist. Use only outdoors or in a well-

ventilated area.

Hygiene Measures: Use only outdoors or in a well-ventilated area. Wash thoroughly after

handling.

## Section 9: Physical and Chemical Properties

Physical State: Liquid

Color: Clear to slightly hazy tan color

Odor: Slight to none Odor Threshold: Not Available

**pH:** 6.5

Melting/Freezing Point: Not Available Initial Boiling Point: Not Available Flash Point: Not Available

Evaporation Rate: 1.20

Flammability (solid, gas): Not Available
Lower Explosive Limit: Not Available
Upper Explosive Limit: Not Available
Vapor Pressure: Not Available
Vapor Density: Not Available

Relative Density: 1.00

**Solubility:** Complete solubility in water

Partition Coefficient: Not Available
Autoignition Temperature: Not Available
Decomposition Temperature: Not Available

## Section 10: Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Revision Date: 09/30/2010 Page 3 of 6

Conditions to Avoid: Heat.

**Incompatible Materials:** Strong oxidizers, inorganic acids, and halogens.

Hazardous Decomposition Products: Irritating vapors.

Hazardous Polymerization: Will Not Occur

## Section 11: Toxicological Information

Inhalation: May cause respiratory headache, dizziness.

**Ingestion:** May be harmful if swallowed and enters airways.

Skin Contact: Causes skin irritation.

Eye Contact: Causes eye irritation.

Chronic Exposure: No known effects.

Aggravation of Pre-existing Conditions: No information found.

Numerical Measures of Toxicity: None Available

Carcinogenicity: Not known to be as defined by OSHA, IARC or NTP.

## Section 12: Ecological Information

This product is safe for the environment at the concentrations predicted under normal use conditions.

#### Section 13: Disposal Considerations

Dispose of contents/container in accordance with all applicable local, state and federal regulations.

## Section 14: Transport Information

For Transportation Emergencies Involving This Material, Call: ChemTrec 1-800-424-9300 Company Code: E249

DOT (LAND):

Proper Shipping Name: Not Applicable Hazard Class: Not Applicable UN Number: Not Applicable

Packing Group: Not Applicable Labels: Not Applicable

**Emergency Response** 

Guidebook Number: Not Applicable

DOT Hazardous Substance RQ: None/no reportable quantities DOT Marine Pollutants: None/no reportable quantities

## Section 15: Regulatory Information

OSHA Hazards: Skin irritant, eye irritant

SARA 302: None/no reportable quantities

SARA 311/312 Hazard Categories: Acute Health Hazard

SARA 313: None/no reportable quantities

**TSCA:** All substances in this product are listed on the TSCA inventory.

## Section 16: Other Information

The information contained in this MSDS is presented in good faith and believed to be accurate based on the information provided. The MSDS does not purport to be all inclusive, and shall be used only as a guide. While ETEC, LLC believes that the data contained herein comply with 29 CFR 1910.1200, they are not to be taken as a warranty or representation for which ETEC, LLC assumes legal responsibility. ETEC, LLC shall not be held liable or accountable for any loss or damage associated with the use of this material and information. The recommended industrial hygiene and safe use, handling, storage, and disposal procedures are believed to be generally applicable. However, since the use, handling, storage, and disposal are beyond ETEC, LLC control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability of loss, damage, or expense arising out of the material's improper use.

## Legend:

ACGIH: American Conference of Governmental & Industrial Hygienists

**CAS:** Chemical Abstract Service **CFR:** Code of Federal Regulations **DOT:** Department of Transportation

DSL/NDSL: Domestic Substances List/Non-Domestic Substances List

IARC: International Agency for the Research of Cancer

IATA: International Air Traffic Association ICAO: International Civil Aviation Organization IMDG: International Maritime Dangerous Goods

IMO: International Maritime Organizations

Health, Flammability & Reactivity; Hazard Scale 0 =minimal/none 4= significant

NTP: National Toxicology Program
NFPA: National Fire Protection Association

**OSHA:** Occupational Safety & Health Administration

**PEL:** Permissible Exposure Limits

RCRA: Resource Conservation & Recovery Act

**RQ:** Reportable Quantity **RTK:** Right-To-Know

SARA: Superfund Amendments & Reauthorization Act

STEL: Short Term Exposure Limit TLV: Threshold Limit Value

TSCA: Toxic Substances Control Act
TWA: Time Weighted Average
TCLP: Toxicity Characteristic Leaching Procedure
VOC: Volatile Organic Compounds



Material Safety Data Sheet

#### Arkema Inc.

#### 1 PRODUCT AND COMPANY IDENTIFICATION

Industrial Chemicals

**EMERGENCY PHONE NUMBERS:** 

Arkema Inc.

Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887

2000 Market Street

Medical: Rocky Mountain Poison Control Center

(866) 767-5089 (24Hrs)

Philadelphia, PA 19103

Phone Number Available Hrs

Product Information

Information Telephone Numbers

215-419-7704 8:30 a.m. - 5:00 p.m.

(Eastern)

**Product Name** 

Hydrogen Peroxide, 50% (All Grades)

Product Synonym(s)

Chemical Family
Chemical Formula

Peroxide

H2O2

Chemical Name

Hydrogen Peroxide Solution, 50%

EPA Reg Num Product Use

IN CANADA, IN CASE OF EMERGENCY CALL:

CANUTEC 613-996-6666

#### 2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical %	OSHA
Hydrogen peroxide	7722-84-1	50%	Υ
Water	7732-18-5	50%	N

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA Inventory list.

#### 3 HAZARDS IDENTIFICATION

#### **Emergency Overview**

Water white liquid with slightly sharp odor.

DANGER!

CAUSES EYE BURNS. MAY CAUSE BLINDNESS.

CAUSES SKIN BURNS.

CAUSES RESPIRATORY TRACT BURNS.

HARMFUL IF SWALLOWED.

STRONG OXIDIZER.

CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE OR EXPLOSIVE DECOMPOSITION.

#### **Potential Health Effects**

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be moderately toxic if swallowed, practically non-toxic if absorbed

Product Code: 04503 Revision: 21 Issued: 09 AUG 2006 Page 1 of 7



Material Safety Data Sheet

#### Arkema Inc.

through skin, slightly toxic if inhaled, and corrosive to eyes and skin. Inhalation of high concentrations of vapor or mist may cause severe irritation of the eyes, nose and upper respiratory tract with cough, chest discomfort and, in severe cases, pulmonary edema (accumulation of fluid in the lungs). Skin contact with concentrated liquid for a short period of time may cause a temporary whitening or bleaching of the skin. Prolonged or repeated contact with skin may cause severe irritation or burns characterized by a tingling sensation, redness, swelling and possible destruction of the dermis with ulceration. If swallowed, this material may cause irritation, burns or perforation of the gastrointestinal tract including the stomach and intestines. Symptoms of injury may include nausea, vomiting, diarrhea, abdominal pain, bleeding or tissue ulceration.

#### 4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

#### 5 FIRE FIGHTING MEASURES

#### Fire and Explosive Properties

Auto-Ignition Temperature NA

Flash Point None Flash Point Method

Flammable Limits- Upper NA Lower NA

## **Extinguishing Media**

Use water spray, water fog.

#### Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

#### Fire and Explosion Hazards

Solutions above 65% are especially hazardous as they do not contain enough water to remove the heat of decomposition by evaporation. Avoid breathing fumes from fire exposed material.

#### **6 ACCIDENTAL RELEASE MEASURES**

#### In Case of Spill or Leak

Stop the leak, if possible. Ventilate the space involved. Flush with plenty of water. Combustible materials exposed to hydrogen peroxide should be rinsed immediately with large amounts of water to ensure that all the hydrogen peroxide is removed. Residual hydrogen peroxide which is allowed to dry on organic materials such as paper, fabrics, cotton, leather, wood, or other combustibles can cause the material to ignite and result in a fire. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Product Code: 04503 Revision: 21 Issued: 09 AUG 2006 Page 2 of 7



Material Safety Data Sheet

#### Arkema Inc.

#### 7 HANDLING AND STORAGE

#### Handling

Do not get in eyes, on skin or on clothing. Do not breathe mist. Do not taste or swallow. Wash thoroughly after handling. Use only with adequate ventilation. Avoid contamination. Keep container closed.

#### Storage

Store separate from acids, alkalies, reducing agents, combustibles.

#### 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

#### **Engineering Controls**

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

#### Eye / Face Protection

Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

#### **Skin Protection**

Neoprene, Polyvinyl chloride, Butyl rubber Gloves should be worn when handling this material. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

#### **Respiratory Protection**

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

#### Other Protective Equipment

Exposure Limit

Rubber boots with neoprene or pvc soles. Do NOT wear leather boots. Note: As the water content of hydrogen peroxide evaporates, cotton, rayon, and wool fibers are particularly subject to spontaneous combustion. Where there is significant risk of sudden splash or spray, it is advised that an apron or rubber suit be worn. Any contaminated clothing, including gloves, shoes, aprons, coveralls, etc., should be removed immediately and thoroughly flushed with water to eliminate any traces of hydrogen peroxide before cleaning and reuse.

#### Airborne Exposure Guidelines for Ingredients

7		
Hydrogen peroxide		
ACGIH TWA	<u> ~</u>	1 ppm 1.4 mg/m3
OSHA TWA PEL	-	1 ppm 1.4 mg/m3

Value

Product Code: 04503 Revision: 21 Issued: 09 AUG 2006 Page 3 of 7

<sup>-</sup>Only those components with exposure limits are printed in this section.

<sup>-</sup>Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.

<sup>-</sup>ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.

<sup>-</sup>WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.



Material Safety Data Sheet

#### Arkema Inc.

#### 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor Water white liquid with slightly sharp odor.

pH NE

Specific Gravity 1.196 @ 20 C Vapor Pressure 18.3 @ 20 C

Vapor Density 1.0
Melting Point NE

Freezing Point -52 C (-62 F)
Boiling Point 114 C (237 F)
Solubility In Water Complete
Percent Volatile 100%
Molecular Weight 34.01

#### 10 STABILITY AND REACTIVITY

#### Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

#### Incompatibility

Material decomposes with the potential to produce a rupture of unvented closed containers. Contact with metals, metal ions, organics, wood, dust, shavings, dry vegetables may cause decomposition.

#### **Hazardous Decomposition Products**

This material decomposes if contaminated, causing fire and possible explosions. Oxygen can be liberated at temperatures above ambient.

#### 11 TOXICOLOGICAL INFORMATION

#### **Toxicological Information**

Data on this material and/or its components are summarized below. Hydrogen Peroxide Single exposure (acute) studies indicate that this material is moderately toxic if swallowed (rat LD50 805 mg/kg; 70% solution), practically non-toxic if absorbed through skin (rabbit LD50 >6,500 mg/kg; 70% solution), slightly toxic if inhaled (no mortality in rats at 170 mg/m3 for 4 hours), and corrosive to rabbit eyes and skin. No skin allergy was observed in guinea pigs following repeated exposure. Solutions are commonly used for disinfecting wounds, bleaching hair or as a mouth wash and generally do not show adverse skin reactions. Accidental ingestion by children has resulted in death from lung edema, stomach erosions and gas distention and burns to the throat and esophagus. Eye and throat irritation and bleaching of hair have been reported by workers exposed to this material in the atmosphere.

Several studies have been conducted by administering material in the drinking water of mice and rats. The primary findings were irritation of the gastric mucous. Repeated inhalation exposure of rats and mice caused nasal irritation without notable adverse effects on the lining of the upper respiratory system. Repeated inhalation exposure of dogs resulted in upper respiratory tract irritation and emphysematous changes in the lungs. Generally, long-term oral dosing caused no adverse effects other than erosion of the stomach lining from direct application of the test material. Several studies have shown an increase in gastrointestinal tract tumors in mice and rats following long-term exposure in the drinking water. Concentrations less than 1% do not promote gastrointestinal tumors. The U.S. Federal Drug Administration has concluded that there is insufficient evidence of carcinogenicity and the International Agency for Research on Cancer (IARC) has concluded that this chemical is not classifiable as to its carcinogenicity to humans (Group 3). Genetic changes were observed in tests using bacteria and animal cells, but not in animals.

Product Code: 04503 Revision: 21 Issued: 09 AUG 2006 Page 4 of 7



Material Safety Data Sheet

Arkema Inc.

#### 12 ECOLOGICAL INFORMATION

#### **Ecotoxicological Information**

Data on this material and/or its components are summarized below.

Hydrogen Peroxide

This material is highly toxic to marine algae (LC50 0.85 mg/l), moderately toxic to Daphnia magna (EC50 7.7 mg/l) and Daphnia pulex (LC50 2.4 mg/l). It is slightly toxic to coho salmon (LC50 10 mg/l), channel catfish (LC50 37.4 mg/l), golden orfe (LC50 35 mg/l), fathead minnow (LC50 16.4 mg/l), snail (LC50 17.7 mg/l) and bacteria (EC50 30 mg/l).

#### **Chemical Fate Information**

No data are available.

#### 13 DISPOSAL CONSIDERATIONS

#### Waste Disposal

Consult with environmental engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

#### 14 TRANSPORT INFORMATION

DOT Name Hydrogen Peroxide, Aqueous Solution,

**DOT Technical Name** 

DOT Hazard Class 5.1

UN Number UN 2014 DOT Packing Group PG II

RQ

DOT Special Information Subsidiary (8)

Non-Bulk packages must have Class 5.1 and Class 8 labels.

Bulk packages require Class 5.1 Oxidizer placards.

#### 15 REGULATORY INFORMATION

#### Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health Y Fire Y
Delayed (Chronic) Health N Reactive Y
Sudden Release of Pressure N

The components of this product are all on the TSCA Inventory list.

#### Ingredient Related Regulatory Information:

SARA Reportable Quantities

Hydrogen peroxide

CERCLA RQ

NE

SARA TPQ

1000 LBS

Water NE

Product Code: 04503 Revision: 21 Issued: 09 AUG 2006 Page 5 of 7



Material Safety Data Sheet

#### Arkema Inc.

#### SARA Title III, Section 302

This product does contain chemical(s), as indicated below, currently on the Extremly Hazardous Substance List, Section 302, SARA Title III. See Section 2 for further details regarding concentrations and registry numbers.

Hydrogen peroxide

#### Massachusetts Right to Know

This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Hydrogen peroxide

## New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List. Hydrogen peroxide

#### Pennsylvania Environmental Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List. Hydrogen peroxide

#### Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List. Hydrogen peroxide

#### **16 OTHER INFORMATION**

#### Revision Information

Revision Date 09 AUG 2006 Revision Number 21

Supercedes Revision Dated 12-OCT-2004

#### **Revision Summary**

Added Peroxal BIO grade name

Key

NE Not Established NA Not Applicable (R) = Registered Trademark

#### Miscellaneous

This MSDS covers the following grades of H2O2:

Albone; Alb; Alb A; Alb CG; MS; Alb MT; Alb LCL; Alb LC; AL-1; AL-2; AL-3; AL-4; A; Per; Perone; FG; ASG; AG; CG; Pure; M; DS; EG; KASTONE 50; Valsterane; Peroxal; CLG; SEG

Peroxal 50% BIO (EPA Registration # 335-235)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Product Code: 04503 Revision: 21 Issued: 09 AUG 2006 Page 6 of 7



Material Safety Data Sheet

#### Arkema Inc.

Arkema Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use are beyond the control of Arkema Inc., Arkema Inc. expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

Product Code: 04503 Revision: 21 Issued: 09 AUG 2006 Page 7 of 7



6635 NE 59<sup>th</sup> Place Portland, Oregon 97218 (971) 222-3903 Fax www.etecllc.com

## **Material Safety Data Sheet**

Revision Date: 09/30/2010

#### Section 1: Product and Company Identification

Product Name: EZT-A2

MSDS Number: 010

Chemical Name: Not Applicable – Biological Material Chemical Family: Not Applicable – Biological Material

Recommended Use: Petroleum Hydrocarbon Degradation

Restrictions on Use: No Data

Company: ETEC, LLC

6635 NE 59<sup>th</sup> Place Portland, OR 97218

USA

**Telephone:** (971) 222-3616

**Emergency Telephone:** (800) 535-5053 **Medical Emergencies:** (800) 301-7976

**U.S. Coast Guard National** 

**Response Center:** (800) 424-8802

## Section 2: Hazards Identification

#### **Emergency Overview:**

Causes skin and eye irritation. May be harmful if swallowed.

NFPA Rating:

Health Hazard: 1
Fire: 0
Reactivity Hazard: 0

#### Section 3: Composition/Information on Ingredients

Ingredients as defined by 29 CFR 1910.1200:

Chemical Ingredients:	CAS Number:	Percent Range:
Bacterial Consortium	Not Applicable	100%

#### Section 4: First Aid Measures

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Revision Date: 09/30/2010 Page 1 of 5

**Skin Contact:** Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Ingestion:** Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

#### Section 5: Fire Fighting Measures

**Suitable Extinguishing Media:** Material is not expected to be combustible. Use extinguishing medium suitable for surrounding material.

Specific Hazards in Case of Fire: None known.

**Special Protective Equipment for Fire-Fighters:** Use protective clothing and breathing equipment appropriate for the surrounding fire.

#### Section 6: Accidental Release Measures

Personal Precautions: Use goggles and impervious gloves if contact with product is possible.

**Environmental Precautions:** Prevent spill material from entering waterways and groundwater, if possible.

**Methods for Containment/Cleaning Up:** Collect spillage. Re-use if possible. Disposal should be in accordance with all applicable local, state and federal regulations.

#### Section 7: Handling and Storage

**Handling:** Avoid breathing vapor or mist. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Keep out of reach of children.

**Storage:** Keep container tightly closed. Store at temperatures not exceeding 70°F (20°C).

#### Section 8: Exposure Controls/Personal Protection

#### **Exposure Limits:**

Chemical Ingredients:	CAS Number:	OSHA PEL	NIOSH REL	ACGIH TLV
Bacterial Consortium	Not	None	None	None
	Applicable	Established	Established	Established

**Engineering Controls:** Use only outdoors or in a well-ventilated area.

#### **Personal Protective Equipment:**

**Eye Protection:** Wear eye protection/face protection.

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Hand Protection: Wear protective gloves.

Skin and Body Protection: Use protective clothing.

**Respiratory Protection:** Use only outdoors or in a well-ventilated area.

Hygiene Measures: Wash thoroughly after handling.

#### Section 9: Physical and Chemical Properties

Physical State:LiquidColor:Brown/Tan

Odor: Slightly Sour Odor
Odor Threshold: Not Available
pH: Not Available
Melting/Freezing Point: Not Available
Initial Boiling Point: 212°F (100°C)
Flash Point: Not Available

Evaporation Rate: 1.00

Flammability (solid, gas): Not Applicable Lower Explosive Limit: Not Available Upper Explosive Limit: Not Available

**Vapor Pressure:** 18 mm Hg at 75°F (24°C)

Vapor Density: Not Available

Relative Density: 1.00

Solubility: Completely soluble in water

Partition Coefficient: Not Available
Autoignition Temperature: Not Available
Decomposition Temperature: Not Available

#### Section 10: Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Conditions to Avoid: None identified.

Incompatible Materials: None identified.

Hazardous Decomposition Products: None identified.

Hazardous Polymerization: Will Not Occur

#### Section 11: Toxicological Information

Inhalation: No known effects.

**Ingestion:** Causes gastrointestinal irritation.

Skin Contact: Causes skin irritation.

Eye Contact: Causes eye irritation.

Revision Date: 09/30/2010 Page 3 of 5

Chronic Exposure: No known effects.

Aggravation of Pre-existing Conditions: No information found.

Numerical Measures of Toxicity: None Available

Carcinogenicity: Not known to be as defined by OSHA, IARC or NTP.

#### Section 12: Ecological Information

This product is safe for the environment at the concentrations predicted under normal use conditions.

#### Section 13: Disposal Considerations

Dispose of contents/container in accordance with all applicable local, state and federal regulations.

#### Section 14: Transport Information

For Transportation Emergencies Involving This Material, Call: ChemTrec 1-800-424-9300 Company Code: E249

## DOT (LAND):

Proper Shipping Name:
Hazard Class:
UN Number:
Packing Group:
Labels:
Not Applicable
Not Applicable
Not Applicable
Not Applicable

Emergency Response

Guidebook Number: Not Applicable

DOT Hazardous Substance RQ: None/no reportable quantities DOT Marine Pollutants: None/no reportable quantities

## Section 15: Regulatory Information

OSHA Hazards: Skin irritant, eye irritant, gastrointestinal irritant

SARA 302: None/no reportable quantities

SARA 311/312 Hazard Categories: No data

SARA 313: None/no reportable quantities

TSCA: Not Applicable

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#### Section 16: Other Information

The information contained in this MSDS is presented in good faith and believed to be accurate based on the information provided. The MSDS does not purport to be all inclusive, and shall be used only as a guide. While ETEC, LLC believes that the data contained herein comply with 29 CFR 1910.1200, they are not to be taken as a warranty or representation for which ETEC, LLC assumes legal responsibility. ETEC, LLC shall not be held liable or accountable for any loss or damage associated with the use of this material and information. The recommended industrial hygiene and safe use, handling, storage, and disposal procedures are believed to be generally applicable. However, since the use, handling, storage, and disposal are beyond ETEC, LLC control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability of loss, damage, or expense arising out of the material's improper use.

#### Legend:

ACGIH: American Conference of Governmental & Industrial Hygienists

**CAS:** Chemical Abstract Service **CFR:** Code of Federal Regulations **DOT:** Department of Transportation

DSL/NDSL: Domestic Substances List/Non-Domestic Substances List

IARC: International Agency for the Research of Cancer

IATA: International Air Traffic Association ICAO: International Civil Aviation Organization IMDG: International Maritime Dangerous Goods IMO: International Maritime Organizations NFPA: National Fire Protection Association

Health, Flammability & Reactivity; Hazard Scale 0 =minimal/none 4= significant

**NTP:** National Toxicology Program

**OSHA:** Occupational Safety & Health Administration

**PEL:** Permissible Exposure Limits

RCRA: Resource Conservation & Recovery Act

**RQ:** Reportable Quantity **RTK:** Right-To-Know

SARA: Superfund Amendments & Reauthorization Act

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

**TSCA:** Toxic Substances Control Act **TWA:** Time Weighted Average

TCLP: Toxicity Characteristic Leaching Procedure

**VOC:** Volatile Organic Compounds



6635 NE 59<sup>th</sup> Place Portland, Oregon 97218 (971) 222-3903 Fax www.etecllc.com

## **Material Safety Data Sheet**

Revision Date: 09/30/2010

#### Section 1: Product and Company Identification

Product Name: CBN<sup>TM</sup> Custom-Blend Nutrients

MSDS Number: 014

Chemical Name: Inorganic Nutrient Mixture

Chemical Family: Mixed Nutrient

Recommended Use: Microbial Nutrient

Restrictions on Use: No Data

Company: ETEC, LLC

6635 NE 59<sup>th</sup> Place Portland, OR 97218

USA

**Telephone:** (971) 222-3616

**Emergency Telephone:** (800) 535-5053 **Medical Emergencies:** (800) 301-7976

**U.S. Coast Guard National** 

**Response Center:** (800) 424-8802

#### Section 2: Hazards Identification

## **Emergency Overview:**

May cause fire or explosion; strong oxidizer. May be harmful if swallowed or inhaled. Causes skin irritation and eye irritation. May cause respiratory irritation.

#### NFPA Rating:

Health Hazard: 0 Fire: 0 Reactivity Hazard: 3

Other: Oxidizer

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#### Section 3: Composition/Information on Ingredients

Ingredients as defined by 29 CFR 1910.1200:

Chemical Ingredients:	CAS Number:	Percent Range:
Ammonium Nitrate	6484-52-2	60 – 80%
Phosphate Salt		20 – 30%
Non-hazardous Component		5%

#### Section 4: First Aid Measures

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

**Skin Contact:** Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Ingestion:** Do NOT induce vomiting. Give large quantities of water to drink. Immediately call a poison center or doctor/physician.

#### Section 5: Fire Fighting Measures

**Suitable Extinguishing Media:** Use flooding amounts of water in early stages of fire involving ammonium nitrate for extinction. Use any means suitable for extinguishing surrounding fire.

**Specific Hazards in Case of Fire:** May cause fire or explosion; strong oxidizer. May support combustion in an existing fire. Contact with oxidizable substances may cause extremely violent combustion. Sealed containers may rupture when heated. Sensitive to mechanical impact. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

**Special Protective Equipment for Fire-Fighters:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

#### Section 6: Accidental Release Measures

Personal Precautions: Eliminate all ignition sources and heat sources if safe to do so.

**Environmental Precautions:** Prevent spill material from entering waterways and groundwater, if possible.

**Methods for Containment/Cleaning Up:** Collect spillage. Collected waste may be transferred to a closed, preferably metal container and sent to a RCRA approved waste disposal facility. Alternatively, sweep spill into noncombustible container and dissolve in large amount of water. Add soda ash. Mix and neutralize with 6M-HCI. Neutralized sludge may be sent to an approved waste disposal facility.

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#### Section 7: Handling and Storage

**Handling:** Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling.

**Storage:** Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store away from clothing and other combustible materials. Store at temperatures not exceeding 130°F (54°C), preferably not exceeding 86°F (30°C).

#### Section 8: Exposure Controls/Personal Protection

## **Exposure Limits:**

Chemical Ingredients:	CAS Number:	OSHA PEL	NIOSH REL	ACGIH TLV
Ammonium Nitrate	6484-52-2	None	None	None
Ammoniam Mirate	0404-02-2	Established	Established	Established
Dhoonhata Calt		None	None	None
Phosphate Salt		Established	Established	Established
Non-hazardous		None	None	None
Component		Established	Established	Established

**Engineering Controls:** Use only outdoors or in a well-ventilated area.

#### Personal Protective Equipment:

**Eye Protection:** Wear eye protection/face protection.

Hand Protection: Wear protective gloves.

Skin and Body Protection: Wear impervious clothing, boots, gloves as appropriate to prevent

skin contact.

**Respiratory Protection:** Avoid breathing dust. Use only outdoors or in a well-ventilated area. If exposure to dust is possible, use a NIOSH approved respirator.

**Hygiene Measures:** Keep away from clothing and other combustible materials. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling.

### Section 9: Physical and Chemical Properties

Physical State: Crystals, granules

Color: White
Odor: Odorless
Odor Threshold: Not Available

**pH:** 7.0

Melting/Freezing Point: 338°F (170°C)

Initial Boiling Point: 410°F (210°C) Decomposes

Flash Point:

Evaporation Rate:

Flammability (solid, gas):

Lower Explosive Limit:

Not Available

Not Available

Not Available

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Upper Explosive Limit:Not AvailableVapor Pressure:Not AvailableVapor Density:Not AvailableRelative Density:1.73 @ 77°F (23°C)

**Solubility:** 118 g/100 g water @ 32°F (0°C)

Partition Coefficient: Not Available
Autoignition Temperature: Not Available
Decomposition Temperature: Not Available

#### Section 10: Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage. Hygroscopic.

**Conditions to Avoid:** Heat, flame, ignition sources, dusting and incompatibles. Moisture and combustible materials. Shock sensitive.

**Incompatible Materials:** Aluminum, antimony, chromium, copper, iron, lead, magnesium, manganese, nickel, zinc, brass, oil, charcoal, organic material, acetic acid, ammonium chloride, bismuth, cadmium, chlorides, cobalt, phosphorus, potassium and ammonium sulfate, sodium, sodium hypochlorite, sodium perchlorate, sodium-potassium alloy, and sulfides.

**Hazardous Decomposition Products:** Emits nitrous oxides when heated to decomposition. Liberates ammonia in reaction with strong alkalis.

Hazardous Polymerization: Will not occur.

#### Section 11: Toxicological Information

**Inhalation:** May cause respiratory irritation. At high temperatures, exposure to toxic nitrogen oxides decomposition products can quickly cause acute respiratory problems. Inhalation of large amounts causes systemic acidosis and abnormal hemoglobin.

**Ingestion:** Harmful if swallowed. Large oral doses of nitrates may cause dizziness, abdominal pain, vomiting, bloody diarrhea, weakness, convulsions, and collapse. May cause methemoglobinemia resulting in cyanosis.

Skin Contact: Causes skin irritation.

Eye Contact: Causes eye irritation.

**Chronic Exposure:** Small repeated oral doses of nitrates may cause weakness, depression, headache, and mental impairment.

Aggravation of Pre-existing Conditions: No information found.

**Numerical Measures of Toxicity:** Oral rat LD50: 2217 mg/kg (for ammonium nitrate)

Carcinogenicity: Not known to be as defined by OSHA, IARC or NTP (for ammonium nitrate).

Revision Date: 09/30/2010 Page 4 of 6

#### Section 12: Ecological Information

**Mobility in Soil:** When released into soil, this material is expected to leach into groundwater. When released into the soil, this material is not expected to evaporate significantly.

**Persistence:** When released into water, this material is expected to readily biodegrade.

#### Section 13: Disposal Considerations

Dispose of contents/container in accordance with all applicable local, state and federal regulations.

#### Section 14: Transport Information

For Transportation Emergencies Involving This Material, Call: ChemTrec 1-800-424-9300 Company Code: E249

#### DOT (LAND):

Proper Shipping Name: AMMONIUM NITRATE

Hazard Class: 5.1
UN Number: UN1942
Packing Group: III
Placards: Oxidizer

DOT Hazardous Substance RQ: None/no reportable quantities DOT Marine Pollutants: None/no reportable quantities

## Section 15: Regulatory Information

**OSHA Hazards:** Strong oxidizer, skin irritant, eye irritant, respiratory irritant

SARA 302: None/no reportable quantities.

SARA 311/312 Hazard Categories: Acute Health Hazard, Reactive Hazard

**SARA 313:** Nitrate compounds are subject to the reporting requirements of SARA 313. Additionally, water dissociable ammonia salts are subject to the reporting requirements of SARA 313 when placed in water.

**TSCA:** All substances in this product are listed on the TSCA inventory.

#### Section 16: Other Information

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Revision Date: 09/30/2010 Page 5 of 6

ETEC, LLC shall not be held liable or accountable for any loss or damage associated with the use of this material and information. The recommended industrial hygiene and safe use, handling, storage, and disposal procedures are believed to be generally applicable. However, since the use, handling, storage, and disposal are beyond ETEC, LLC control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability of loss, damage, or expense arising out of the material's improper use.

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**CAS:** Chemical Abstract Service **CFR:** Code of Federal Regulations **DOT:** Department of Transportation

DSL/NDSL: Domestic Substances List/Non-Domestic Substances List

IARC: International Agency for the Research of Cancer

IATA: International Air Traffic Association ICAO: International Civil Aviation Organization IMDG: International Maritime Dangerous Goods IMO: International Maritime Organizations

NFPA: National Fire Protection Association

Health, Flammability & Reactivity; Hazard Scale 0 =minimal/none 4= significant

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OSHA: Occupational Safety & Health Administration

PEL: Permissible Exposure Limits

RCRA: Resource Conservation & Recovery Act

**RQ:** Reportable Quantity **RTK:** Right-To-Know

SARA: Superfund Amendments & Reauthorization Act

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

TSCA: Toxic Substances Control Act

TWA: Time Weighted Average

TCLP: Toxicity Characteristic Leaching Procedure

VOC: Volatile Organic Compounds

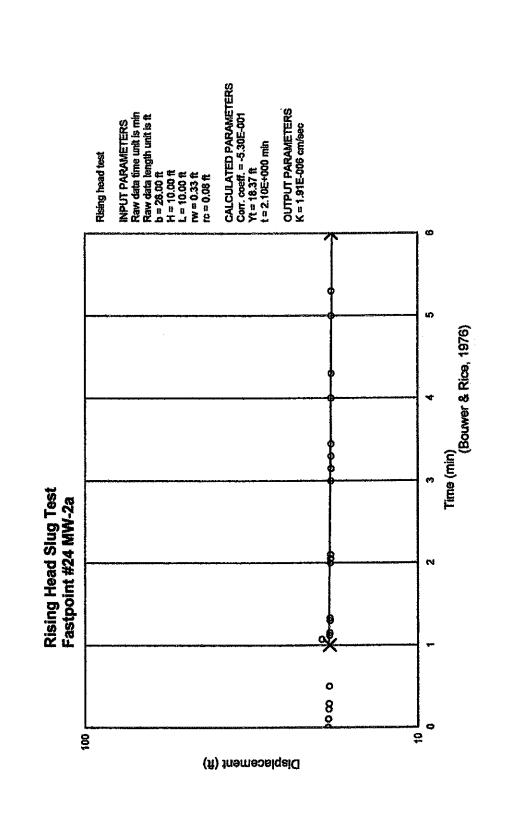
## Appendix D

Aquifer Analysis

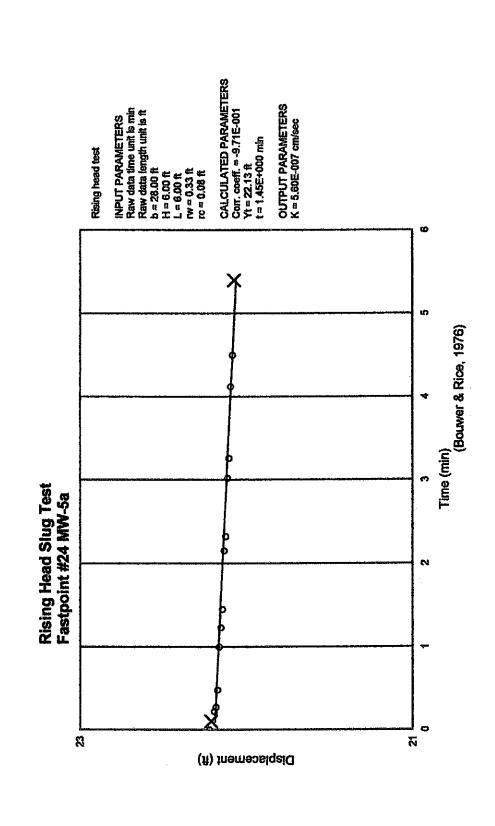


# Summary of Slug Test Division of Underground Storage Tank Management

Site Data				
UST Permit #:		Count	y: <u>Richland</u>	
Facility Name: <u>Fastpoint #24</u>				
Slug Data				
See Appendix Table level logs, etc. (complete as appropriate)].	Figure		_ for a list of all da	ita measurements. [water
Water Level Recovery Data was measured by [Hermit Data Logger, Manually with Water Lo	y <u>Water Lev</u> evel Indicator, etc. (I	el Meter ist method)].		·····
Complete the following table for each well te	sted.			
COMPLETE A SECOND SHEET IF MORE T	HAN FOUR WELLS	ARE TESTED		
Slug Test Conducted in Well(s) Number	MW-2a	MW-5a		
Initial Rise/Drawdown in Well (feet)	18.12	22.01		
Radius of Well Casing (feet)	.08	.08		
Effective Radius of Well (feet)	.33	.33		
Static Saturated Aquifer Thickness (feet)	28	28		
Length of Well Screen (feet)	10	10		
Static Height of Water Column in Well (ft)	10	6		
Calculations		<del></del>		
See Appendix Table	Figure	fo	or calculations (cor	mplete as appropriate).
The method for aquifer calculations was $_{ m Bc}$	ouwer-Rice		(i.e. Bo	uwer-Rice, Cooper, etc.).
Calculated values by well were as follows:				
Siug Test Conducted in Well(s) Numb	per Mt. 2	a M	W-5a	
Hydraulic Conductivity				ec
Thickness of the aquifer used to calculate hydr			•	
The aquifer is confined	·			
The estimated seepage velocity is0_012	to 0.040		······································	feet per year based on
a hydraulic conductivity of $1.91 \times 10-6$ to	5.60×10-7	a hydraulic gradi	ent of00	7 ft/ft and
a porosity of <u>35</u> percent for _	clayey sand	∃soil (list	type i.e., silty sand	d ,clay, etc).
DHEC 3531 (07/1999)				



Fastpoint #	24. Columb	oia, SC					
	d Slug Tes						
MW-2a	· · · · · · · · · · · · · · · · · · ·						
Date: 5-18-	99						
				Selected	Selected	Rescaled	
				Time	Draw	(t-t0)	Draw
Time (min.	)			(min)	(ft)	(min)	(ft)
0.05	19.1			0.05	19.1	0	19.1
0.2	18.95			0.2	18.95	0.15	18.95
0.31	18.8			0.31	18.8	0.26	18.8
0.36	18.75			0.36	18.75	0.31	18.75
0.48	18.72			0.48	18,72	0.43	18.72
0.5	18.63			0.5	18.63	0,45	18.63
1	18.58			1	18.58	0.95	18.58
1.1	18.55			1.1	18,55	1.05	18.55
1.22	18.5			1.22	18.5	1.17	18.5
1.29	18.45			1.29	18.45	1.24	18.45
1.5	18.43			1.5	18.43	1.45	18.43
2	18.4			2	18.4	1.95	18.4
2.07	19.39			2.07	19.39	2.02	19.39
2.12	18.38			2.12	18.38	2.07	18.38
2.15	18.35			2.15	18.35	2.1	18.35
2.3	18.33			2.3	18,33	2.25	18.33
2.33	18.32			2.33	18.32	2.28	18.32
3	18.29			3	18,29	2.95	18.29
3.05	18.27			3.05	18.27	3	18.27
3.1	18.26			3.1	18.26	3.05	18.26
4	18.22	······································		4	18.22	3.95	18.22
4.15	18.2			4.15	18.2	4.1	18.2
4.3	18.19			4.3	18.19	4.25	18.19
4.45	18.18			4.45	18.18	4.4	18.18
5	18,18			5	18.18	4,95	18.18
5.3	18.16			5.3	18.16	5.25	18.16
6	18.15			6	18.15	5.95	18.15
6.3	18.15		<del>                                     </del>	6.3	18.15	6.25	18.15
7	18.15			7	18.15	6.95	18.15



Fastpoint #	24, Columb	oia. SC				
	ad Slug Tes					
MW-5a						
Date: 5-18-	-99		Selected	Selected	Rescaled	
			Time	Draw	(t-tO)	Draw
Time	Draw		(min)	(ft)	(min)	(ft)
0.37	22.25		0.37	22.25	0	22.2
0.49	22.24		0.49	22.24	0.1	22,19
0.55	22.21		0.55	22.21	0.22	22.17
1	22.2		1	22.2	0.27	22,16
1.1	22.19		1.1	22.19	0.48	22.15
1.22	22.17		1.22	22.17	1	22.14
1.27	22.16		1.27	22.16	1.23	22.13
1.48	22.15		1.48	22.15	1.45	22.12
2	22.14		2	22.14	2.15	22.11
2,23	22.13		2.23	22.13	2.32	22.1
2.45	22.12		2.45	22.12	3.02	22.09
3.15	22.11		3.15	22.11	3.26	22.08
3.32	22.1		3.32	22.1	4.12	22.07
4.02	22.09		4.02	22.09	4.5	22.06
4,26	22.08		4.26	22.08	5.4	22.05
5.12	22.07		5.12	22.07		
5.5	22.06		5.5	22.06		
6.4	22.05		6.4	22.05		

Well Number	Type of Material Exposed to Screened Interval	Hydraulic Conductivity (K) (cm/sec)
MW-1A	UNKNOWN	2.87 x 10 <sup>-4</sup>
MW-2A	UNKNOWN	$5.48 \times 10^{-4}$
MW-3	Sandy CLAY	6.96 x 10 <sup>-5</sup>
MW-5	Sandy CLAY	3.33 x 10 <sup>-5</sup>
MW-5A	UNKNOWN	8.09 x 10 <sup>-4</sup>
MW-11	Sandy CLAY	$1.73 \times 10^{-4}$
MW-12	Silty Sand & Silty CLAY	$8.50 \times 10^{-5}$
MW-14	SAND	8.24 x 10 <sup>-6</sup>
MW-16	Sandy CLAY	9.50 x 10 <sup>-7</sup>
MW-17D	Silty CLAY	7.73 x 10 <sup>-7</sup>

#### Notes:

Field tests were reduced and the hydraulic conductivities computed using techniques described in NAVFAC Soil Mechanics Design Manual 7.1, May, 1982, Condition A and Condition C (Condition C used on MW-17D).

Soil descriptions from SCDHEC files. Calculations are included in Appendix B.

#### 6.4 GROUNDWATER MOVEMENT

Groundwater movement is often related to topography, lithology, elevation of recharge and discharge areas and man-made influences. Referenced groundwater elevations were determined by measuring the top of the monitoring well casing relative to a nearby datum elevation (see Figure 2) measuring the water level in the monitoring well, and computing the reference elevation of the groundwater at the time of measurement.

Directions of groundwater flow were interpolated between monitoring wells by comparing the groundwater elevations at those locations considering the factors listed above. Groundwater levels typically fluctuate with seasonal and rainfall variations.

•	SUMMARY of	SLUG TES	T (page 1	of 3)		
	SO Department of Health	UTH CARO and Enviror		ntrol (DHEC	;)	
Site Data						
SITE ID#	7777	COUNTY		Richland	·	
FACILITY NAME	· · · · · · · · · · · · · · · · · · ·	Cloud's C	hevron		<del></del> :	•
SLUG DATA		-				***************************************
· · · · — — — — — — — — — — — — — — — —	Table vel logs, etc.)(Complete			for a list of a	all data mea	surements.
(Hermit D Complete the following t	ata Logger, Manualiy v	vith Water L	evel Indicat	or, etc.)(Lis		. : D
Slug Test Conducted in Initial Rise/Drawdown in Radius of well casing (fe Effective Radius of Well Static Saturated Aquifer Length of Well Screen (f	well (feet) eet) (feet) Thickness (feet)	MW-1A 0.09 0.083 0.33 7.31	MW-2A 1.86 0.083 0.33 3.59	MW-3 1.77 0.083 0.35 3.46	MW-5 0.65 0.083 0.35 5.97	
Static Height of Water C	olumn in Well (ft)	20.69	25.41	22.04	22.53	
Calculations						•
See Appendix		Figure NAVFAC	1	for calculation	ons	
Siug Test Conducted in Hydraulic Conductivity	and the second s	MW-1A 2.87E-04	MW-2A 5.48E-04	MW-3 6.96E-05	MW-5 3.33E-05	om/sec
Thickness of the aquifer The aquifer is SEE SHE The estimated seepage	confined ET 3 velocity is	semi-confin	ed	water table	(Check as A	Appropriate).
cm/sec, a percent for	hydraulic gradient of soil.	ARY of SLU	. 1	porosity of _		,

				of 3)		***************************************
SOUTH CAROLINA  Department of Health and Environmental Control (DHEC)						
Site Data						
SITE ID#	7777	COUNTY		Richland		
FACILITY NAME		Cloud's C	hevron		<del>,,</del>	
SLUG DATA						
See Appendix (water l	_Table evel logs, etc.)(Complet	Figure e as appropri		for a list of a	all data mea	isurements.
Water Level Recovery (Hermit Complete the following	Data was measured by Data Logger, Manually table for each well test ETE A SECOND SHEE	with Water Lo	ORS Interfa	or, etc)(Lis	•	
Slug Test Conducted i Initial Rise/Drawdown Radius of well casing ( Effective Radius of We Static Saturated Aquife Length of Well Screen Static Height of Water	MW-5A 0.08 0.083 0.33 6.14 5 23.26	MW-11 0.43 0.083 0.33 10.02 15 19.98	MW-12 0.1 0.083 0.33 24.9 15 5.1	MW-14 0.1 0.083 0.33 14.41 15		
Calculations						
See Appendix The method for aquifer Calculated values by v Slug Test Conducted i Hydraulic Conductivity	vell were as follows: n Well(s) number	Figure NAVFAC MW-5A 8.09E-04	MW-11 1.73E-04	for calculati MW-12 8.50E-05	MW-14	cm/sec
The aquifer is SEE SH	· · · · · · · · · · · · · · · · · · ·	_semi-confir	ed	water table	(Check as	Appropriate).
The estimated seepag cm/sec percent for	e velocity isa hydraulic gradient ofsoil.	_feet per yea	ar based on <u>ft/ft,</u> and a <sub>l</sub>		conductivi	ty of

SUMMARY of SLUG TEST (page 3 of 3)						
SOUTH CAROLINA  Department of Health and Environmental Control (DHEC)						
Site Data						
SITE ID#	77.77	COUNTY		Richland		
FACILITY NAME		Cloud's C	Chevron			
SLUG DATA			. ,			
	_Table level logs, etc.)(Complete Data was measured by			for a list of		asurements.
(Hermit Complete the following	Data Logger, Manually g table for each well teste LETE A SECOND SHEE	with Water Led.	evel Indica	tor, etc)(L	ist Method)	
Slug Test Conducted in Initial Rise/Drawdown i	in well (feet)	MW-16 2.09	MW-17D 4.62			
Radius of well casing ( Effective Radius of We Static Saturated Aquife	ell (feet)	0.083 0.33 11.83	0.083 0.33			
Length of Well Screen Static Height of Water	(feet)	15 18.17	14.36 15 44.64			
Calculations						
See Appendix The method for aquifer Calculated values by w		Figure NAVFAC	·	for calculat	lions	
Slug Test Conducted in Hydraulic Conductivity	n Well(s) number	MW-16 9.50E-07	MW-17D 7.73E-07			cm/sec
The aquifer is * Enter Va	alues in Shaded Areas Only	_semi-confin	ned X	water table	(Check as	Appropriate).
2.01E-04 cm/sec,	e velocity is 72.94 a hydraulic gradient of SLAY soil.	_feet per yea 1.40E-02	ar based or ft/ft, and a	n a hydrauli porosity of	c conductivi	ty of
	VI III	MARY of SLU	IC TEST		·	

# **Groundwater Seepage Velocity Calculations SOUTH CAROLINA** Department of Health and Environmental Control (DHEC) Site Data SITE ID# 7777 Richland FACILITY NAME Cloud's Chevron **Hydraulic Conductivity (average)** Hydraulic Conductivity Average = 2.01E-04 cm/sec 5.71E-01 ft./day 3.96E-04 ft./min **Groundwater Seepage Velocity** V = (Ki)/(Ne)\* Enter Values in Shaded Areas Only (ft./day) where: K = Hydraulic Conductivity (ft./day) I = Hydraulic Gradient (ft./ft.) Ne = Effective Permeability K= 5.71E-01 ft./day -**I** = 1.00E-02 ft./ft. 0.04 Ne = V = 1.43E-01 ft./day 52.10 ft./year **Groundwater Seepage Velocity Calculations**

## Inflow for Type II Well MW-1A

## **Inflow Permeability Calculation**

Cloud's Chevron

Test Performed: 4/9/97

MW-1A

Type II (Uncased Well)

Static:	20.69	ft		*Enter Values in Shaded Areas Only				
Time (min)	Depth	delta H	Ht/Ho	Information from data and plot of Ht/H0 vs time				
0.50	20.78	0.09	1.00	Bore Hole Diameter: 8 in				
1.00	20.77	0.08	0.89	Total Depth of	of Well:	28 f	t	
2.00	20.75	0.06	0.67	Stand Pip	e Area:	50.27 i	n^2	
4,00	20,73	0.04	0.44		•	0:35 f	t^2	
7.00	20.71	0.02	0.22	Coordinates from Graph for Slope Calc:				
9.50	20.70	0.01	0.11	· H1	/Ho:	A CONTRACTOR OF THE CONTRACTOR		
		-		. t1:	## ## ##	0.5 n	nin	
				H2	/Ho:	0.89		
				t2:		1 n	nin	
		t.						
				H1:	0.09	H2:	0.08	
				t1:	0.50	12:	1.00	
			_	Radius	R:	4.00 ii	ņ	
				Radius	R:	0.33 f	t	
				Depth	D:	7.31 f	t	
		-			R/D:	0.046		
				:	D/R:	21.93		
	11444 bab (**********************************						(	

Shape Factor Determination Value:

0.99 \*

\*This value is used in conjunction with

Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor

S:

0.1

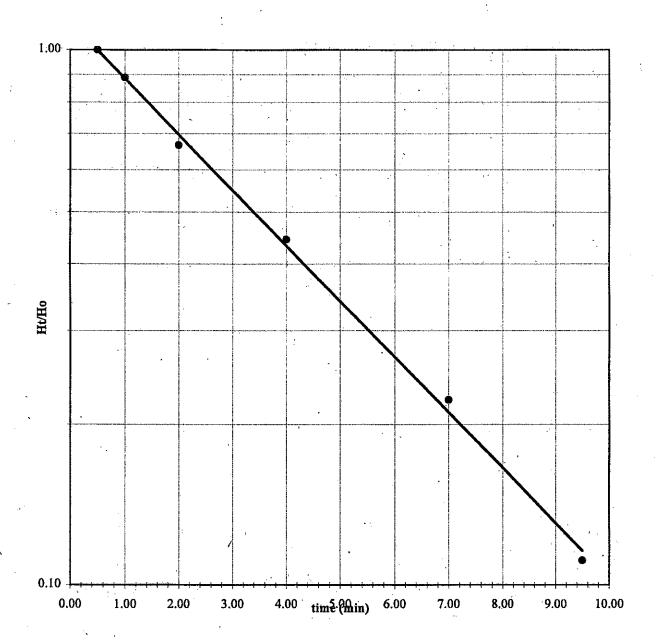
Coeff. of Permeability (K):

5.64E-04 ft/min

8.13E-01 ft/day

2.87E-04 cm/sec

Ref [1]: Naval Fac. Engr. Command, Design Manual 7.01, soil Mechanics







Purchasing Office

SC DHEC

Attn: Procurement Services Division

2600 Bull Street

Columbia SC 29201-1708 Phone:(803) 898-3501 Fax: (803) 898-3505 Invoice To: SC DHEC

Attn: Accounts Payable

2600 Bull Street

Columbia SC 29201-1708 Phone:(803) 898-3460

Fax: (803) 253-7637

Ancorn.

Purchase Order: 4600322226 Date Issued: 03/11/2014

Validity - From: 01/07/2014 TO: 01/06/2019

PO Number must appear on all Invoices and Delivery Slips.

Payment Terms:

within 30 Days 0.000 Percent Discount

Vendor:

7000130450

WEST COLUMBIA SC 29169

CRAWFORD ENVIRONMENTAL SERVICES 104 CORPORATE BLVD - SUITE 412

USA

**Deliver To:** 

The State of South Carolina DHEC - Columbia Mills Mailroom

301 Gervais St

COLUMBIA SC 29201-3073

USA

#### **INSTRUCTIONS TO VENDOR**

Procurement Officer: E. Madison Winslow, (803) 898-3487 / Program Contact: Susan B. Fulmer, (803) 898-0614 / Contractor Contact: Charles P. Crawford, (540) 798-4205 / Price per IFB-5400007095-1/30/14-EMW, signed by Charles P. Crawford on 1/26/14. / UST corrective action at 07584-07777-12352. / Total Contract Cost: \$540,000.00 / Contract period: January 7, 2014 through January 6, 2019 or until completion or work. / All terms and conditions of the solicitation do apply..

Item No	QTY	Order UOM	Description	Unit Price	Amount
001	540,000	EA	Environmental Consulting Release Order for contract: 4400007922 / 0000000001 Delivery Date:03/07/2015	1.0000	540,000.00
				Subtotal	: 540,000.00
	<u>.</u>		^ ^1	Total Value:	<u>                                     </u>

Created By: EDWARD WINSLOW

Authorized Signature

If received electronically, printed name represents authorized signature for this document

All Sales to the State of South Carolina (SC) are subject to the SC sales and use tax laws, unless such sales are otherwise exempt. The Contractor/Vendor will collect such tax as required.

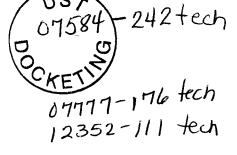


# CRAWFORD ENVIRONMENTAL SERVICES

MAR 2 5 2014

March 24, 2014

Ms. Susan Fulmer, Hydrogeologist Corrective Action Section UST Management Division Bureau of Land and Waste Management SCDHEC 2600 Bull Street Columbia, SC 29201



RE:

QAPP Contractor Addendum - CAP/CASE Cloud's Chevron & University Mart 1600 Two Notch Road, Columbia, SC UST Permits: #07584, 07777 and 12352

**CES Number: Pending** 

Dear Ms. Fulmer

As we have discussed, attached please find the Quality Assurance Project Plan Addendum for the referenced facility prepared by Crawford Environmental Services, Inc. (CES). CES has completed the site check (March 10, 2014), the assessment plan and contractors addendum to the Master QAPP for the Corrective Action Plan (CAP) and Corrective Action System Evaluations (CASE) to be performed at the above noted facility.

Should you have any questions or comments regarding the attached, please feel free to contact me at 540-798-4205 or by email at <a href="mailto:ccrawford@crawfordenvironmental.com">ccrawford@crawfordenvironmental.com</a>.

Best Regards,

CRAWFORD ENVIRONMENTAL SERVICES, INC.

Charles F. Crawford, III

President

SC Rehabilitation Contractor Number: 0388

Attachments:

Appendix A: Quality Assurance Program Plan (Contractor's Addendum) 27 pages

Appendix B: Chain of Custody Template 1 page

Appendix C: Site Figures 2 pages

Appendix D: Methodology - Ferrous Iron 14 pages

SCANNED



## **APPENDIX A:**

**QAPP Contractor Addendum** 

Crawford Environmental Services, Inc. Handy Pantry #65 / University Mart & Cloud's Chevron Site IDs: #07584, #07777 and #12352



## Section A: Project Management

## A1 Title and Approval Page

Quality Assurance Project Plan

Addendum (Corrective Action Plan) to the SC DHEC UST Programmatic QAPP

For

Handy Pantry #65 / University Mart & Cloud's Chevron

UST Permit #: 07584, 07777 and 12352

1600 Two Notch Road, Columbia, SC

## Prepared by:

Charles F. Crawford, III Crawford Environmental Services 15 Church Ave., SW Roanoke, VA 24015

SCDHEC Site Rehabilitation Contractor Certification Number: UCC-0388

## **Approvals**

Susan Fulmer		Date		
SC DHEC Project Manager	Signature			
Charles F. Crawford, III Site Rehabilitation Contractor	Signature Signature	Date	03.21.14	
Daniel J. Fisher Project Verifier	Y Signature	Date	03.21.14	
Ashley Amick	CD	Date	03.21.14	
Laboratory Director Access Analytical Inc.	Signature			
	Metrictflold			
Mehmet Yildrim		Date	03.21.14	
Laboratory Director	Signature			
Analytical Environmental Services Inc.,				

Revision 0 Page 1 of 27 CES QAPPA ver. 5.0 –Sample 3/19/2014 Crawford Environmental Services, Inc. Handy Pantry #65 / University Mart & Cloud's Chevron Site IDs: #07584, #07777 and #12352



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A6 Project/Task Description	7			
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				A9 Documents and Records
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B3 Sample Handling and Custody	15			
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### **A3 Distribution List**

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Susan Fulmer	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-898-0614	803-896-6245	fulmersb@dhec.sc.gov
Charles F. Crawford	Site Rehabilitation Contractor	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	540-798-4205	540-343-6259	ccrawford@crawfordenvironmental.com
Daniel J. Fisher	Project QA/QC Manager and Project Verifier	Crawford Environmental Services 15 Church Ave., SW Roanoke, VA 24011	540-798-5068	540-343-6259	dfisher@crawfordenvironmental.com
Daniel J. Fisher	Project Manager	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	540-798-5068	540-343-6259	dfisher@crawfordenvironmental.com
William C. Ewing	Field Manager/ Certified Well Driller	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	803-708-0079	803-708-8137	bewing@crawfordenvironmental.com
Ashley Amick	Laboratory Director	Access Analytical, Inc. (AA) 7478 Carlisle Street Irmo, SC 29063	803-781-4243	803-781-4303	aamick@axs-inc.com
Mehmet Yildrim	Laboratory Director	Analytical Environmental (AES) Services Inc. 3785 Presidential Pkwy Atlanta, GA 30340	770-457-8177	770-457-8188	mvildrim@aesatlanta.com

**Table 1A Addendum Distribution List** 



**A4 Project Organization** 

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/Address	Telephone Number	Fax Number	Email Address
Project Manager	Susan Fulmer	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-898- 0614	803-896- 6245	fulmersb@dhec.sc.gov
Site Rehabilitation Contractor	Charles F. Crawford	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	540-798- 4205	540-343- 6259	ccrawford@crawfordenvironmental.com
Project Manger	Daniel J. Fisher	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	540-798- 5068	540-343- 6259	dfisher@crawfordenvironmental.com
Analytical Laboratory Director	Ashley Amick	Access Analytical, Inc. (AA) 7478 Carlisle Street Irmo, SC 29063	803-781- 4243	803-781- 4303	aamick@axs-inc.com
Analytical Laboratory Director	Mehmet Yildrim	Analytical Environmental (AES) Services Inc. 3785 Presidential Pkwy Atlanta, GA 30340	770-457- 8177	770 <b>-4</b> 57- 8188	myildrim@aesatlanta.com
Field Manager/ Certified Well Driller	William C. Ewing	Crawford Environmental Services 104 Corporate Blvd. Suite 412 West Columbia, SC 29169	803-708- 0079	803-708- 8137	bewing@crawfordenvironmental.com
Project QA/QC Manager and Project Verifier	Daniel J. Fisher	Crawford Environmental Services 15 Church Ave., SW Roanoke, VA 24011	540-798- 5068	540-343- 6259	dfisher@crawfordenvironmental.com
Disposal Subcontractor	Vanessa Tremblay	Waste Management 1850 Parkway Place – Suite 600 Marietta GA 30067	803-735- 0808	877-446- 1079	vtrembly@wm.com

Table 2A Addendum Role Identification and Contact Information

The responsibilities of the participants are as follows:

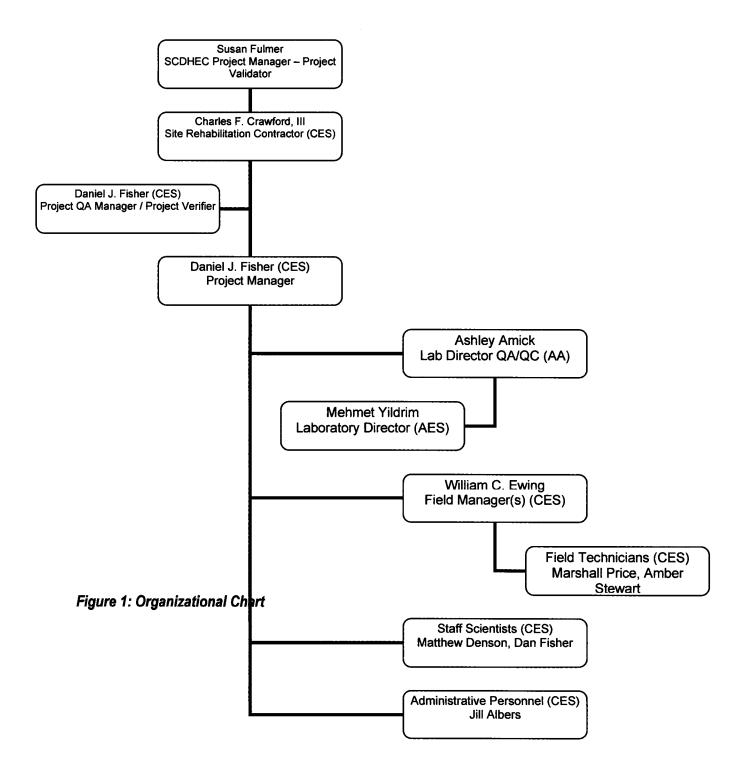
- 1. **UST Management Project Manager** The UST Management Project Manager (UST Project Manager) is responsible for direct oversight of the contractor conducting this assessment. The UST Project Manager performs the review of the plan and the report associated with this assessment. These reviews include verification and analysis of data submitted to the UST Management Division by the Site Rehabilitation Contractor. The UST Project Manager is responsible for the review of and approval of the site specific QAPP to ensure compliance with the Master QAPP. The UST Project Manager also is responsible for validating data.
- 2. **Site Rehabilitation Contractor** The Site Rehabilitation Contractor is an independent contractor responsible for managing and coordinating field and office activities needed for this assessment.
- 3. **Project Manager** The Project Manager is a representative of the Site Rehabilitation Contractor responsible for the day to day oversight of activities needed to complete this assessment. The Project



Manager is responsible for the submission of plans, updates and reports associated with this assessment.

- **4. Laboratory Analytical Director** The Laboratory Analytical Director represents the Analytical Laboratory that will receive the soil and water samples from the Site Rehabilitation Contractor, performs the requested analyses and provides an analytical report.
- **5. Field Manager** The Field Manager is a representative of the Site Rehabilitation Contractor responsible for the oversight of the contractor technicians and field activities. The Field Manager is responsible for the review / QA of field activities to ensure compliance with the UST Master QAPP and contractor health and safety plans.
- **6. Project QA/QC Manager and Project Verifier** The Project QA/QC Manager and Project Verifier is a representative of the Site Rehabilitation Contractor responsible for the oversight of project activities to ensure quality control is in compliance with the UST Master QAPP.
- **7. Disposal Contractor** The Disposal Contractor is a subcontractor, chosen by the Site Rehabilitation Contractor, which will receive the industry derived waste created during the implementation of this assessment. The Disposal Contractor is responsible for the review of manifests to ensure the disposal is in compliance with the UST Master QAPP.







### A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed. According to SCDHEC and contractor records an IGWA, Tier 1, Tier II, Corrective Action and several groundwater sampling events were previously completed at this facility. During the previous assessments, several groundwater monitoring wells yielded dissolved-phase concentrations of Chemicals of Concern (CoCs) in exceedance of the risk based screening limits and maximum contaminant limits (RBSLs/MCLs). Refer to Appendix C for site specifics and history.

Please answer the following: Does this project fall under UST or Brownfields area?
UST Area.

### A6 Project/Task Description

1. Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).

Complete Semi-Annual Groundwater/Water Supply Well Sampling Reports [Corrective Action System Evaluation – CASE]. Refer to the Figures provided as Appendix C for details and specifics regarding the locations of monitoring wells.

- 2. The work will begin within:
  - a. Site mobilization / sample collection and laboratory analysis: 1-2 weeks
  - b. De-mobilization and clean-up: 1 week
  - c. Report preparation: 1 week; should additional samples be required to achieve 90% valid samples, the project may be extended. The SCDHEC Project Manger will be contacted via email or telephone if project requires an extension for any reason. (Repeating)
- 3. Are there any time or resource constraints? Include those factors that may interfere with the tentative schedule. Laboratory equipment failures may cause up to a two week delay. Property access issues due to their inherent unpredictability, may cause a delay that will exceed the initial timeframe given for this project. Inclement weather conditions also may cause project delays. No resource constraints are anticipated.



# A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

Please refer to Appendix C of this QAPP for shallow and deep monitoring well locations. The assessment boundaries are limited to the area necessary to complete this initial groundwater assessment. SCDHEC will be notified during the assessment regarding any accessibility issues.

### **A8 Training and Certificates**

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
(	CRAWFORD ENVIRONM	MENTAL SERVICES	, INC. (Last Updated	d March 2014)	
Site Rehabilitation Contractor	Charles F. Crawford	OSHA HASWOPER	-	Class A General Contractor	2705076157
Senior Project Geologist	B. Thomas Houghton	-	-	S.C.P.G.	2343
Project Manager	Daniel J. Fisher	OSHA HASWOPER	December 2013 (OSHA)	-	-
Staff Scientist	Matthew Denson	OSHA HASWOPER	March 2014 (OSHA)	<u>-</u>	. <b>-</b>
Staff Scientist	Daniel J. Fisher	OSHA HASWOPER	December 2013 (OSHA)	N/A	N/A
Administrative	Jill A. Albers	-	-	-	-
Field Manager	William C. Ewing	OSHA HASWOPER	December 2013 (OSHA)	SCLLR Class B Drilling License	1505
Field Technician	Marshall Price	OSHA HASWOPER	December 2013 (OSHA)		
	Su	bcontractors (Labs	/ Surveyors)		
Lab Director (AA)	Ashley Amick	N/A	N/A	SC Certified Lab	32575001
Lab Director (AES)	Mehmet Yildrim	N/A	N/A	SC Certified Lab	98016003

**Table 3A Required Training and Licenses** 



Daniel J. Fisher of CES is responsible for ensuring that personnel participating in this project receive the proper training. All personnel training records will be stored at the Corporate office located at 15 Church Avenue, SW in Roanoke, VA 24011.

### It is understood that training records will be produced if requested by SC DHEC.

# The Following Laboratory(ies) will be used for this Project: <u>Commercial Lab(s)</u>

**Full Name of the Contractor performing Lab Analyses:** Analytical Environmental Services Inc.

Name of Lab Director: Mehmet Yildrim (QA/QC Ashley Amick- Access Analytical inc.)

**SCDHEC Certification Number:** SC Cert #: 98016003

### Parameters this Laboratory/Contractor will analyze for this project:

BTEX, naphthalene, MTBE via US EPA method 8260B and TBA, TAA and TAME via US EPA method 8260-Oxy

### Verification Event(s) Only:

Dissolved Oxygen by method SM4500-O G Ferrous Iron by Kerr Method Nitrate by method 9056/9210 Sulfate by method 9038/9056 Methane by method RSK-175

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.



### A9 Documents and Records

Personnel will	receive the i	most current	version of	the QAPP	Addendum v	via:
(Check all that	tapply)					

<u>X</u>	_US Mail	Courier	<u>X</u>	_Hand delivered
Perso	onnel will rec	eive the QAPP via	a US	Mail, Email, or by downloading from the CES
intern	al network 1	Notification of unda	ates t	o the Master OAPP will be through email from

the contractor. CES personnel can access the QAPP by downloading through the

internal network system.

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Field Data Sheets/ Sampling logs	Environmental Contractor	Electronic	At Contractor Office Electronic for 5 Years	Included in Report
Laboratory Data	Laboratory Contractor	Electronic	At Laboratory Electronic for 25 Years	See Lab Archive plan
Weekly Update	Environmental Contractor	Electronic	At Contractors Office Electronic copy for 5 years	Included in Report
Monitoring Report	Environmental Contractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Correspondence	Environmental Contractor/ SCDHEC/ Subcontractors	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Invoices	Environmental Contractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Manifests	Environmental Contractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Figures	Environmental Contractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Surveys	Environmental Contractor/ Comprehensive Survey Subcontractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy
Disposal Manifests	Environmental Contractor/ Disposal Subcontractor	Electronic/ Hard Copy	At Contractors Office Electronic copy for 5 years	Electronic Copy

Table 4A Record Identification, Storage, and Disposal



### **Section B Measurement/Data Acquisition**

### **B1 Sampling Process/Experimental Design**

Event	Mobilization/ Sampling / Demobilization	Laboratory Analysis	Report Creation	# Samples	Туре	Events
Groundwater and Surface Water Sampling Event	3-5 days	11 days	7 days	83 / 89*	Semi Annual	10 +2*
	* 2 verification	n events		<u></u>		

### Table 5A Sampling Activities

Up to a total of:

0 Soil Samples1008 Water Samples

may be submitted for laboratory analysis.

Groundwater samples will be analyzed for the following parameters:

BTEX, naphthalene, MTBE via US EPA method 8260B and TBA, TAA and TAME via EPA method SW-846 8260-Oxy

### Verification Event(s) Only:

Dissolved Oxygen by method SM4500-O G Ferrous Iron by Kerr Method Nitrate by method 9056/9210 Sulfate by method 9038/9056 Methane by method RSK-175

Field blanks and duplicates will be obtained for groundwater samples (1 per every 20 samples collected). Trip blanks will be obtained for every 20 samples and/or per every cooler used during the assessment.

The contractor will follow sampling protocols as outlined in the UST QAPP. These totals are anticipated to be maximums. The actual number of samples collected and submitted for laboratory analysis will be dependent upon the effort required to complete the scope of work.



### Estimate the number of samples of each matrix that are expected to be collected:

Note: numbers provided are intended as a maximum probable under the current plan

#### Groundwater / Water Supply Well Sampling Event

#### **Water Supply Well Sampling Event**

Sample Type		ount px)	Sample Type	Amount (apx)	
Soil		0	Soil	0	
Soil Duplicates	(	0	Soil Duplicates	0	
Field Blank	1	0	Field Blank	0	
Trip Blank	(	0	Trip Blank	0	
Total Soil Samples	(	D	Total Soil Samples	0	
Groundwater from Monitoring Well Sampling (MWS)		0	Groundwater from Monitoring Well Sampling	0	
Groundwater from verification wells	6		(MWS)		
Water from water wells	0	0	Water from water wells	0	
Water from surface features	1	1	Water from surface features	0	
Field Blanks	4	4	Field Blanks	0	
Trip Blanks	4	4	Trip Blanks	0	
Duplicates	4	4	Duplicates	0	
Total	83	89	Total	0	
# of events (Standard / Verification)	10	2	# of events	0	
TOTAL	10	80	TOTAL	0	
TOTAL			1008		

If any of the above are circled please indicate how will it be done and the equipment needed. Sample collection that results in groundwater chemical analysis will include depth to water, depth to product, and groundwater quality indicators. Sampling will include gauging the depth to water and/or depth to free product utilizing an electronic water level indicator or similar device capable of recording the water level or thickness of any free product to an accuracy of 0.01 feet. Measurements of groundwater quality indicators (pH, temperature, D.O. turbidity and specific conductivity) will be recorded during sampling to ensure that groundwater quality is representative of the formation prior to collection of samples. Groundwater samples will be collected from a monitoring well by manual bailing using disposable polyethylene bailers. One sample will be collected from each monitoring well beginning with the wells on the outside perimeter of the contamination plume and working from the wells exhibiting the lowest CoC's to the highest CoC's. Sample duplicates will be collected per every 20 samples. For sample collection the bailer will be slowly lowered into the well until the top of the bailer has penetrated the water table surface, and slowly removed once full. Purge waters will be containerized on site and disposed of properly. The sample containers will then be placed in a cooler and delivered to AA laboratories.



Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable? Decontamination procedures will be the responsibility of the CES Field Technicians; ultimately reviewed and approved by the Field Manager. As outlined in Appendix A of the UST Guidance Document "QAPP Revision 1", all reusable sampling equipment will be stainless steel or constructed of a material that is compatible with the specified analysis and will be cleaned prior to and following the collection of each sample. Disposable bailers, string and gloves will be utilized for sample collection and will be disposed of after use.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination. pH, specific conductance, dissolved oxygen, and temperature meters [parameter devices] and water meter probes [sampling equipment] will be decontaminated between monitoring wells. In the field, parameter meter probes will be decontaminated utilizing deionized water. Each meter will be rinsed and then allowed to air dry. Decontamination waste from the cleaning processes will be contained and disposed of with the associated IDW for the site.

Sampling equipment and/or instruments will be decontaminated by washing with a laboratory-grade detergent such as Alconox, rinsed with tap water and then rinsed with analyte free water. If the equipment is not used immediately, it will be covered in plastic and stored in a clean, dry place. If required by UST Project Manager, verification of the effectiveness of the decontamination procedure will be acquired through equipment rinsate samples.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

Access Analytical will be the laboratory and is responsible for shipment of all samples (via Federal Express) to the subcontracted laboratory of AES.



Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Equipment Failure (Drilling) {le. Drill rig, concrete}	Contact CES project manager. Use alternative equipment if available. Initiate field repairs if possible	Identify failure. Log date, time and equipment.	Field Manager William C. Ewing 803-708-0079
Equipment Failure (sampling) (ie. Parameter meters, pump failure, calibration error)	Contact CES project manager. Use alternative equipment if available. Initiate field repairs if possible.	Identify failure. Log date, time and equipment.	Field Manager William C. Ewing 803-708-0079
Loss or delay of lab samples	Resample	Notice by Access of lost or delayed samples	Access Analytical Ashley Amick 803-781-4243
Drilling Refusal (Rock)	Contact CES project manager. Contact SCDHEC project manager	Log location, time and depth.	Field Manager William C. Ewing 803-708-0079
Drilling Issue (utility line impact etc.)	Contact CES project Manager, Contact Palmetto Utilities Protection Service.	Log location, time and depth.	Field Manager William C. Ewing 803-708-0079
Passive Diffusion Bag deployment / sampling failure	Redeploy. Use alternate method if applicable.	Log location, time and equipment.	Field Manager William C. Ewing 803-708-0079
Snap collector deployment failure.	Redeploy. Use alternate method if applicable.	Log location, time and equipment.	Field Manager William C. Ewing 803-708-0079
Lost samples in the lab	Resample	Email from lab to CES project manager and QA/ project verifier	Access Analytical Ashley Amick 803-781-4243
Sample failure (hold time limit exceeded/temperature limit exceeded	Contact CES project manager	Email from lab to CES project manager and QA/ project verifier	Access Analytical Ashley Amick 803-781-4243

**Table 6A Field Corrective Action** 



### **B3 Sample Handling and Custody**

- 1. How will the samples get from the Site to the Lab to ensure holding requirements are met? Samples will be delivered to Access Analytical by CES personnel within 24-72 hours of sample collection. Access Analytical will then ship the samples via Federal Express to AES. Temperature and condition of the samples will be verified upon arrival at both Access Analytical and AES.
- 2. How will the contactors cool the samples and keep the samples cool?

  Sample containers will be maintained in a refrigerator or cooler filled with ice until they are shipped. Appropriate shipping containers for samples include insulated polypropylene or aluminum-clad coolers. The coolers should contain ice in a sealed container or other cooling source to maintain a temperature of 6°C in the container and to prevent degradation of the samples
- 3. How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank? Project laboratories will use a certified thermometer to determine at-receipt sample temperatures. The temperature will be recorded on the chain-of-custody, temperature blanks will be used.
- 4. Where will the samples be stored in the Lab once they are received? Samples to be shipped for analysis will be handled and packaged in a manner that maintains a complete chain-of-custody record and prevents damage during shipment. All samples will be transported to the laboratory directly or by a commercial carrier. When using a commercial carrier, a custody seal will be used to preserve the integrity of the sample from the time it is collected until the container is opened in the laboratory. Samples received at project laboratories will be kept in secure refrigerators.
- 5. Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached. A chain-of-custody record supplied by the contracted laboratory will be used to document and track possession of the samples. The chain-of-custody record will be sent with each sample shipment from the field to the laboratory and will serve as a record for the receipt of samples by the laboratory. Copies of the chain-of custodies are included as Appendix E.



### **B4 Analytical Methods**

### 1. Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:

Parameter	SOP ID*	Method Referenced	Equipment	Comments
рН	Section 2.10	SM 4500 H+B	HACH SenselON 156 HANNA HI	Refer section 2.10 CES SOP
Specific Conductance	Section 2.10	SM2510B	HACH SenselON 156 HANNA HI	Refer section 2.10 CES SOP
Temperature	Section 2.10	SM2550B	HACH SenselON 156 HANNA HI	Refer section 2.10 CES SOP
Dissolved Oxygen	Section 2.10	SM4500-O-G	HACH SenselON 156 HANNA HI	Refer section 2.10 CES SOP
Turbidity	Section 2.10	Method 8237	HACH DR-820	Refer section 2.10 CES SOP
BTEX, naphthalene, and MTBE	OA 11010	EPA Method 8260B	AES QAP p.195	AES SOP OA 11010 APDX III CES SOP
TAA, TAME and TBA	OA 11010	EPA Method 8260-Oxy	AES QAP p.195	AES SOP OA 11010 APDX III CES SOP
Nitrate	OA 11007	9056/9210	AES QAP p.195	AES SOP OA 11007 APDX III CES SOP
Sulfate	OA 11007	9038/9056	AES QAP p.195	AES SOP OA 11007 APDX III CES SOP
Ferrous Iron	OA 11007	SM3500-Fe	AES QAP p.195	AES SOP OA 11007 APDX III CES SOP
Methane	OA 11007	Kerr Method	AES QAP p.195	AES SOP OA 11007 APDX III CES SOP

**Table 7A Analytical SOPs and Referenced Methods** 



 This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
Section 2.10	CES SOP Section 2.10	State Lead Tier II Assessment Program: Standard Operating Procedure & Quality Assurance/Quality Control
OA 11010	AES SOP OA-11010	Analytical Environmental Services Standard Operating Procedure for Volatile Organic Compound by EPA SW-846 Method 8260B/5030/5035
OA 13002	AES SOP OA-13002	Analytical Environmental Services Standard Operating Procedure Determination of Metals in Water, Soils and Wastes by ICPBY EPA SW-846 Method 6010C and Prep Methods 3010A/3050B/SM3030C
OA 11007	AES SOP OA-11007	Analytical Environmental Services Standard Operating Procedure for 1,2-Dibromoethane (EDB) and 1,2-Bibromo-3-chloropropane (DBCP) by EPA SW-846 Method 8011
AES QAP Section 9.0	AES QAP Rev 15	Access Analytical, Inc. & Analytical Environmental Services (AES) Comprehensive Quality Assurance Plan (Revision 15): Section 9.0 Calibration Procedures and Frequency

Table 8A: SOP Abbreviation Key



## 2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Failure	Response	Documented Where?	Individual Responsible
Equipment Failure (drilling equipment) i.e. drill rig, concrete saw, etc.	Contact CES Project Manager	Record problem, use alternate method / equipment if available / applicable or reschedule field activities after equipment is repaired	CES Project Manager Daniel J. Fisher 540-798-5068
Equipment Failure (sampling equipment) i.e. passive diffusion bags, parameter meters	Contact CES Project Manager	Record problem, use alternate method if applicable/ available or reschedule field activities after equipment is repaired.	CES Project Manager Daniel J. Fisher 540-798-5068
QC Failure	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report	CES Project Manager Daniel J. Fisher 540-798-5068
Sample accident in transit	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report	Laboratory Director (AA) Ashley Amick 803-781-4243
Sample accident in lab	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report	Laboratory Director (AA) Ashley Amick 803-781-4243
Insufficient sample for analysis or repeat analysis	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report	Laboratory Director (AA) Ashley Amick 803-781-4243
Analytical Errors	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report.	CES Project Manager Daniel J. Fisher 540-798-5068
CoC or Sample Receiving Issues	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report.	CES Project Manager Daniel J. Fisher 540-798-5068
On-Time delivery	Contact CES Project Manager	Notification/Documentation via email, noted in laboratory report.	CES Project Manager Daniel J. Fisher 540-798-5068

**Table 9A Corrective Action Procedures** 



### 3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
Turbidity	Groundwater	As Generated	If applicable, a portable granulated carbon filter will be used. 55 gallon drum on site	A&D Environmental Services
DO	Groundwater	As Generated	If applicable, a portable granulated carbon filter will be used. 55 gallon drum on site	A&D Environmental Services
Specific Conductance	Groundwater	As Generated	If applicable, a portable granulated carbon filter will be used. 55 gallon drum on site	A&D Environmental Services
рH	Groundwater	As Generated	If applicable, a portable granulated carbon filter will be used. 55 gallon drum on site	A&D Environmental Services
Lab	All	As Generated	See AES SOP WM 17001	Analytical Environmental Services Inc.

**Table 10A Sample Disposal** 

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable). Refer to Appendix D.



### **B5 Quality Control Requirements:**

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

## **B6 Field Instrument and Equipment Testing, Inspection and Maintenance**

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Not the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
HACH SenseION 156 Parameter Meter (ph, Con, temp, DO)	8228266	Check batteries, check buffer solutions, calibration, factory check, clean/change probe(s)	Monthly, change out daily as needed	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
HACH Colorimeter (turbidity)	010420015672	Check batteries, check buffer solutions, calibration, factory check,	Monthly, change out daily as needed	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
HANNA HI 991001 Parameter Meter (pH, Temp)	182298	Check batteries, check buffer solutions, calibration, factory check, clean/change probe(s)	Monthly, change out daily as needed	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
HANNA Dissolved Oxygen Meter	9142	Check batteries, check buffer solutions, calibration, factory check, clean/change probe(s)	Monthly, change out daily as needed	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
KECK Water Level Indicator	2185	Check batteries, clean probe	Weekly	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
KECK Oil Interface Probe	2011	Check batteries, clean probe	Weekly	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
Solonist Water Level Indicator	004602	Check batteries, clean probe	Weekly	Columbia Office, Supply Cabinet	CES Project Manager Daniel J. Fisher 540-798-5068
Laboratory Equipment	P. 195 AES QAP Apdx III Equipment List	p.122 AES QAP Section 10.0	AES QAP Section 10.0	AES QAP Section 10.0	Laboratory Personnel

**Table 11A Instrument and Equipment Maintenance** 



2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this:

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
HACH SenseION 156 Parameter Meter (ph, Con, temp, DO)	Calibration	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
HACH Colorimeter (turbidity)	Calibration	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
HANNA HI 991001 Parameter Meter (pH, Temp)	Calibration	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
HANNA Dissolved Oxygen Meter	Calibration	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
KECK Water Level Indicator	Preparatory Check	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
KECK Oil Interface Probe	Preparatory Check	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
Solonist Water Level Indicator	Preparatory Check	See CES SOP Section 2.10	Daniel J. Fisher CES Project Manager 540-798-5068	Use another meter
Laboratory Equipment	p.116 AES QAP Section 9.0	p.116 AES QAP Section 9.0	Laboratory Personnel	AES QAP Section 9.0

**Table 12A Instrument and Equipment Inspection** 



### **B7 Instrument Calibration and Frequency**

- 1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
- 2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
- 3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action	Person Responsible	SOP Reference*
			(57.)	,	11010101100
See CES SOP	See CES SOP Section	See CES SOP	See CES SOP	Daniel J. Fisher	See CES SOP
Section 2.10	2.10, pg 11, Daily	Section 2.10	Section 2.10	CES Project	Section 2.10
	Before Use			540-798-5068	
See CES SOP	See CES SOP Section	See CES SOP	See CES SOP	Daniel I Fisher	See CES SOP
Section 2.10	2.10, pg 11, Daily	Section 2.10	Section 2.10	CES Project	Section 2.10
	Before Use			Manager 540-798-5068	
See CES SOP	See CES SOP Section	See CES SOP	See CES SOP	Daniel I Fisher	See CES SOP
Section 2.10	2.10, pg 11, Daily	Section 2.10	Section 2.10	CES Project	Section 2.10
	Before Use			Manager 540-798-5068	
See CES SOP	See CES SOP Section	See CES SOP	See CES SOP		See CES SOP
			555 525 55.	Daniel J. Fisher CES Project	Section 2.10
Coolion 2.10		000000112.10	Geodon 2.10	Manager	Section 2.10
See CES SOP	1	See CES SOP	See CES SOP		See CES SOP
			333 323 33.	Daniel J. Fisher CES Project	Section 2.10
00000112.10	1	00000112.10	0000011 2:10	Manager 540-798-5068	Section 2.10
See CES SOP		See CES SOP	See CFS SOP		See CES SOP
					Section 2.10
	1	000000000000000000000000000000000000000	Codion 2.10	Manager 540-798-5068	OCCUPATION 2.10
See CES SOP	See CES SOP Section	See CES SOP	See CES SOP		See CES SOP
				Daniel J. Fisher CES Project	Section 2.10
2230011 2.10	Before Use	2533011 2.110	2333011 2.10	Manager 540-798-5068	3300011 Z. 10
See-AES QAP	See-AES QAP Section	See-AES QAP	See-AES OAP		See-AES QAP
					Section 9.0
	See CES SOP Section 2.10  See CES SOP Section 2.10  See CES SOP Section 2.10  See CES SOP Section 2.10  See CES SOP Section 2.10  See CES SOP Section 2.10  See CES SOP Section 2.10	Procedure  Calibration  See CES SOP Section 2.10  See CES SOP Section 2.10, pg 11, Daily Before Use  See CES SOP Section 2.10  See CES SOP Section 2.10  See CES SOP See CES SOP Section 2.10, pg 11, Daily Before Use  See CES SOP See CES SOP Section 2.10, pg 11, Daily Before Use  See CES SOP See CES SOP Section 2.10, pg 11, Daily Before Use  See CES SOP See CES SOP Section 2.10, pg 11, Daily Before Use  See CES SOP See CES SOP Section 2.10, pg 11, Daily Before Use  See CES SOP See CES SOP Section 2.10, pg 11, Daily Before Use  See CES SOP Section 2.10, pg 11, Daily Before Use  See CES SOP Section 3.10  Section 2.10  See CES SOP Section 3.10, pg 11, Daily Before Use  See CES SOP Section 3.10, pg 11, Daily Before Use  See CES SOP Section 3.10, pg 11, Daily Before Use  See-AES QAP Section Sec-AES QAP Section	Procedure         Calibration         Criteria           See CES SOP         See CES SOP Section         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10           Before Use         See CES SOP         Section 2.10           See CES SOP         Sec CES SOP Section         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10           Before Use         See CES SOP         Section 2.10           See-AES QAP         See-AES QAP         See-AES QAP	Procedure         Calibration         Criteria         (CA)           See CES SOP         See CES SOP Section         See CES SOP         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP         See CES SOP           Section 2.10         2.10, pg 11, Daily         Section 2.10         Section 2.10           See CES SOP         See CES SOP Section         See CES SOP         See CES SOP           See CES SOP	Procedure         Calibration         Criteria         (CA)         Responsible for CA           See CES SOP         See CES SOP Section 2.10         See CES SOP Section 2.10         See CES SOP Section 2.10         Daniel J. Fisher CES Project Manager 540-798-5068           See CES SOP Section 2.10

**Table 13A Instrument Calibration Criteria and Corrective Action** 

<sup>\*</sup> This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.



## B8 Inspection/Acceptance Requirements for Supplies and Consumables

- 1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
- 2. Identify the individual(s) responsible for this.

ltem	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
			Conditions	Daniel J. Fisher
pH Buffer Solution	Fisher	Within expiration date	Cool Dry cobinet	
pri baller Solution	risilei	vviiiiiii expiration date	Cool. Dry cabinet	CES Project Manager 540-798-5068
Specific				
•	Fisher	NASAbin comination data	On all almost a bits of	Daniel J. Fisher
Conductivity	Fisher	Within expiration date	Cool, dry cabinet	CES Project Manager
Standard				540-798-5068
				Daniel J. Fisher
Nitrile Gloves	Clearwater	Sealed	Cool, dry room	CES Project Manager
V				540-798-5068
				William C. Ewing
Batteries	Any	Sealed	Cool, dry cabinet	Field Manager
				803-708-0079
				William C. Ewing
Bailers	Clearwater	Sealed (individually)	Cool, dry room	Field Manager
_				803-708-0079
				William C. Ewing
Bottles	Access Analytical	Sealed	Cool, dry room	Field Manager
				803-708-0079
				William C. Ewing
Nylon String	Clearwater	Sealed	Cool,dry room	Field Manager
				803-708-0079
				William C. Ewing
Coolers	Access Analytical	Sealed	Cool,dry room	Field Manager
			-	803-708-0079
Laboratory	AES	AES QAP Section 11.0	AES QAP Section	Laboratory Personnel (AES)
Equipment			11.0	& (AA)

**Table 14A List of Consumables and Acceptance Criteria** 



### **B9 Data Acquisition Requirements (Non-Direct Measurements)**

- 1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
- 2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
- 3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
Previous Assessment	Remedial efforts	Effectiveness of	
and Corrective Action	performed to date;	remedial strategy	
documentation	historic groundwater	implemented at the site,	
	elevations, historic	evaluate corrective	
	chemical concentrations,	action data collected;	
	historic well construction	determining well screen	
	logs, historic surveys,	intervals, total depths,	
	historic diagrams,	construction details,	
	historic topography,	property access, and	
	historic boring data.	historic summary tables.	

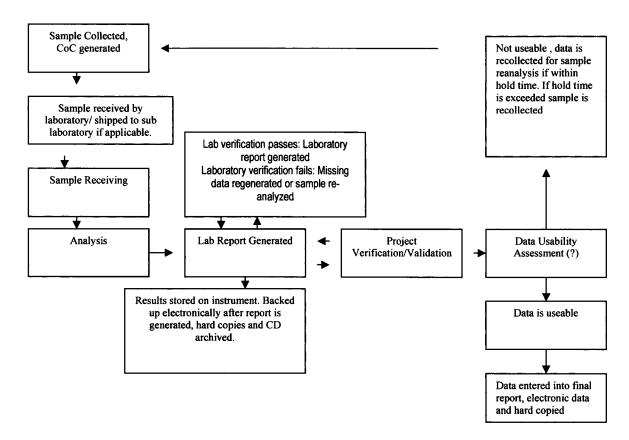
**Table 15A Non-Direct Measurements** 

4. Identify key resources/support facilities needed. Not applicable.



### **B10 Data Management**

Describe the data management scheme from field to final use and storage.



- 1. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records? Field data is kept in a dedicated notebook with no pages removed. All data (reports from the lab, field notes, drafts and final reports) are saved on the internal company server. Original field data hard copies are filed into relevant project folders and archived in filing cabinets. Report data, to include tables and figures, are verified from the original source by the CES Project Manager before the report is signed.
- 2. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted. Lab internal QA/QC checks and check sheets for all received coolers will determine if laboratory data is credible, or if the groundwater samples are suspect and new samples must be collected and reanalyzed. Laboratory supervisor will check all data before it leaves the laboratory. Laboratory data will be sent electronically to the environmental contractors of the USA for storage on their server.



3. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies). Hard copies will be maintained at the West Columbia office for five years. The electronic copies will be maintained for 25 years at the West Columbia office.

# Section C Assessment and Oversight C1 Assessment and Response Actions

- 1. Field Oversight: The Field Manager is responsible for ensuring SOPs to include equipment decontamination and calibration are properly conducted by the field staff. The Field Manager will be present and monitor the field staff every day that field activities occur. The Field Manager also is responsible for ensuring that field personnel adhere to the QAPP. If problems occur, the Field Manager will immediately contact the CES Project Manager to determine the appropriate corrective action. If the situation cannot be resolved on site, another visit will be scheduled to resample the wells. The Field Manager can stop work at any time. The Project Manager can decide if the sampling party will return to the office without completing sampling of all the monitoring wells. The Field Manager's observations will be submitted to the Project Manager on a daily basis.
- 2. Commercial Lab Offsite Technical Assessment: The supervisors for each section will review the procedures for another section of the laboratory on a monthly basis to check quality procedures. The Project QA Manager will conduct specific assessments for the methods addressed by this QAPP. Anyone may suspend work if a situation arises, but only the supervisor can stop work. The Laboratory QA Manager will report all observations to the Laboratory Director. SCDHEC has the right to inspect work at any time. This will be documented and kept as part of the project records.
- 3. Project Assessment: Assessment of project activities will be performed by the CES Project Manager. Field assessments will ensure that proper field methods are followed. At the end of each day of field activities, the Subcontractor Project Manager will review the work completed during that day with the Subcontractor Field Manager. If methods were not adequately followed, affected items will be corrected. If corrective action is implemented, the Subcontractor Project Manager or Project QA/QC Manager will verify that the corrective action was adequate and was properly documented.



### **C2** Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

### **Section D Data Validation and Usability**

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).



### **APPENDIX B:**

**Chain of Custody Template** 

LAB USE ONLY	Access An	alytical -	Chain of	Custo	dy Rec	ord Proje	ct Work Ord	er#	
Sales Order #	PO #		Access	Quote #		Labo	ratory ID: _		
Company Name:		ervative: e codes)					ø .	Access	
Report To:	Con	tainer Type: e codes)				0	•	Analytical	, Inc.
Address:					-		0		701 4043
City: State: Zip:		VSIS:				7478 Carli Irmo, SC 2			781-4243 781-4303
Phone: Fax:		ANALYSIS:				*Preservative C 0 = None, 1 = H 8 = Method 503	odes (place correspo CL, 2 = HNOs, 3 = H:S s set w/ NaHSOs & CF	nding # in block above 504, 4 = NaOH, 5 = Na HOH, 7 = NaOH/ZnO4	analysis field): a.S:O:, a.C. 8 = H.PO:
Email:		REQUESTED LAB				"Matrix Codes GW = ground w	place corresponding of the water, WW = waste water	code in matrix column) er, DW = drinking wate aste, WO = waste oil,	t: er, S = soll, OT = other
Project ID:	a again teach a said an an daoine in an daoine an an an an an an an an an an an an an	STE				(specify in comm	nents section) Codes: CWA = Clea	n Water Act (for waste	waters). SDWA =
Sampled By:						Safe Orinking W Wastes (for soil: *Container Typ	ater Act (for drinking v , ground waters and v	waters), SHW = Solid ( waste samples)	and Hazardous
Sample ID/Description Date Time Ty Collected: Collected:	wpe: Matrix: Program Ton						NOTES / C	COMMENTS  The below to note start/finise	h times & dates)
	Second)	oolecmo collected proferred							
		of continues of continues of continues of continues						,	
		collection analysis							
		of containers collected collected analysis							
		containes collected to per to							,
		odecad containers collected malpar							
		e of contrainers collected per per unalysis							
		oolected collected per per analysis							
		odiend collected per per malyste							
		oodingsoo							
Turnaround Time: Project Location:	Relinquishe	d By:	Received I	By:	Date (mm-dd-yy)	Time (24HR)	Samples Rec'd on Ice	Receip	mp. Upon st (°C):
StandardSCSC							YN	(-C)	(N/A
*Date Required:NC (For rush work, results							YN	(°C)	(N/A
emailed/faxed by end of business day on date required)							YN	(°C)	(N/A
(specify)							YN	(°C)	(N/A

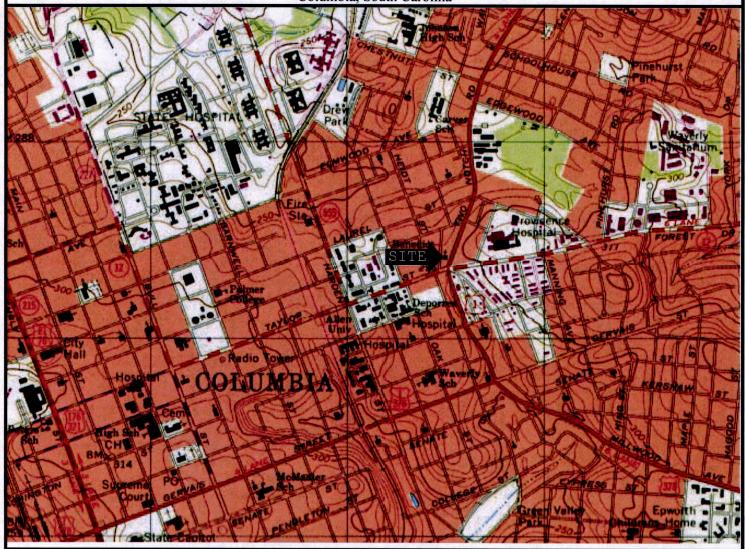


**APPENDIX C:** 

Site Figures

### FIGURE 1

Site Location Map
Handy Pantry #65 / University Mart / Clouds Chevron
Intersection of Taylor Street and Two Notch Road
Columbia, South Carolina



### CRAWFORD ENVIRONMENTAL SERVICES

15 Church Avenue, SW Roanoke Virginia, 24011

540-343-6256 (office) 540-343-6259 (fax)

### NORTH COLUMBIA, SOUTH CAROLINA

Source: U.S.G.S. Topographic Map of the Columbia North Quadrangle, Virginia,

7.5 Minute Series (1977, revised 1988)

Scale: 1:24,000 Contour Interval: 20 Feet Vertical Datum: National Geodetic Vertical Datum 1929

Horizontal Datum: North American Datum1927

Project: Corrective Action

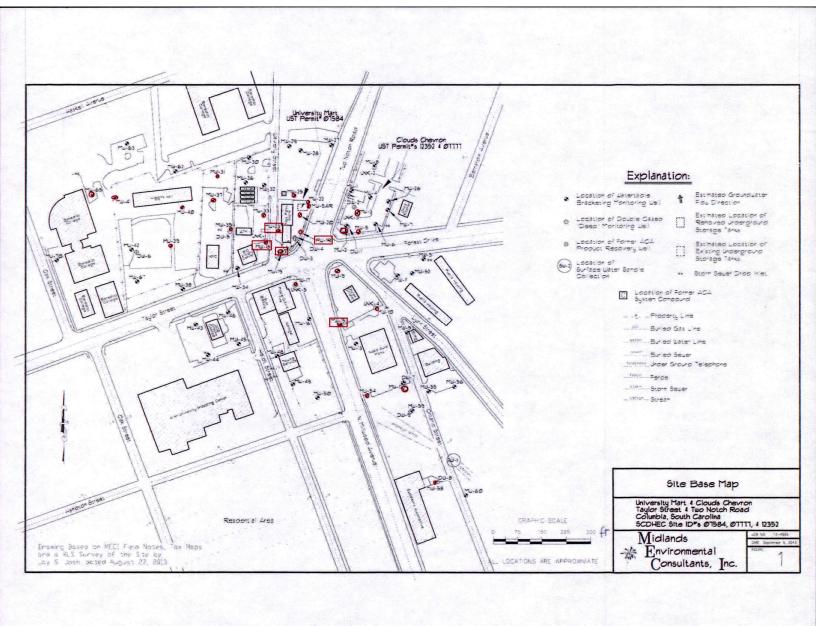
Plan

Client: SCDHEC

CES Job #: 7.0547



Latitude: 034"00'42.72"N Longitude: 081"01'00.13"W





### **APPENDIX D:**

Methodology – Ferrous Iron 14 pages

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#### APPROVAL OF ATTACHED DOCUMENT FOR IMPLEMENTATION

### NOTE: THIS IS A CONTROLLED ELECTRONIC DOCUMENT

### PRINTED COPIES OF THIS DOCUMENT ARE UNCONTROLLED ORIGINAL SIGNED DOCUMENT RESIDES IN AES QA OFFICE

DOCUMENT TITLE: STANDARD OPERATING PROCEDURES FOR DETERMINING FERROUS IRON (Fe<sup>+2</sup>) BY STANDARD METHODS 3500Fe B (20th Edition)

**DOCUMENT CONTROL NUMBER: Rev. 6** 

**DOCUMENT DISTRIBUTION NUMBER: GL-08102** 

ELECTRONIC DOCUMENT LOCATION AES Portal Server: http://portal/Procedures/Standard Operating Procedures

The attached Document has been reviewed by the individuals listed below. By signature, each of these individuals acknowledges that the document is ready for distribution, in a controlled manner, to all responsible parties for use and/or reference.

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By signature below the following employees of Analytical Environmental Services, Inc. have approved this document for distribution.

Technical Director: Oaxa B. Jiii

Laboratory Manager:

Quality Assurance Manager:

Date: 6/28/10

Date: 6/28/10

Date: 6/28/10

Department Supervisor:

Date: 6/28/10

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# STANDARD OPERATING PROCEDURES FOR DETERMINING FERROUS IRON (Fe $^{+2}$ ) BY STANDARD METHODS 3500Fe B (20 $^{th}$ Edition)

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### 1.0 SCOPE AND APPLICATION

This procedure is used to determine concentrations of Fe<sup>+2</sup> ions in water and ground water. Ferrous (dissolved) Iron is soluble in water. Dissolved levels of iron in waters may stain clothing and porcelain. In this regard, dissolved iron is more of a nuisance than a health hazard.

### 2.0 <u>SUMMARY OF METHOD</u>

- 2.1 Iron in the reduced state is treated with 1,10-Phenanthroline at a pH of 3.2 to 3.3. Three molecules of 1,10-Phenanthroline chelate one molecule of Fe<sup>+2</sup> to form an orange-red complex that is spectrophotmetrically measured at 510 nm. The amount of ferrous iron is calculated from a standard curve.
- 2.2. If Ferric Iron is desired, it can be calculated as the difference of the Total Iron result (analyzed by ICP) minus the result for the Ferrous Iron.

#### 3.0 INTERFERENCES

- 3.1 Strong oxidizing agents, cyanide, nitrite, phosphates, and common metals interfere with the test procedure. In addition, silver precipitates phenanthroline and causes low results.
- 3.2 The initial boiling with acid converts polyphosphates to orthophosphate and removes cyanides and nitrite that would otherwise interfere. Boiling the sample with hydroxylamine reduces soluble ferric iron to ferrous iron. Boiling should not be performed when measuring only ferrous iron. Adding excess hydroxylamine eliminates error caused by high concentrations of strong oxidizing reagents. In the presence of interfering metal ions, use a larger excess of phenanthroline to replace that complexed by the interfering metals.
- 3.3 If noticeable amounts of color or organic matter are present, it may be necessary to evaporate the sample, gently ash the residue and redissolve in acid. The ashing may be carried out in silica, porcelain, or platinum crucibles that have been boiled for several hours in 1+1 HCl.

### 4.0 SAMPLE COLLECTION, PRESERVATION, AND HOLDING TIMES

4.1 Samples should be analyzed the day they are received in the laboratory. They should not be acidified as this will solublize ferric iron. Ferrous iron has no holding time.

#### 5.0 REAGENTS AND STANDARDS

- 5.1 1,10-Phenanthroline. 0.1% purchase commercially.
- 5.2 200 mg/L Fe<sup>+2</sup> working standard:

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5.2.1 Slowly add 2mL of concentrated Sulfuric Acid to approximately 20mL of DI water in a 100mL volumetric flask..

- 5.2.2 Dissolve 0.1404g of Ferrous Ammonium Sulfate, Hexahydrate Fe(NH<sub>4</sub>)<sub>2</sub>(SO<sub>4</sub>)<sub>2</sub>•6H<sub>2</sub>O in the acidified water (5.2.1).
- 5.2.3 When the compound is dissolved, add 5 drops of 5% (5g/L) Potassium Permanganate to the dissolved Ferrous Ammonium Sulfate solution for preservation.
- 5.2.4 Dilute to 100 ml. The final concentration of this solution is 200 mg/L ferrous iron. This solution expires in 6 months.
- 5.3 10mL of 200mg/L to 100mL distilled water gives 20mg/L ferrous iron solution. This solution expires in 6 months.
- 5.4 Ammonium acetate buffer solution. Dissolve 250 grams NH<sub>4</sub>C<sub>2</sub>H<sub>3</sub>O<sub>2</sub> in 150 ml distilled water. Add 700 ml concentrated acetic acid.
- 5.5 Ferrous Iron Reagent (HACH).
- 5.6 Prepare a calibration curve from the following table.

Table 5-1
Calibration Standards for Ferrous Iron

ml Working Standard (5.3)	Final Volume (ml)	Fe <sup>+2</sup> Conc. (mg/l)
0.0	100	0
0.5	100	0.10
1.0	100	0.20
2.5	100	0.50
5.0	100	1.00
10	100	2.00

5.7 Vendor Information. Table 5-2 lists the chemicals used in the test method and where they can be purchased.

Table 5-2 Ferrous Iron Standards and Chemicals

	Manufacturer	Purity	Catalog Number
1,10-phenathroline	VWR	Pure	VW3443-2
Hydrochloric Acid	EM Science	Concentrated	HX0603-3
Ammonium Acetate	Alfa Aesar	0.1 Percent	B07L02
Ferrous Ammonium Sulfate	EM Science	Pure	FX0205-1

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Sulfuric Acid EM Science Concentrated 1244-5

### 6.0 APPARATUS AND MATERIALS

- 6.1 Spectrophotometer capable of reading 510 nm.
- 6.2 125-ml Erlenmeyer flasks
- 6.3 100-ml volumetric flasks
- 6.4 1,5,10-ml pipettes
- 6.5 25-ml volumetric flasks

#### 7.0 PROCEDURE

- 7.1 Sample backlog report.
  - 7.1.1 Each day the section supervisor reviews a backlog report. The log lists samples that are included in batches that have not been completed and closed in LIMS. IF A SAMPLE IS ON THIS LIST AND IT HAS BEEN ANALYZED, CHECK LIMS TO VERIFY THAT THE BATCH HAS BEEN CLOSED. Samples are listed on the work log in the order of due date.
    - 7.1.1.1 Any samples that are received in a "rush" status will have a chain of custody delivered to the section supervisor by the project manager.
    - 7.1.1.2 Prepare a written analysis log using the proper logbook that is kept in the supervisor's office. The following entries must be made in the log.
      - 7.1.1.2.1 Date and time that the batch is opened.
      - 7.1.1.2.2 All sample(s) included in the batch.
      - 7.1.1.2.3 Volume of samples analyzed.
      - 7.1.1.2.4 Analysis procedure employed.
      - 7.1.1.2.5 The initials of the analysts.
      - 7.1.1.2.6 Laboratory number of all reagents used including spiking standard.

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- 7.1.1.2.7 Volume of all reagents used including spiking standard.
- 7.1.1.2.8 Final volume of all concentrates.
- 7.1.1.2.9 Date and time the batch is closed.
- 7.1.1.2.10 Initials of all spike witnesses as appropriate.
- 7.2 Table 7-1 indicates the number and type of samples that comprise an analytical batch. Note: NELAC requirements specify that the maximum number of client samples in an analytical batch can not exceed 20. Further, a batch can not be left "open" for a period that exceeds 24 hours.

# Table 7-1 Samples required in an Analytical Batch

Method Blank (MB)/CCB LCS/CCV Client Samples MS and MSD LCS 2/CCV 2

Note that an opening and closing CCV/LCS must be included in the analytical "run". The concentrations of the two CCVs/LCSs must not be the same. It is suggested that the analyst alternate between a mid-range concentration and a low-range concentration each batch. If the % Recovery of the standard is between 85% and 115% the curve is considered valid and analysis can continue. If the % recovery is outside the limits a new curve must be analyzed

- 7.3 Turn on spectrophotometer, set wavelength to 510 nm and allow it to warm up for at least 15 minutes.
- 7.4 Fill out Ferrous Iron analysis Log Book page with all required information including reagent information.
- 7.5 Check and record pH of samples. Adjust pH with 0.5N HCL if needed. For MB and LCS acidify DI water.
- 7.6 Pour two 25 ml aliquots of each pH adjusted sample into two separate centrifuge tubes. One tube is for background reading the other for color development. For the sample to be used for MS and DUP, prepare two extra tubes. Use the same background tube for the sample, MS and DUP.
- 7.7 Prepare MB by adding one 25 ml aliquot of pH adjusted DI water to the centrifuge tube.

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7.8 Prepare LCS 1 (0.5mg/L) by adding 2.5 ml of 20mg/L Ferrous Iron standard to a 100mL volumetric flask and dilute to 100 ml with acidified DI water. Record Standard ID on Log Sheet.

- 7.9 Prepare LCS 2 (0.8mg/L) by adding 8 ml of 10mg/L Ferrous Iron standard to a 100mL volumetric flask and dilute to 100ml with acidified DI water. Record Standard ID on Log Sheet.
- 7.10 Prepare MS (0.5mg/L) by CAREFULLY adding 2.5 ml of 20mg/L Ferrous Iron stock solution to the 100mL volume flask containing 100ml of the sample to be spiked.
- 7.11 Add 5 ml NH<sub>4</sub>C<sub>2</sub>H<sub>3</sub>O<sub>2</sub> buffer solution to each tube and mix. Record reagent ID on Log Sheet.
- 7.12 Add 1 pack of Ferrous Iron reagent (HACH) and mix.
- 7.13 After 5 minutes and before 10 minutes, begin reading the absorbance of each background tube and the color developed tube at **510mn** using the square, **2.5 cm cell**. Background readings for MB and LCS/LCSD are not necessary. Record each absorbance reading on the Log Sheet.
- 7.14 Calculate Corrected Absorbance (Color Developed Absorbance Background Absorbance) and record on Log Sheet.
- 7.15 Calculate Final Ferrous Iron value as follows:

Ferrous Iron, mg/L = [(Corrected Abs. x Slope) + Intercept] x Dilution Factor.

- 7.15 Record Final Ferrous Iron value on the Log Sheet.
- 7.16 If any Ferrous Iron values are greater than the highest standard on the Calibration Curve, sample must be diluted and reanalyzed, **INCLUDING DILUTED BACKGROUND READING**.

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## Table 7-2 Checklist for Ferrous Iron Analysis by SM3500

 Turn on spectrophotometer, set wavelength to 510 nm and allow it to warm up for at least 15 minutes.
 Fill out Ferrous Iron analysis Log Book page with all required information including reagent information.
 Check and record pH of samples. Adjust pH with 0.5N HCL if needed. For MB and LCS acidify DI water.
 Pour two 25 ml aliquots of each pH adjusted sample into two separate centrifuge tubes. One tube is for background reading the other for color development. For the sample to be used for MS and DUP, prepare two extra tubes. Use the same background tube for the sample, MS and DUP.
 Prepare MB by adding one 25 ml aliquot of pH adjusted DI water to the centrifuge tube.
 Prepare LCS 1 (0.5mg/L) by adding 2.5 ml of 20mg/L Ferrous Iron standard to a 100ml volumetric flask and dilute to 100 ml with acidified DI water. Record Standard ID on Log Sheet.
 Prepare LCS 2 (0.8mg/L) by adding 8 ml of 10mg/L Ferrous Iron standard to a 100ml volumetric flask and dilute to 100ml with acidified DI water. Record Standard ID on Log Sheet.
 Prepare MS (0.5mg/L) by CAREFULLY adding 2.5 ml of 20mg/L Ferrous Iron stock solution to the volumetric flask containing 100ml of the sample to be spiked.
 Add 5 ml NH <sub>4</sub> C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> buffer solution to each tube and mix. Record reagent ID on Log Sheet.
 Add 1 pack of Ferrous Iron reagent (HACH) and mix.
 After 5 minutes and before 10 minutes, begin reading the absorbance of each background tube and the color developed tube at <b>510mn</b> using the square, <b>2.5 cm cell</b> . Background readings for MB and LCS/LCSD are not necessary. Record each absorbance reading on the Log Sheet.
 Calculate Corrected Abs (Color Dev. Abs – Bkgd. Abs) and record on Log Sheet.
 Calculate Final Ferrous Iron value as follows:
Ferrous Iron, mg/L = [(Corrected Abs x Slope) + Intercept] x Dilution Factor.
 Record Final Ferrous Iron value on the Log Sheet.
 If any Ferrous Iron values are greater than the highest standard on the Calibration Curve, sample must be diluted and reanalyzed. INCLUDING DILUTED BACKGROUND READING.

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## 8.0 QUALITY ASSURANCE REQUIREMENTS

8.1 Each person using this procedure is required to comply with the formal quality control program specified by AES. The minimum requirements of this program consist of an initial demonstration of capability, and the periodic analysis of laboratory reagent blanks, fortified blanks, and other laboratory solutions as a continuing check on performance. The laboratory, through the analyst, is required to maintain performance records that define the quality of the data that are generated. Detailed quality assurance procedures can be found in SOP# QA-01000, "Quality Assurance Manual," Section 5. Subsequent sections define portions of the quality control program.

- 8.1.1 Demonstration of Capability. Each analyst must demonstrate proficiency for each method performed by performing Initial Demonstration of Capability (IDOC) prior to unsupervised analysis of analytical samples and Continuing Demonstration of Capability (CDOC) at least annually. Detailed descriptions of IDOC and CDOC requirements and acceptance limits can be found in Section 5 of SOP#QA-01000, "Quality Assurance Manual".
- 8.1.2 Calibration of the HACH spectrophotometer. This is accomplished through a 5-point calibration curve. The correlation coefficient must be ≥0.99 for the calibration curve to be acceptable.
- 8.1.3 Method Detection Limit Study. The method detection limit is calculated by analyzing at least seven replicates prepared in blank water at concentrations 1 to 5 times higher than the estimated detection limit. Quantitation limits are laboratory derived from the MDL study data set. MDL's are to be performed annually or whenever instrument conditions have changes that will affect the established detection limits.
- 8.1.4 Method blank. Reagent blank analyses must be performed at the following frequency: Every twenty (20) samples of similar concentration and/or sample matrix or whenever samples are extracted and analyzed by the same procedure at same time, whichever is more frequent. The concentration of the method blank of any analyte of interest should not exceed the laboratory established practical quantitation limit (PQL).
- 8.1.5 Laboratory control sample (LCS). The Laboratory Control Sample (LCS) is used to monitor, assess, and document laboratory method performance and is performed on every batch or twenty samples, whichever occurs more frequently. The recovery of the analytes must meet established laboratory guidelines as defined in Section 5 of SOP# QA-01000, "Quality Assurance Manual".
- 8.1.6 Sample spike and duplicate spike. Matrix spikes and matrix spike duplicates are used to determine the effect of the sample matrix on the recovery of analytes, and are analyzed for each analytical batch up to 20 samples. The recovery of the

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analytes must meet established laboratory guidelines as defined in Section 5 of SOP# QA-01000, "Quality Assurance Manual".

- 8.2 Out of Control Conditions and Corrective Actions. Contingencies for handling out-of-control or unacceptable data are included in Section 5 of SOP# QA-01000, "Quality Assurance Manual". The tables in this section include corrective actions for failing QC and/or acceptance criteria.
- 8.3 Documentation of data. Document and record all analytical sequence, standard preparation, instrument maintenance, and any procedural deviations in appropriate logbooks.

### 9.0 <u>HEALTH & SAFETY REQUIREMENTS</u>

- 9.1 Health and Safety: Safety glasses and latex type gloves must be worn at all times when dealing with any chemicals, samples, or reagents. A lab coat is also highly recommended. Close-toed shoes and clothing that covers the legs (no shorts or dresses) must be worn any time an analyst is working in the laboratory.
- 9.2 The toxicity or carcinogenicity of each reagent used in this method has not been fully established. Each chemical should be regarded as a health hazard and exposure should be as kept low as reasonably possible. All health and safety concerns for any chemicals are listed in the Material Safety Data Sheets (MSDS) provided by the supplier or manufacturer of these chemicals. A copy of any MSDS is available for review at any time.
- 9.3 Proper disposal of all wastes is essential. Containers are provided for all waste according to the type. Section 17 of the Quality Assurance Manual discusses the disposal of various laboratory wastes in detail. Also, see Section 14.0 Pollution Management.

#### 10.0 DATA REPORTING

- 10.1 Report results to three significant digits.
- 10.2 Current MDLs for all parameters may be found in Section 5 of SOP# QA-01000, "Quality Assurance Manual".
- 10.3 Out-Of-Control Data Contingencies for handling out-of-control or unacceptable data are included in SOP #QA-01000, "Quality Assurance Manual" in Section 5 including corrective actions for failing QC and/or acceptance criteria.
- 10.4 The estimated MDL for this test procedure is 0.01 mg/L.

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## 11.0 FILE MAINTENANCE

Data from this test is stored in logbooks. When the logbooks are complete, they are scanned and stored on the portal server for a period of 5 years.

- 11.2 New logbooks are either created or retired through the QA Manager.
- 11.3 Data is entered into the LIMS by the analyst performing the work

### 12.0 INSTRUMENT MAINTENANCE

12.1 Instrument logbooks. Instrument logbooks must be completed each time maintenance is performed on the instrument.

Each instrument logbook must have a cover page that includes the following information.

Equipment name. Example: GC-5

Manufacturers name. Example: Hewlett Packard 6890 GC

Serial Number. Example: 13226589A Date Received. Example: 11/01/00

Date Placed into Service. Example: 11/05/00

- 12.2 Non-routine maintenance: Typical non-routine maintenance consists of the replacement of circuit boards and other items not associated with typical maintenance. Non-routine maintenance is performed when a system component malfunctions.
- 12.3 When non-routine maintenance is required, contact the Section Supervisor. The Section Supervisor will complete a maintenance request form and submit the same to the VP of Technical Services.

#### 13.0 METHOD PERFORMANCE

- 13.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero. The reporting limit RL is defined as the concentration of a substance that is above the level of uncertainty. The concentrations listed in the table in Section VIII were obtained using reagent water. Similar results can be achieved using representative wastewaters. The MDL actually achieved is a given analysis will vary depending on instrument sensitivity and matrix effects.
- 13.2 A synthetic sample containing 300 μg/l ferric iron per liter, 500μg Al/L, 50 μg Cd/L, 110 μg Cr/L, 470 μg Cu/L, 70 μg Pb/L, 120 μg Mn/L, 150 μg Ag/l, 650 μg Zn/L in distilled water was analyzed in 44 laboratories by the phenanthroline method with a relative standard deviation of 25.5% and a relative error of 13.3%.

SOP No.: GL-08102
Date Initiated: 12/98
Date Revised: 06/10
Revision No.: 6

Page No.:

Page 13 of 14

#### 14.0 POLLUTION MANAGEMENT

14.1 All laboratory analysis generates wastes. Some wastes can be hazardous such as acidic wastes, alkaline wastes, metal bearing wastes, and organic wastes.

- 14.2 Some wastes are generated because of the test procedure such as organic extractions and acid digestions.
- 14.3 The following procedures should be adhered to when disposing of hazardous wastes.
  - 14.3.1 Wastes with pH levels above 12 or less than 4 should be neutralized prior to disposal.
  - 14.3.2 Wastes with other pH levels may be directly discharged into the sinks.
  - 14.3.3 SOP HS-03005 Waste Disposal and SOP SR-09002 Sample Receiving further discuss methods for disposal of samples and waste materials. Additional information can also be found in the QA Manual.
- 14.4 When disposing of laboratory wastes, the waste disposal log must be completed. To complete this log, supply the following information.

Sample Number Method of disposal and treatment prior to disposal Date of sample disposal Name of person performing the disposal duty

### 15.0 **DEFINITIONS**

- 15.1 Primary Grade –A dry chemical that has been dried at 250°C for 4 hours cooled and stored in a desiccator.
- 15.2 LCS Laboratory Control Check Standard. A known amount of sought for analyte is added to distilled water or clean soil and the concentration is measured after all procedures are applied to the sample. The resulting determined concentration must fall within test specified limits.
- 15.3 DI water- Deionized water
- 15.4 RSD Relative Standard Deviation
- 15.5 RF Response factor. Determined as the concentration of a sample divided by the chromatographic area of the peak produced by the sample.

SOP No.: GL-08102 Date Initiated: 12/98 Date Revised: 06/10

Revision No.:

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15.6 MS- Matrix Spike. Procedure where a known amount of sought for analyte is added to a sample and the resulting concentration measured. The recovery is defined as the measured result of the spiked sample less the concentration of the same analyte in the unspiked sample multiplied by 100 percent.

- 15.7 MSD- Matrix Spike Duplicate.
- 15.8 CCV Continuing calibration verification standard. Must be varied thoughout the daily runs, that is the concentration must be low, middle, and sometimes at the upper end of the calibration curve.
- 15.9 ICV Initial calibration verification standard. This standard must be prepared from a second source than that used for the calibration curve. That is, it must be from a different manufacturer or lot that the calibration standard.
- 15.10 LCSD Laboratory Check Standard Duplicate

### 16.0 REFERENCES

- 16.1 Standard Methods for the Examination of Water and Wastewater, Method 3500-Fe B, "Phenanthroline Method", 1998, 20<sup>th</sup> Edition.
- 16.2 Code of Federal Regulations, 40CFR part 136, Appendix B.

#### 17.0 VALIDATION DATA

- 17.1 Method validation data in the form of MDL study data when applicable is available at AES Portal Server: <a href="http://home/aes/Quality Assurance/MDL">http://home/aes/Quality Assurance/MDL</a>.
- 17.2 Method validation data in the form of IDOC/CDOC study data when applicable is available at AES Portal Server: <a href="http://home/aes/Technical Management/Demonstrations">http://home/aes/Technical Management/Demonstrations</a> of Capability and SOP Sign Forms.



## PUBLIC NOTICE

Notice #07584-07777-12352-01 March 31, 2014



This notice is to inform the public that the S. C. Department of Health and Environmental Control (Agency) is taking public comments on a Corrective Action Plan (CAP). This CAP addresses the cleanup of soil and groundwater contamination at the facility listed below. The contamination was caused by Petroleum Products that were released from the underground storage tank system at these facilities.

FACILITY: UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC

Release #1 reported January 30, 1991 Release #2 reported April 17, 1998

UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC

Release reported December 31, 1991 UST Permit # 12352, Clouds Chevron Release reported December 30, 1991

APPLICANT: Crawford Environmental Services, 15 Church Avenue SW, Roanoke, VA 24011 on behalf of ACME Petroleum and Fuel Company, 543 Cox Road, Ste C, Gastonia, NC 28054 (University Mart UST#07584); Wallace M. Scott, 76 Whiteford Way, Lexington, SC 29072 (Clouds Chevron UST# 07777), and Jack and Alexandria Lee, 3733 Greenbriar Drive, Columbia, SC 29206 (Clouds Chevron UST#12352).

SUMMARY OF CAP: Petroleum and petroleum byproducts naturally break down over time through chemical, physical, and biological processes. These processes are called natural attenuation. Crawford Environmental Services has submitted a CAP proposing the use of the following technologies in addition to natural attenuation to clean up the contamination.

- Aggressive Fluid Vapor Recovery: A high-pressure vacuum is attached to recovery wells; it removes petroleum vapors, contaminated groundwater, and the petroleum product.
- Air Sparging & Soil Vapor Extraction: Air is pumped underground to evaporate petroleum products. The chemicals are removed using a vacuum system.
- Chemical Oxidation: Oxygen-rich chemicals are injected underground to change the petroleum product(s) into harmless compounds (water and carbon dioxide).
- Bioremediation: Microorganisms that live underground eat the petroleum product(s) and convert the product to water and carbon dioxide. Air and nutrients will be injected underground to assist the microbes in removing the petroleum product(s).

PUBLIC COMMENT PERIOD DEADLINE: The deadline for submitting written comments is 5 PM April 30, 2014. Any interested person(s) may submit written comments concerning the cleanup to the Project Manager listed below. Please bring this notice to the attention of persons whom you know will be interested in this matter. Where there is a significant degree of public interest, the Agency will hold a public hearing.

John C. Bryant SCDHEC - UST Management Division 2600 Bull Street Columbia SC 29201 803-898-0606

**CONTACT INFORMATION:** For additional information, please call the Project Manager listed above. To view a copy of the CAP, contact the Freedom of Information Office at 803-898-3882.

Section 280.67 of the S.C. Underground Storage Tank Control Regulations (R.61-92) requires that any CAP prepared to meet the requirements of 280.66 be placed on notice for public comment.



Promoting and protecting the health of the public and the environment

ALLEN UNIVERSITY 1530 HARDEN STREET COLUMBIA, SC 29204

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

**Richland County** 

To Whom It May Concern:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. The installation of recovery/ injection wells on your property may be necessary as part of the corrective action. Additionally, periodic sampling of the monitoring wells on your property will be necessary. CES is required to coordinate any activity on your property with you. Your continued cooperation is appreciated.

If you have any questions or comments regarding the proposed corrective action, please contact me by phone at (803) 898-0606, by fax at (803) 898-0673, or by email at bryantjc@dhec.sc.gov. All comments should be submitted on or before April 30, 2014.

Sincerely,

111

John C. Bryant, Hydrogeologist Corrective Action Section UST Management Division Bureau of Land and Waste Management

enc:

**Public Notice** 

Citizens Guide

cc:



Promoting and protecting the health of the public and the environment

## COLUMBIA GROCERY INC 1510 ONTARIO STREET COLUMBIA, SC 29204

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

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Sincerely.

John C. Bryant, Hydrogeologist Corrective Action Section

**UST Management Division** 

Bureau of Land and Waste Management

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Promoting and protecting the health of the public and the environment

MR ANDREW DIGGINGS PROVIDENCE HOSPITAL 2345 FOREST DRIVE COLUMBIA, SC 29204

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

Dear Mr. Diggins:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

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Sincerely,

John C. Bryant, Hydrogeologist

Corrective Action Section UST Management Division

1-1 -

Bureau of Land and Waste Management

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Promoting and protecting the health of the public and the environment

## MILLWOOD AVENUE LLC 1330 DEVONSHIRE DRIVE COLUMBIA, SC 29204

MAR 2 7 2014

Re: Public Notice of Proposed Corrective Action

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

**Richland County** 

To Whom It May Concern:

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Sincerely,

John C. Bryant, Hydrogeologist Corrective Action Section

UST Management Division

Bureau of Land and Waste Management

enc: Public Notice

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Promoting and protecting the health of the public and the environment

MR LAU FUNG 2300 TAYLOR STREET, STE D COLUMBIA, SC 29204

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

Dear Mr. Fung:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

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Sincerely,

111

John C. Bryant, Hydrogeologist Corrective Action Section UST Management Division Bureau of Land and Waste Management

enc:

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cc:



Promoting and protecting the health of the public and the environment

## MR CHANG MOON SUENG 2358 TAYLOR STREET COLUMBIA, SC 29204

MAR 2 7 2014

Re: Public Notice of Proposed Corrective Action

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

Dear Mr. Sueng:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

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Sincerely,

John C. Bryant, Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

enc: Public Notice

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cc: Technical File (w/ PN)



Promoting and protecting the health of the public and the environment

## TAYLOR STREET LLC 200 GAULEY DRIVE COLUMBIA, SC 29212

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

To Whom It May Concern:

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Sincerely,

John C. Bryant, Hydrogeologist

Corrective Action Section

**UST Management Division** 

Bureau of Land and Waste Management

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Public Notice

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Promoting and protecting the health of the public and the environment

## SYLVAN FOOD SYSTEMS, INC 1245 BOSTON AVENUE WEST COLUMBIA, SC 29170

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

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Sincerely,

John C. Bryant, Hydrogeologist Corrective Action Section

UST Management Division

Bureau of Land and Waste Management

enc:

Public Notice Citizens Guide

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Promoting and protecting the health of the public and the environment

MS BETTE G BATEMAN C/O JESSE T REESE PO BOX 1026 COLUMBIA, SC 29201

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

Dear Ms. Bateman:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

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Sincerely,

John C. Bryant, Hydrogeologist

Corrective Action Section UST Management Division

1-1-

Bureau of Land and Waste Management

enc:

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cc:



Promoting and protecting the health of the public and the environment

MR MAHESH PATEL FAST POINT FOOD STORES 2811 REIDVILLE ROAD, STE 11 SPARTANBURG, SC 29301

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

Dear Mr. Patel:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

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Sincerely,

John C. Bryant, Hydrogeologist Corrective Action Section

UST Management Division

(-(

Bureau of Land and Waste Management

enc:

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Citizens Guide

cc:



Promoting and protecting the health of the public and the environment

ATTN: DR DAVID H SWINTON BENEDICT COLLEGE 1600 HARDEN STREET COLUMBIA, SC 29204

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

Dear Dr. Swinton:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

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Sincerely,

John C. Bryant, Hydrogeologist

Corrective Action Section UST Management Division

1-15

Bureau of Land and Waste Management

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cc:



Promoting and protecting the health of the public and the environment

ATTN: MR GILBERT WALKER COLUMBIA HOUSING AUTHORITY PO BOX 4307 COLUMBIA, SC 29204

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

Dear Mr. Walker:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

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Sincerely,

John C. Bryant, Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

enc:

**Public Notice** 

Citizens Guide

cc:



Promoting and protecting the health of the public and the environment

MS LINDA WARREN 1527 LYON STREET COLUMBIA, SC 29204

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

Dear Ms. Warren:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. The installation of recovery/ injection wells on your property may be necessary as part of the corrective action. Additionally, periodic sampling of the monitoring wells on your property will be necessary. CES is required to coordinate any activity on your property with you. Your continued cooperation is appreciated.

If you have any questions or comments regarding the proposed corrective action, please contact me by phone at (803) 898-0606, by fax at (803) 898-0673, or by email at bryantjc@dhec.sc.gov. All comments should be submitted on or before April 30, 2014.

Sincerely,

John C. Bryant, Hydrogeologist Corrective Action Section

UST Management Division

Bureau of Land and Waste Management

enc: Public Notice

Citizens Guide

cc: Technical File (w/ PN)



MR JOE T SUDDETH 302 BIDDLE ROAD COLUMBIA, SC 29212

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

UST Permit # 07777 & 12352

Corrective Action Plan Received March 24, 2014

Richland County

Dear Mr. Suddeth:

As you are aware, petroleum products have been identified in the soil and groundwater at the former University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services, Inc. (CES) has been retained to initiate corrective action of the impacted soil and groundwater. CES has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by CES. Please contact me if you do not receive the CAP.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. The installation of recovery/ injection wells on your property may be necessary as part of the corrective action. Additionally, periodic sampling of the monitoring wells on your property will be necessary. CES is required to coordinate any activity on your property with you. Your continued cooperation is appreciated.

If you have any questions or comments regarding the proposed corrective action, please contact me by phone at (803) 898-0606, by fax at (803) 898-0673, or by email at bryantjc@dhec.sc.gov. All comments should be submitted on or before April 30, 2014.

Sincerely,

John C. Bryant, Hydrogeologist Corrective Action Section

UST Management Division

Bureau of Land and Waste Management

enc:

Public Notice

Citizens Guide

cc:



JACK AND ALEXANDRIA LEE 3733 GREENBRAIR DRIVE COLUMBIA, SOUTH CAROLINA 29206

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

**UST Permit # 12352** 

Corrective Action Plan Received March 24, 2014

Richland County

Dear Mr. Lee:

As you are aware, petroleum products have been identified in the soil and groundwater at the University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services has been retained to initiate corrective action of the impacted soil and groundwater. Crawford Environmental Services has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by Crawford Environmental Services. Please contact me if you do not receive the CAP.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. The installation of recovery/ injection wells is necessary as part of the corrective action. Crawford Environmental Services is required to coordinate all activities with the affected property owners. Your continued cooperation is appreciated.

If you have any questions or comments regarding the proposed corrective action, please contact me by phone at (803) 898-0606, by fax at (803) 898-0673, or by email at bryantjc@dhec.sc.gov. All comments should be submitted on or before April 30, 2014.

Sincerely,

John C. Bryant, Hydrogeologist Corrective Action Section

UST Management Division

Bureau of Land and Waste Management

enc:

Public Notice Citizens Guide

cc:



WALLACE M. SCOTT 76 WHITEFORD WAY LEXINGTON, SOUTH CAROLINA 29072

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

Clouds Chevron, 1600 Two Notch Road, Columbia, SC

**UST Permit** # 07777

Corrective Action Plan Received March 24, 2014

Richland County

Dear Mr. Scott:

As you are aware, petroleum products have been identified in the soil and groundwater at the University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services has been retained to initiate corrective action of the impacted soil and groundwater. Crawford Environmental Services has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by Crawford Environmental Services. Please contact me if you do not receive the CAP.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. The installation of recovery/ injection wells is necessary as part of the corrective action. Crawford Environmental Services is required to coordinate all activities with the affected property owners. Your continued cooperation is appreciated.

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Sincerely,

John C. Bryant, Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

enc:

**Public Notice** 

Citizens Guide

cc:



ACME PETROLEUM AND FUEL COMPANY 543 COX ROAD STE C **GASTONIA, NORTH CAROLINA 28054** 

MAR 2 7 2014

Re:

**Public Notice of Proposed Corrective Action** 

University Mart, 2367 Taylor Street, Columbia, SC

UST Permit # 07584; Release 1 and 2

Corrective Action Plan Received March 24, 2014

Richland County

To Whom It May Concern:

As you are aware, petroleum products have been identified in the soil and groundwater at the University Mart and Clouds Chevron facilities. To prevent the release from becoming an unacceptable risk, Crawford Environmental Services has been retained to initiate corrective action of the impacted soil and groundwater. Crawford Environmental Services has submitted a Corrective Action Plan (CAP) for surfactant injection and vacuum extraction, in-situ chemical oxidation, and nutrient and biological injections in addition to natural attenuation. A copy of the CAP has been sent to you by Crawford Environmental Services. Please contact me if you do not receive the CAP.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. The installation of recovery/ injection wells is necessary as part of the corrective action. Crawford Environmental Services is required to coordinate all activities with the affected property owners. Your continued cooperation is appreciated.

If you have any questions or comments regarding the proposed corrective action, please contact me by phone at (803) 898-0606, by fax at (803) 898-0673, or by email at bryantic@dhec.sc.gov. All comments should be submitted on or before April 30, 2014.

Sincerely,

John C. Bryant, Hydrogeologist

Corrective Action Section **UST Management Division** 

Bureau of Land and Waste Management

enc:

Public Notice Citizens Guide

cc:



## MR CHARLES F. CRAWFORD, III CRAWFORD ENVIRONMENTAL SERVICES 104 CORPORATE BLVD STE 412 WEST COLUMBIA SC 29169

MAR 2 7 20141



Re:

**Corrective Action Award** 

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC
Release #1 reported January 30, 1991; CA#47811
Release #2 reported April 17, 1998; CA#47812
UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 31, 1991; CA#47813
UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 30, 1991; CA#47814
Contract #IFB-5400007095-1/30/2014-EMW; PO # 4600322226
Richland County

Dear Mr. Crawford:

As you are aware, the Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control has determined that active corrective action is necessary at the referenced facility. On January 7, 2014, you were awarded the corrective action contract in the amount of \$540,000.00, which will be funded by the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Per contract requirements, the Quality Assurance Project Plan (QAPP) for the Initial Monitoring Report must be submitted within 15 days of the award date (Received March 21, 2014), the corrective action plan with a QAPP Addendum for corrective action must be submitted within 30 days of the award date (Received March 24, 2014), and the Initial Monitoring Report must be submitted within 45 days of the QAPP Addendum approval date (on or before May 25, 2014). A signed copy of the Right-of-Entry and the approved QAPP addendum for the referenced facility is enclosed. Please coordinate with each landowner for access and keep any inconveniences to the affected landowners to a minimum. Please also note that in accordance with contract specifications, copies of all plans and reports should be sent to all affected property owners listed in the bid solicitation appendix.

If you have any questions or need additional information, please contact me at (803) 898-0606 or bryantjc@dhec.sc.gov.

Sincerely,

John C. Bryant, Hydrogeologist

Corrective Action Section

**UST Management Division** 

Bureau of Land and Waste Management

enc:

Cost Agreements
Right of Entry

Signed QAPP Addendum

cc:

Richard E. Fay, 2020 Charlotte Plaza, 201 South College St., Charlotte NC 28244-2020 (w/o enc) Mr. Pete Overton, Acme Petroleum and Fuel Company, 543 Cox Rd. Ste. C, Gastonia SC 28054 (w/o enc)

Mr. Mahesh Patel, Fast Point Food Stores, 2811 Reidville Rd. Ste. 11, Spartanburg SC 29301-3227 (w/o enc)

Mrs. Wallace Scott, 76 Whiteford Way, Lexington SC 29072 (w/o enc)

Mr. Andrew Diggins, Providence Hospital, 2345 Forest Dr., Columbia SC 29204 (w/o enc)

Ms. Bette Gordon Bateman, c/o Jesse T. Reese, PO Box 1026, Columbia, SC 29201 (w/o enc)

W.L. Boyd III, 455 Alexander Cir., Columbia SC 29206 (w/o enc)

James A. & Marilyn L. Bundrick, 217 Palmer Dr., Lexington SC 29072 (w/o enc)

Mr. James Morrison Jr., 1014 Laurens St., Columbia SC 29201 (w/o enc)

Pope D. Johnson III, McCutchen Blanton Johnson & Barnette LLP, PO Drawer 11209, Columbia SC 29211-1209 (w/o enc)

Mr. Joe T. Suddeth, 302 Biddle Rd., Columbia SC 29212 (w/o enc)

Chang Moon Sueng, 2358 Taylor St., Columbia SC 29204 (w/o enc)

Dr. David H. Swinton, Benedict College, 1600 Harden St., Columbia SC 29204 (w/o enc)

Sylvan Food Systems Inc., 1245 Boston Ave., West Columbia SC 29170 (w/o enc)

Ms. Linda Warren, 1527 Lyon St., Columbia SC 29204 (w/o enc)

Gilbert Walker, Columbia Housing Authority, PO Box 4307, Columbia SC 29204 (w/o enc)

Technical Files (w/o enc)



April 11, 2014

(BOW-GWPROT-CAW) Mr. Charles F. Crawford Crawford Environmental Services, Inc. 15 Church Ave, SW Roanoke, VA 24011

Re:

Dear Mr. Crawford:

Underground Injection Control Permit #SCHE03020184M Cloud's Chevron/Handy Panty #65/University Mart Site Richland County

Enclosed is a Permit to Construct for six (6) Class VA-I injection wells at the Cloud's Chevron/Handy Panty #65/University Mart Site, Richland County as requested in the permit application received March 27, 2014.

South Carolina Board of Health and Environmental Control Guide to Board Review Pursuant to S.C. Code Ann. § 44-1-60 Effective April 1, 2013

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of \$100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference.

#### I. Filing of Request for Final Review

- 1. A written Request for Final Review (RFR)and the required filing fee of one hundred dollars (\$100) must be received by Clerk of the Board within fifteen (15)calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15<sup>th</sup> day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
- 2. RFRs shall be in writing and should include, at a minimum, the following information:
  - The grounds for amending, modifying, or rescinding the staff decision;
  - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
  - the relief requested; and
  - a copy of the decision for which review is requested.

3. RFRs should be filed in person or by mail at the following address:

South Carolina Board of Health and Environmental Control

Attention: Clerk of the Board

2600 Bull Street

Columbia, South Carolina 29201

Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).

- 4. The filing fee maybe paid by cash, certified check or credit card. If a RFR is filed by facsimile or electronic mail, the filing fee may be mailed to the Clerk of the Board and the envelope must be postmarked within the time allowed for filing a RFR.
- 5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
- 6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor.
- 7. The Clerk will email the RFR to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. A copy of the Notice of Appeal Procedure will be included with the letter.

NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.

8. If the RFR is to be considered by the RFR Committee, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response to the RFR should be provided by Department staff to the Clerk within eight (8) working days after the RFR is forwarded.

#### II. Final Review Conference Scheduling

- 1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.
- 2. The Clerk will request Department staff provide the Administrative Record.
- 3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publicly noticed and should:
  - include the place, date and time of the Conference;
  - state the presentation times allowed in the Conference;
  - state evidence may be presented at the Conference;
  - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
  - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
- 4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

#### III. Final Review Conference and Decision

- 1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
  - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
    - Type of decision (permit, enforcement, etc.) and description of the program.
    - Parties
    - Description of facility/site
    - Applicable statutes and regulations
    - Decision and materials relied upon in the administrative record to support the staff decision.
  - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] NOTE: The burden of proof is on the Requestor(s)
  - Rebuttal by Department staff[15 minutes]
  - Rebuttal by Requestor(s)[10 minutes]

Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.

- 2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
- 3. At any time during the conference, the officers conducting the conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the conference.
- 4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
- 5. All Conferences are open to the public.
- 6. The officers may deliberate in closed session.
- 7. The officers may announce the decision at conclusion of the Conference or it may be reserved for consideration.
- 8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court. The FAD will be sent by certified mail, return receipt requested.
- 9. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.

Please submit all of the well logs for the installed wells to schedule a well inspection. An inspection of the UIC System must be conducted prior to issuance of the Permit to Operate. If you have any questions, please call Christopher Wargo at (803) 898-3799.

Sincerely,

Christopher Wargo, Hydrogeologist Groundwater Protection Section

Bureau of Water



#### WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Construction Permit for Class II, III, and V.A. Injection Well(s)

Permit #SCHE03020184M

Date Issued:

April 11, 2014

Date Expired:

April 11, 2015

For (Operator): Crawford Environmental Services, Inc.

In accordance with R.61-72 this permit will become final unless it is appealed within fifteen (15) days of the issuance date.

In accordance with provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, permission is granted for construction of six (6) Class VA-I injection wells with a true diameter of four (4) inches, and a total depth of approximately thirty-five (35) feet located at Cloud's Chevron/Handy Panty #65/University Mart, Richland County, SC with the following provisions:

- The operator shall submit completed SCDHEC well record forms to the Departments Water Monitoring, Assessment & Protection Division after completion of the injection wells.
- 2) Upon completion of construction, injection activities <u>shall not commence prior</u> to receiving approval from the Department to operate the injection wells.
- When the injection wells are no longer in use, or upon request by the Department, within sixty (60) days all injection wells must be permanently abandoned in accordance with the South Carolina Well Standards and Regulations (R.61-71).

Charles Gorman, Director

**Groundwater Protection Section** 

Bureau of Water

## STATEMENT OF BASIS - UIC DRAFT PERMIT #SCHE03020184M

In accordance with the South Carolina Underground Injection Control Regulations, Section R61-87.13(J), this Statement of Basis has been prepared for the Cloud's Chevron/Handy Panty #65/University Mart Site Underground Injection Control permit application received March 27, 2014.

Ownership of the proposed injection wells is Crawford Environmental Services, Inc., 15 Church Ave, SW, Roanoke, VA 24011. The permit (UIC SCHE03020184M) is for the construction of six (6) injection wells for a corrective action system at the Cloud's Chevron/Handy Panty #65/University Mart Site. The intent of the injection wells is to inject surfactant,hydrogen peroxide, PetroBac and NutriMax into the subsurface to remediate contaminated groundwater as described in the cleanup plan dated March 20, 2014. The final permit for the underground injection proposal has been prepared based on staff review and the application of the Pollution Control Act of South Carolina and the Underground Injection Control Regulations of South Carolina.

Conditions of the permit issuance include the submittal of well records for all injection wells installed and the inspection of well construction by the Department prior to injection.



April 11, 2014

(BOW-GWPROT-CAW)
Mr. Charles F. Crawford
Crawford Environmental Services, Inc.
15 Chruch Ave., SW
Roanoke, VA 24011

Re:

Underground Injection Control Permit #SCHE03020184 Cloud's Chevron/Handy Panty #65/ University Mart Site

Richland County

Dear Mr. Crawford:

Enclosed is a Permit to Operate fifty-eight (58) Class VA-I (Aquifer Remediation) injection wells at the Cloud's Chevron/Handy Panty #65/ University Mart Site, Richland County, SC.

#### South Carolina Board of Health and Environmental Control Guide to Board Review Pursuant to S.C. Code Ann. § 44-1-60 Effective April 1, 2013

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of \$100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference.

#### I. Filing of Request for Final Review

- A written Request for Final Review (RFR)and the required filing fee of one hundred dollars (\$100) must be received by Clerk of the Board within fifteen (15)calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15<sup>th</sup> day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after5:00 p.m.
- 2. RFRs shall be in writing and should include, at a minimum, the following information:
  - The grounds for amending, modifying, or rescinding the staff decision;
  - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
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South Carolina Board of Health and Environmental Control

Attention: Clerk of the Board

2600 Bull Street

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Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).

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- 5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
- 6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor.
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NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.

8. If the RFR is to be considered by the RFR Committee, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response to the RFR should be provided by Department staff to the Clerk within eight (8) working days after the RFR is forwarded.

### II. Final Review Conference Scheduling

- 1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.
- 2. The Clerk will request Department staff provide the Administrative Record.
- 3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publicly noticed and should:
  - include the place, date and time of the Conference;
  - state the presentation times allowed in the Conference;
  - state evidence may be presented at the Conference;
  - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
  - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
- 4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

#### III. Final Review Conference and Decision

- 1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
  - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
    - Type of decision (permit, enforcement, etc.) and description of the program.
    - **Parties**
    - Description of facility/site
    - Applicable statutes and regulations
    - Decision and materials relied upon in the administrative record to support the staff decision.
  - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] NOTE: The burden of proof is on the Requestor(s)
  - Rebuttal by Department staff[15 minutes]
  - Rebuttal by Requestor(s)[10 minutes]

Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.

- Parties may present evidence during the conference; however, the rules of evidence do not apply.
- At any time during the conference, the officers conducting the conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the conference.
- The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
- All Conferences are open to the public.
- The officers may deliberate in closed session. 6.
- The officers may announce the decision at conclusion of the Conference or it may be reserved for consideration. 7.
- The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court. The FAD will be sent by certified mail, return receipt requested.
- Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.

If you have any questions, please call Christopher Wargo at (803) 898-3799.

Sincerely

Christopher Wargo, Hydrogeologist Groundwater Protection Section

Bureau of Water



## Catherine B. Templeton, Director Promoting and protecting the health of the public and the environment

### WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Operating Approval

for

Class II, III, and V.A. Injection Well(s)

Permit #SCHE03020184

Date of Issue: April 11, 2014

In accordance with R.61-72 this permit will become final unless it is appealed within fifteen (15) days of the issuance date.

In accordance with the provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, and pursuant to receiving a Permit to Operate fifty-eight (58) Class VA-I (Aquifer Remediation) injection wells, authorization is granted to Crawford Environmental Services, Inc. to operate fifty-eight (58) Class VA-I (Aquifer Remediation) injection wells located at the Cloud's Chevron/Handy Panty #65/ University Mart Site, Richland County, SC, and are subject to the attached provisos noted for the operator.

The Class VA-I injection wells are one (1) inches in diameter and approximately thirty-five to forty-five (35-45) feet deep

Pursuant to Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, this authorization may be rescinded if these injection wells should, at any time, contaminate, pollute, or otherwise adversely affect other water in the vicinity or for any other conditions contained in R61-87, Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended.

Expires: April 11, 2019

Charles Gorman, Director

Groundwater Protection Section

Bureau of Water

Date April 11, 2014

Provisions to the Injection Well Operating Approval for
Underground Injection Well Permit #SCHE03020184
Cloud's Chevron/Handy Panty #65/ University Mart
Richland County, S.C.
April 11, 2014

- 1) Construction of new or abandonment of existing wells must be reported to the Department within thirty (30) days of completion.
- Only ambient air, hydrogen peroxide, PetroBac (microbes) and NutriMax (nutrient mix) as described in the corrective action plan may be injected into the subsurface at the fifty-eight (58) Class VA-I (Aquifer Remediation) injection wells. Any changes in the system operation other than as presented in the UIC Permit Application must be reported to the Department <u>prior</u> to implementation.



## Catherine B. Templeton, Director Promoting and protecting the health of the public and the environment

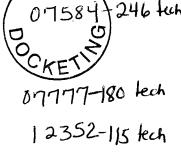
CRAWFORD ENVIONMENTAL SERVICES MR CHARLES F. CRAWFORD, III 15 CHURCH AVENUE SW ROANOKE, VA 24011

Re: Corrective Action Award

Richland County

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC
Release #1 reported January 30, 1991; CA#47811
Release #2 reported April 17, 1998; CA#47812
UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 31, 1991; CA#47813
UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 30, 1991; CA#47814
Contract #IFB-5400007095-1/30/2014-EMW; PO # 4600322226

APR 1 8 2014



Dear Mr. Crawford:

As you are aware, the Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control has determined that active corrective action is necessary at the referenced facility. On January 7, 2014, you were awarded the corrective action contract in the amount of \$540,000.00, which will be funded by the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Per contract requirements, the Quality Assurance Project Plan (QAPP) for the Initial Monitoring Report must be submitted within 15 days of the award date (Received March 21, 2014), the corrective action plan with a QAPP Addendum for corrective action must be submitted within 30 days of the award date (Received March 24, 2014), and the Initial Monitoring Report must be submitted within 45 days of the QAPP Addendum approval date (on or before May 25, 2014). A signed copy of the Right-of-Entry and the approved QAPP addendum for the referenced facility is enclosed. Please coordinate with each landowner for access and keep any inconveniences to the affected landowners to a minimum. Please also note that in accordance with contract specifications, copies of all plans and reports should be sent to all affected property owners listed in the bid solicitation appendix.

If you have any questions or need additional information, please contact me at (803) 898-0606 or bryantjc@dhec.sc.gov.

Sincerely,

John C. Bryant, Hydrogeologist Corrective Action Section UST Management Division

Bureau of Land and Waste Management

enc: Cost Agreements

Signed QAPP Addendum

Crawford Environmental Services, Inc. Handy Pantry #85 / University Mart & Cloud's Chevron Site IDs: #07584, #07777 and #12352



### Section A: Project Management

#### A1 Title and Approval Page

Quality Assurance Project Plan
Addendum (Corrective Action Plan) to the SC DHEC UST Programmatic QAPP
For

Handy Pantry #65 / University Mart & Cloud's Chevron UST Permit #: 07584, 07777 and 12352

1600 Two Notch Road, Columbia, SC

### Prepared by:

Charles F. Crawford, III
Crawford Environmental Services
15 Church Ave., SW
Roanoke, VA 24015

SCDHEC Site Rehabilitation Contractor Certification Number: UCC-0388

#### **Approvals** Date Susan Fulmer Signature SC DHEC Project Manager Charles F. Crawford, III Date 03.21.14 Site Rehabilitation Contractor Daniel J. Fisher Date 03.21.14 **Project Verifier** Ashley Amick Date 03.21.14 **Laboratory Director** Signature Access Analytical Inc. Mehmet Yildrim Date 03.21.14 **Laboratory Director** Signature Analytical Environmental Services Inc.,

Revision 0 Page 1 of 27 CES QAPPA ver. 5.0 -Sample 3/19/2014

### Approved Cost Agreement 47814

Facility: 12352 CLOUDS CHEVRON

**FULMERSB** PO Number:

Task / Description	Categories	Item Description	Qty / Pct	<b>Unit Price</b>	<u>Amount</u>
22 CORRECTIVE	ACTION				
	FP DISSO FREE PRODUCT DISSOLVE	1E CAM/TI AND/OR OPERATIONAL	1.0000	540,000.00	54,000.00
		2E FREE PRODUCT REMOVAL	1.0000	540,000.00	13,500.00
		3E 60% REDUCTION COC - REMOVAL FP	1.0000	540,000.00	13,500.00
		4E 90% REDUCTION OF COC	1.0000	540,000.00	5,400.00
		5E 100% REDUCTION OF COC	1.0000	540,000.00	5,400.00
		6E 100% RED IN COC/SYSTEM REMOVAL	1.0000	540,000.00	43,200.00

135,000.00 **Total Amount** 

### Approved Cost Agreement 47813

Facility: 07777 CLOUDS CHEVRON

FULMERSB PO Number:

Task / Description	Categories	Item Description	Qty / Pct	<b>Unit Price</b>	<u>Amount</u>
22 CORRECTIVE	ACTION				
	FP DISSO FREE	1E CAM/TI AND/OR OPERATIONAL	1.0000	540,000.00	54,000.00
	PRODUCT DISSOLVE	2E FREE PRODUCT REMOVAL	1.0000	540,000.00	13,500.00
		3E 60% REDUCTION COC - REMOVAL FP	1.0000	540,000.00	13,500.00
		4E 90% REDUCTION OF COC	1.0000	540,000.00	5,400.00
		5E 100% REDUCTION OF COC	1.0000	540,000.00	5,400.00
		6E 100% RED IN COC/SYSTEM REMOVAL	1.0000	540,000.00	43,200.00
			Total Amount		135,000.00

### Approved Cost Agreement 47811

Facility: 07584 UNIVERSITY MART

FULMERSB PO Number:

Task / Description	Categories	Item Description	Qty / Pct	<b>Unit Price</b>	<u>Amount</u>
22 CORRECTIVE	ACTION		,	****	
	FP DISSO FREE PRODUCT DISSOLVE	1E CAM/TI AND/OR OPERATIONAL	1.0000	540,000.00	54,000.00
		2E FREE PRODUCT REMOVAL	1.0000	540,000.00	13,500.00
		3E 60% REDUCTION COC - REMOVAL FP	1.0000	540,000.00	13,500.00
		4E 90% REDUCTION OF COC	1.0000	540,000.00	5,400.00
		5E 100% REDUCTION OF COC	1.0000	540,000.00	5,400.00
		6E 100% RED IN COC/SYSTEM REMOVAL	1.0000	540,000.00	43,200.00
			Total Amount		135,000.00

# Approved Cost Agreement 47812 Facility: 07584 UNIVERSITY MART

**FULMERSB** PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	<u>Amount</u>
22 CORRECTIVE	ACTION				
	FP DISSO FREE	1E CAM/TI AND/OR OPERATIONAL	1.0000	540.000.00	54,000.00
	PRODUCT DISSOLVE	2E FREE PRODUCT REMOVAL	1.0000	540,000.00	13,500.00
		3E 60% REDUCTION COC - REMOVAL FP	1.0000	540,000.00	13,500.00
		4E 90% REDUCTION OF COC	1.0000	540,000.00	5,400.00
		5E 100% REDUCTION OF COC	1.0000	540,000.00	5,400.00
		6E 100% RED IN COC/SYSTEM REMOVAL	1.0000	540,000.00	43,200.00



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

CRAWFORD ENVIONMENTAL SERVICES MR CHARLES F. CRAWFORD, III 15 CHURCH AVENUE SW ROANOKE, VA 24011

'APR 3 0 2014



Re: Notice to Proceed

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC
Release #1 reported January 30, 1991; CA#47811
Release #2 reported April 17, 1998; CA#47812
UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 31, 1991; CA#47813
UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC
Release reported December 30, 1991; CA#47814
Contract #IFB-5400007095-1/30/2014-EMW; PO # 4600322226
Corrective Action Plan received March 24, 2014
Public Notice Completed April 30, 2014
Richland County

Dear Mr. Charles Crawford:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced documents. As required by Section 280.67 of the South Carolina Underground Storage Tank Regulations R.61-92, the UST Management Division has provided a public notice period including notice of the pending corrective actions to the surrounding landowners. No objections to the proposed actions were expressed; therefore, the Corrective Action Plan (CAP) is approved. All work must be completed in accordance with the referenced bid specifications. The UST Management Division recognizes that modifications to the CAP are usually necessary as site conditions change during implementation. If changes to the CAP are later deemed necessary to achieve the Site-Specific Target Levels in a timely manner, please notify the UST Management Division. Any changes or modifications to the CAP will not result in a change order. The required Underground Injection Control Permit is enclosed.

As stated in Section 3.5 B 5, the Corrective Action Plan is to be implemented within 30 days from receipt of this letter. As stated in Section 3.4 B 3, the Site Incentive Period will commence on the Corrective Action System Startup Date. As stated in Section 3.5 B 8, monitoring reports are to be submitted on a semi-annual basis. The first Corrective Action Status (CASE) Report will be due 90 days from the date of the CAP Implementation Report. The details of the system installation, including injection well logs, should be documented in the CAP Implementation Report, due 60 days from this letter.

Mr.Crawford Page 2

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the chemicals of concern (COC) concentrations, based on laboratory analysis, are below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on site. The State Underground Petroleum Environmental Response Bank (SUPERB) Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

All future invoices and/or other rehabilitation activities must comply with current SUPERB criteria per Section 44-2-20(2) and the referenced bid special conditions. Please reference Cost Agreement #'s 47811, 47812, 47813 and 47814 on all pay-for-performance invoices. The first pay-for-performance invoice in the amount of \$216,000 (40%) may be submitted (on the invoice form available online at http://www.scdhec.gov/environment/admin/htm/EQC\_forms.asp#Land) once the Underground Injection Control Permit to Operate has been issued and the treatment system has been placed into operation.

On all correspondence regarding this site, please reference UST Permit #'s 07777, 07584 and 12352. On the invoices, please reference the UST Permit Numbers and Cost Agreement Numbers. If you have questions concerning this correspondence, feel free to contact me by telephone at (803) 898-0606, by fax at (803) 898-0673, or bryantjc@dhec.sc.gov.

Sincerely

John C. Bryant, Hydrogeologist

Corrective Action Section UST Management Division

Bureau of Land and Waste Management

enc:

**UIC Permit** 

cc:

Technical File (w/enc)



## Catherine B. Templeton, Director Promoting and protecting the health of the public and the environment

April 11, 2014

(BOW-GWPROT-CAW) Mr. Charles F. Crawford Crawford Environmental Services, Inc. 15 Church Ave, SW Roanoke, VA 24011

Re:

Underground Injection Control Permit #SCHE03020184M Cloud's Chevron/Handy Panty #65/University Mart Site

Richland County

Dear Mr. Crawford:

Enclosed is a Permit to Construct for six (6) Class VA-I injection wells at the Cloud's Chevron/Handy Panty #65/University Mart Site, Richland County as requested in the permit application received March 27, 2014.

### South Carolina Board of Health and Environmental Control Guide to Board Review Pursuant to S.C. Code Ann. § 44-1-60 Effective April 1, 2013

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of \$100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference.

### I. Filing of Request for Final Review

- A written Request for Final Review (RFR) and the required filing fee of one hundred dollars (\$100) must be received by Clerk of the Board within fifteen (15) calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15<sup>th</sup> day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
- 2. RFRs shall be in writing and should include, at a minimum, the following information:
  - The grounds for amending, modifying, or rescinding the staff decision;
  - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
  - the relief requested; and
  - a copy of the decision for which review is requested.

3. RFRs should be filed in person or by mail at the following address:

South Carolina Board of Health and Environmental Control

Attention: Clerk of the Board

2600 Bull Street

Columbia, South Carolina 29201

Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).

- 4. The filing fee maybe paid by cash, certified check or credit card. If a RFR is filed by facsimile or electronic mail, the filing fee may be mailed to the Clerk of the Board and the envelope must be postmarked within the time allowed for filing a RFR.
- 5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
- 6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor.
- 7. The Clerk will email the RFR to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. A copy of the Notice of Appeal Procedure will be included with the letter.

NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.

8. If the RFR is to be considered by the RFR Committee, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response to the RFR should be provided by Department staff to the Clerk within eight (8) working days after the RFR is forwarded.

### II. Final Review Conference Scheduling

- 1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.
- The Clerk will request Department staff provide the Administrative Record.
- 3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference will be publicly noticed and should:
  - include the place, date and time of the Conference;
  - state the presentation times allowed in the Conference;
  - state evidence may be presented at the Conference;
  - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
  - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
- 4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

### III. Final Review Conference and Decision

- 1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
  - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
    - Type of decision (permit, enforcement, etc.) and description of the program.
    - Parties
    - Description of facility/site
    - Applicable statutes and regulations
    - Decision and materials relied upon in the administrative record to support the staff decision.
  - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] NOTE: The burden of proof is on the Requestor(s)
  - Rebuttal by Department staff[15 minutes]
  - Rebuttal by Requestor(s)[10 minutes]

Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.

- 2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
- 3. At any time during the conference, the officers conducting the conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the conference.
- 4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
- 5. All Conferences are open to the public.
- 6. The officers may deliberate in closed session.
- 7. The officers may announce the decision at conclusion of the Conference or it may be reserved for consideration.
- 8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court. The FAD will be sent by certified mail, return receipt requested.
- 9. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.

Please submit all of the well logs for the installed wells to schedule a well inspection. An inspection of the UIC System must be conducted prior to issuance of the Permit to Operate. If you have any questions, please call Christopher Wargo at (803) 898-3799.

Sincerely

Christopher Wargo, Hydrogeologist Groundwater Protection Section

Bureau of Water



Catherine B. Templeton, Director Promoting and protecting the health of the public and the environment

#### WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Construction Permit for Class II, III, and V.A. Injection Well(s)

Permit #SCHE03020184M

Date Issued:

April 11, 2014

Date Expired:

April 11, 2015

For (Operator): Crawford Environmental Services, Inc.

In accordance with R.61-72 this permit will become final unless it is appealed within fifteen (15) days of the issuance date.

In accordance with provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, permission is granted for construction of six (6) Class VA-I injection wells with a true diameter of four (4) inches, and a total depth of approximately thirty-five (35) feet located at Cloud's Chevron/Handy Panty #65/University Mart, Richland County, SC with the following provisions:

- The operator shall submit completed SCDHEC well record forms to the Departments Water Monitoring, Assessment & 1) Protection Division after completion of the injection wells.
- Upon completion of construction, injection activities shall not commence prior to receiving approval from the Department to 2) operate the injection wells.
- When the injection wells are no longer in use, or upon request by the Department, within sixty (60) days all injection wells 3) must be permanently abandoned in accordance with the South Carolina Well Standards and Regulations (R.61-71).

Charles Gorman, Director

Groundwater Protection Section Bureau of Water

### STATEMENT OF BASIS - UIC DRAFT PERMIT #SCHE03020184M

In accordance with the South Carolina Underground Injection Control Regulations, Section R61-87.13(J), this Statement of Basis has been prepared for the Cloud's Chevron/Handy Panty #65/University Mart Site Underground Injection Control permit application received March 27, 2014.

Ownership of the proposed injection wells is Crawford Environmental Services, Inc., 15 Church Ave, SW, Roanoke, VA 24011. The permit (UIC SCHE03020184M) is for the construction of six (6) injection wells for a corrective action system at the Cloud's Chevron/Handy Panty #65/University Mart Site. The intent of the injection wells is to inject surfactant,hydrogen peroxide, PetroBac and NutriMax into the subsurface to remediate contaminated groundwater as described in the cleanup plan dated March 20, 2014. The final permit for the underground injection proposal has been prepared based on staff review and the application of the Pollution Control Act of South Carolina and the Underground Injection Control Regulations of South Carolina.

Conditions of the permit issuance include the submittal of well records for all injection wells installed and the inspection of well construction by the Department prior to injection.



## Catherine B. Templeton, Director Promoting and protecting the health of the public and the environment

April 11, 2014

(BOW-GWPROT-CAW)
Mr. Charles F. Crawford
Crawford Environmental Services, Inc.
15 Chruch Ave., SW
Roanoke, VA 24011

Re:

Underground Injection Control Permit #SCHE03020184 Cloud's Chevron/Handy Panty #65/ University Mart Site

Richland County

Dear Mr. Crawford:

Enclosed is a Permit to Operate fifty-eight (58) Class VA-I (Aquifer Remediation) injection wells at the Cloud's Chevron/Handy Panty #65/ University Mart Site, Richland County, SC.

### South Carolina Board of Health and Environmental Control Guide to Board Review Pursuant to S.C. Code Ann. § 44-1-60 Effective April 1, 2013

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of \$100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference.

### I. Filing of Request for Final Review

- A written Request for Final Review (RFR) and the required filing fee of one hundred dollars (\$100) must be received by Clerk of the Board within fifteen (15) calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15<sup>th</sup> day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
- 2. RFRs shall be in writing and should include, at a minimum, the following information:
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  - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
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Columbia, South Carolina 29201

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- 5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
- 6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor.
- 7. The Clerk will email the RFR to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. A copy of the Notice of Appeal Procedure will be included with the letter.

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- 2. The Clerk will request Department staff provide the Administrative Record.
- 3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publicly noticed and should:
  - include the place, date and time of the Conference;
  - state the presentation times allowed in the Conference;
  - state evidence may be presented at the Conference;
  - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
  - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
- 4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

#### III. Final Review Conference and Decision

- 1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
  - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
    - Type of decision (permit, enforcement, etc.) and description of the program.
    - Parties
    - Description of facility/site
    - Applicable statutes and regulations
    - Decision and materials relied upon in the administrative record to support the staff decision.
  - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] NOTE: The burden of proof is on the Requestor(s)
  - Rebuttal by Department staff[15 minutes]
  - Rebuttal by Requestor(s)[10 minutes]

Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.

- 2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
- 3. At any time during the conference, the officers conducting the conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the conference.
- 4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
- 5. All Conferences are open to the public.
- 6. The officers may deliberate in closed session.
- 7. The officers may announce the decision at conclusion of the Conference or it may be reserved for consideration.
- 8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court. The FAD will be sent by certified mail, return receipt requested.
- 9. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.

If you have any questions, please call Christopher Wargo at (803) 898-3799.

Sincerely,

Christopher Wargo, Hydrogeologist Groundwater Protection Section

Bureau of Water



## Catherine B. Templeton, Director Promoting and protecting the health of the public and the environment

### WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Operating Approval

for

Class II, III, and V.A. Injection Well(s)

Permit #SCHE03020184

Date of Issue: April 11, 2014

In accordance with R.61-72 this permit will become final unless it is appealed within fifteen (15) days of the issuance date.

In accordance with the provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, and pursuant to receiving a Permit to Operate fifty-eight (58) Class VA-I (Aquifer Remediation) injection wells, authorization is granted to Crawford Environmental Services, Inc. to operate fifty-eight (58) Class VA-I (Aquifer Remediation) injection wells located at the Cloud's Chevron/Handy Panty #65/ University Mart Site, Richland County, SC, and are subject to the attached provisos noted for the operator.

The Class VA-I injection wells are one (1) inches in diameter and approximately thirty-five to forty-five (35-45) feet deep

Pursuant to Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, this authorization may be rescinded if these injection wells should, at any time, contaminate, pollute, or otherwise adversely affect other water in the vicinity or for any other conditions contained in R61-87, Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended.

Expires: April 11, 2019

Charles Gorman, Director

Groundwater Protection Section

Bureau of Water

Date April 11, 2014

Provisions to the Injection Well Operating Approval for
Underground Injection Well Permit #SCHE03020184
Cloud's Chevron/Handy Panty #65/ University Mart
Richland County, S.C.
April 11, 2014

- 1) Construction of new or abandonment of existing wells must be reported to the Department within thirty (30) days of completion.
- Only ambient air, hydrogen peroxide, PetroBac (microbes) and NutriMax (nutrient mix) as described in the corrective action plan may be injected into the subsurface at the fifty-eight (58) Class VA-I (Aquifer Remediation) injection wells. Any changes in the system operation other than as presented in the UIC Permit Application must be reported to the Department <u>prior</u> to implementation.

### CRAWFORD ENVIRONMENTAL SERVICES

OCKETIN

May 16, 2014

Mr. John Bryant
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201



**RE:** Initial Monitoring Report

Handy Pantry #65/University Mart & Cloud's Chevron Intersection of Taylor Street and Two Notch Road Columbia, South Carolina

UST Permit # 07584 / 07777 / 12352

Dear Mr. Bryant:

Enclosed please find one copy of the Initial Monitoring Report (IMR) report prepared by Crawford Environmental Services, Inc. (CES) for the referenced site. Should you have any questions regarding the enclosed material, or if additional information is required, please feel free to contact Charlie Crawford or myself at 540.343.6256.

Best Regards,

Daniel Fisher
Division Manager

## CRAWFORD ENVIRONMENTAL SERVICES

Initial Monitoring Report

Handy Pantry #65/University Mart & Cloud's Chevron
Intersection of Taylor Street and Two Notch Road
Columbia, South Carolina
UST Permit # 07584 / 07777 / 12352

May 16, 2014

### INITIAL MONITORING REPORT

Handy Pantry #65/University Mart & Cloud's Chevron Intersection of Taylor Street and Two Notch Road Columbia. South Carolina UST Permit # 07584 / 07777 / 12352

### Submitted To:

South Carolina Department of Health and Environmental Control **Underground Storage Tank Program** Bureau of Land and Waste Management 2600 Bull Street Columbia, South Carolina 29201-1708

Submitted By:

**Crawford Environmental Services** 15 Church Avenue, SW Roanoke, Virginia 24011 SCDHEC Site Rehabilitation Contractor Certification #: UCC-0388

> May 16, 2014 CES Job Number: 7.0547

Daniel J. Fisher **Division Manager** 

B. Thomas Hour Professional Geol

SC Registration



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1.2 Facility Information	
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### Tables

Table 1: Groundwater Elevation Data Table 2: Groundwater Analytical Data Table 3: Site Specific Target Levels

### **Figures**

Figure 1: Topographic Map Figure 2: Site Facility Base Map

Figure 3: Concentrations of Concern Map Figure 4: Groundwater Elevation Map

### **Appendices**

Appendix A – Photo-Documentation

Appendix B – Purge Water Disposal Manifest

Appendix C - Field Notes

Appendix D – Laboratory Data Reports and Chain of Custodies Appendix E – QAPP Addendum Contractor Checklist



### 1.0 Project Information

### 1.1 Introduction

Crawford Environmental Services Inc., (CES) has completed an Initial Monitoring Report (IMR) for the Handy Pantry #65/University Mart and Cloud's Chevron properties. This report describes assessment activities conducted at the site in general accordance with the scope of work as defined in the QAPP Addendum Approval – dated March 20, 2014.

### 1.2 Facility Information:

#### 1.2.1 Site Address

Handy Pantry #65 / University Mart / Clouds Chevron 2367 Taylor Street Columbia, South Carolina

### 1.2.2 Property Owner Information

Mr. Mahesh Patel 2367 Taylor Street Columbia, South Carolina

Mr. Andrew Diggins 1600 Block Two Notch Road Columbia, South Carolina

### 1.2.3 Contractor Information

Crawford Environmental Services 15 Church Avenue, SW Roanoke, Virginia 24011 1 (540) 343-6256 Contractor Number: UCC-0388

### 1.2.4 Laboratory Information

Access Analytical, Inc. (AA) 7478 Carlisle Street Irmo, SC 29063 1 (803) 781-4243 SC Certification: 32575001

Analytical Environmental Services Inc. (AES) 3785 Presidential Pkwy.
Atlanta, GA 30340
1 (770) 457-8177
SC Certification: 98016003



### 1.3 Site Description

The subject property is located in a primarily commercial area of Columbia, South Carolina (Figure 1). The subject sites, operating as Handy Pantry #65/University Mart and former Cloud's Chevron, is bordered by light commercial properties in all directions. A site plan depicting pertinent features of the subject property is provided as Figure 2. Current site conditions are depicted in the photo-documentation provided as Attachment A.

### 2.0 Assessment Activities

### 2.1 Water Sample Collection

A comprehensive groundwater sampling event, including; recording equilibrated static water levels, product thicknesses, and the collection of chemical samples was completed by CES personnel on April 1, 2, and 3, 2014. CES personnel utilized an electronic water level indicator for water level measurements and an oil/water interface probe for free phase product measurements. Groundwater samples were collected from the shallow wells utilizing disposable polyethylene bailers. Groundwater elevation data is presented in Table 1.

Shallow monitoring wells were purged three to five well volumes, via pump or bailer or till dry before sampling. Bailers were lowered slowly to the top of the water column (after purging in some cases) allowed to fill one volume, then removed. Disposal Manifest for the purge water generated during the sampling event are included as Appendix B.

After collection, groundwater was transferred to the appropriate sampling containers and was then placed in coolers, maintaining 4°C, and delivered to AA. AA then transferred the samples to AES via FEDEX for laboratory analysis. Temperature, pH, specific conductance and dissolved oxygen readings were recorded during sampling. Groundwater chemical samples were submitted to Access Analytical, Inc., (AA) {SC Certification: 98016} for analysis.

### 2.1.1 Groundwater Sampling

Equilibrated static water levels and free-product thicknesses were recorded for monitoring MW-2, MW-3, MW-4, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-22, MW-23, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-32, MW-33, MW-34, MW-35, MW-36, MW-37, MW-38, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, MW-46, MW-48, MW-51, MW-53, MW-54, MW-55, MW-56, MW-59, MW-62, MW-63, MW-67, MW-70, MW-5AR, PW-1R.



DW-1, DW-2, DW-3, DW-4, DW-5, DW-6, DW-7, AND DW-9 by CES personnel on April 1, 2, and 3, 2014.

Groundwater samples were unable to be collected from MW-1 and MW-5 due to an insufficient water column.

Groundwater samples were unable to be collected from MW-15 due to the presence of approximately 0.60-feet of free-phase petroleum.

Monitoring wells MW-49, MW-50, MW-58, MW-60, MW-65, and DW-5 were unable to be sampled due to being inaccessible, paved over, or abandoned.

Field notes from the sampling event are included as Appendix C.

Groundwater Samples were submitted for the following chemical analyses; Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), Methy tert-butyl ether (MTBE), tert-Amyl Alcohol (TAA), tert-Amyl methyl ether (TAA), and tert-Butyl Alcohol (TBA) via standard method 8260. Laboratory Reports and Chain of Custody Documentation is included as Appendix D.

### 2.1.2 Surface Water Sampling

As part of IMR activities, CES collected a surface water sample from location SW-1 on April 2, 2014.

Table 2 presents the laboratory data for the submitted groundwater samples collected as part of this assessment. The Concentrations of Concern Map is included as Figure 3. A Groundwater Elevation Map is included as Figure 4.



### 3.0 Summary

During the assessment activities performed at the subject property, CES conducted a comprehensive groundwater monitoring event. The qualitative and quantitative data collected from recent assessment activities indicates the following regarding current site conditions:

- 1. Shallow groundwater flow at the above referenced facility was mapped with a southwestern component as inferred from the relative groundwater elevations and calculated gradients on April 1, and 2, 2014.
- 2. Free phase petroleum was observed in MW-15 (0.60-feet) during the April 2014 sampling event.
- 3. Groundwater samples collected from MW-2, MW-3, MW-9, MW-10, MW-12, MW-17, MW-18, MW-19, MW-20, MW-22, MW-23, MW-25, MW-31, MW-33, MW-35, MW-37, MW-54, MW-5AR, PW-1R, and DW-3 exhibited concentrations in excess of the Site Specific Target Levels (SSTLs). The following SSTL monitoring wells were unable to be sampled; MW-5 (Dry), MW-15 (Free Product), MW-58 (Abandoned) and MW-65 (Unable to Locate)
- 4. The current concentration reduction value has been calculated to be 53.29%.
- 5. The surface water sample collected from SW-1 exceeded the Site Specific Target Levels.

### 4.0 Limitations

This report is based upon a specific scope of work requested by SCDHEC. This report is intended only for the use of CES's client and anyone else specifically listed on this report. Some data contained within this report was previously collected by other consultants and is assumed to be correct. CES will not and cannot be liable for the unauthorized release by any third party. Other than as contained in this paragraph, CES makes no expressed or implied warranty as to the contents of this report.



### **APPENDIX A**

Photo-Documentation





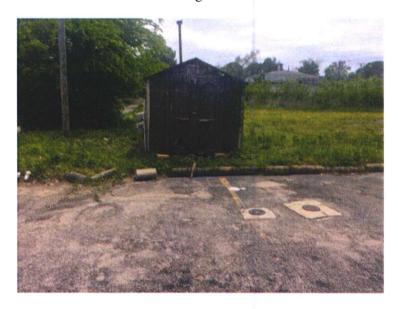
**Clouds Chevron #1** 

View of Remedial Shed #1.



Clouds Chevron #2

View of Remedial Shed #3.



Clouds Chevron #3

View of Remedial Shed #3.



Clouds Chevron #4

View of remedial trenching proximal to the southeast intersection of Two Notch Road and Forest Drive



Clouds Chevron # 5

View of remedial trenching proximal to Shed #3.



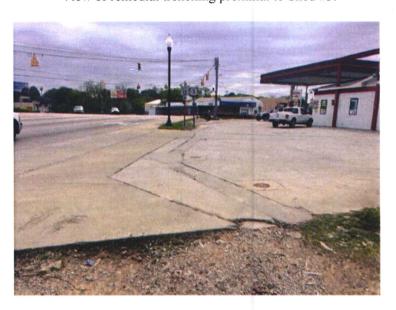
Clouds Chevron # 6

View of remedial trenching proximal to Lyons Street.



Clouds Chevron # 7

View of remedial trenching proximal to Shed #3.



Clouds Chevron #8

View of remedial trenching proximal to the northwest corner of Two Notch Road and Forest Drive.



Clouds Chevron #9

View of remedial trenching proximal to Shed #3.



Clouds Chevron # 10

View of remedial trenching at 2367 Taylor Street (University Mart).

#### **APPENDIX B**

**Disposal Manifests** 



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#### **APPENDIX C**

Field Notes



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WELLN		<u> </u>			SAMP	LE ID	MW-4				DATE	4/	2/11	,
					PU		3 DATA							
WELL DIAMETE	A ER (inches) C OLUMB PURGE	Total M	/eli Depth (fe	et) 2	g	WELL S DEPTH	CREEN INTER	NAL te	STATIC et TOWAT	ER (fee	<u>n</u> Д1.3	l c	urge Pum Ir Bailer	
MELL V	DLOME PURGE		olume = (1		EUL DEPTH	- 1- <u>)</u>	16 DEPTH TO	VVATER feet	N WELLS		TY gallons	/foot	°1.07	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallens)	TEMP ( <sup>0</sup> C)	۸	рн (5u)	۸	COND (µS)	Α	ቦር ( <b>mg/L</b> )	`	TURB IDITY (NTU)	Α	COLOR	ODOR
1809			a6.1	School Control	6.8	****	161		2.3		86		cic	None

SAMPLING DATA SAMPLED BY (PRINT) SAMPLER(S) SIGNATURE(S) SAMPLING TIME Slack Trever PUMP OR TUBING FILTER SIZE DEPTH IN WELL (feet): MATERIAL CODE: Filtration Equipment Type DUPLICATE COLLECTED SAMPLE PUMP NTENDED Bampling Equipment Code ANALYSIS AND/OR SAMPLE CONTAINER SPECIFICATION SAMPLE PRESERVATION FLOW RATE METHOD (ml/mln) TOTAL VOL SAMPLE PRESERVATIVE MATERIA FINAL CONTAINER **VOLUME** ADDED IN FIELD D CODE LCODE USED (mL) CG 40m 826013 13 REMARKS MATERIAL CODES AO - Amber Glass, GG - Clear Glass PB = Polyethylene, PP = Polypropylene, T = Teffan, 8 = Silicone, O = Other (Specify) SAMPLING EQUIPMENT CODES: APP = After Peristatus Pump. 8 = Bailer, BP = Bladder Pump, ESP - Electric Submersible Pump RPPP - Reverse Flow Penstallic Pump, SM = Straw Method (Tubing Gravity Drain). O = Other (Specify)

WELL CAPACITY (Gallens Per Foot). 0.78" = 0.02; 1" = 0.04, 1.26" = 0.06, 2" = 0.16; 3" = 0.37, 4" = 0.65; 5" = 1.02; 6" = 1.47, 12" = 5.88

STABILIZATION CRITERIA

SITE	Clouds Che	vron	···		····	18	HE							
NAME WELL N					1		OCATION	Taylors	Street & TV	vo Not	Ch Road			<u> </u>
AAET	, N	(WES			SAMI							- 4	12/14	
_					Pl	JRGING	DAT	Α.						
WELL	CB washess	2 Tot	ai Méil Fiebth (I		/	WELL S	CREEN IN	TEPVAL	STATIC	DEFT	1 10.	PI	URGE PUM	P TYPE
WELL V	ER (Inches) OLUME PURG	E: 1 WELL	VOLUME : (	TOTALWE	o Loepti	DEPTH:	C DEPTH	TOWATER	eet TOWA	TER (fe	et) U(		RBAILER	-
			₫ (	26	fe	et-			i) ×	<b>C</b>		/foot	•	gallens
TIME	VOLUME PURGED (gallons)	VOLUMUL VOLUM PURGE (gallens	E TEMP	,	рН (3u)	۸	CON (گیر)		(mg/L)	٨	TURB IDITY (NTU)	١,	COLOR	ODOR
										1-				
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<del></del>		<del> </del>		+ +		<del>  </del>				∔—				
								_		-				
										<del> </del>				
WELL CA	LPACITY (Galle	ons Par Foo	) <b>0.78</b> ° = 0 0	2; 1" = 0	04; 126	" = 0.08 <u>,</u>	2" = 0.16	. <b>3" =</b> 0.3	7; 4° = 0.65	G* o	1.02:	r = 1.4	7, 12" =	6 00
				-										0 00
					SAF	MPLING	DAT	A						
SAMPLE	DBY (PRINT)			SAMPLE	R(3) SIGI	ATURE(S)			SAMPLING	DATE'		SAMPL	Ing time.	
PUMP OF	TURING			TURING					FIELD-FILT	nen-				
	WELL (feet):	D V	N		ALCODE				Filtration Equ				FILTER	SIZE.
				1										
BAM	PLE CONTAIN	er specif	ICATION		SAMPL	.B PRESEN	VATION		ANALYI AND/O METHO	BIS R	EQU	apling IPMEN ODB		IMPLE UMP LOW LATE I/min)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	AOTAME	PRESER US		TOTAL V ADDED IN I (ml.)	FIELD	FINAL pH						
<u>-</u>				<u> </u>										
		<u> </u>				<del>*-</del>	-			······································	<u> </u>			
						·· ***********************************								
	,					<del></del>							$\dashv$	
COTA A PAGE														
REMARKS	•			\ <u>`</u>	)	1.1	Vat	Sampl	- 1/			-		
MATERIA	L CODES A	3 = Amber (	31033, <b>CO</b> = (	Clear Glass	PE ·	Polyethyler		- Palypropy		licana	T = Telle	n 4	o ≈ Other (S	nocita
CAMPLIN	G EQUIPMENT	CODES:	APP = After	Peristaltic P	ump;	8 = Baller,	8P °	Bladder Pur		Electric	Submers			States (1.8.)

SITE NAME	Clouds Che	vron					SITE LOCAT	ion To	ylors	Street &	Two Not	ch Roa	d. Ca	lumbia. S	C C
WELLN	o M	W-6			SAM		MW					DAT	2.02	3/14	
					B					··· · · · · · · · · · · · · · · · · ·	···				
WELL V	ER (Inches) OLUME PURG	الح	31 Well Liepsh (f	.5	0	WELL S DEPTH	CREE	INTER	20 1	eet TOV	TIC DEPTI VATER (fe	ر المحاولة		urge pui R Bailer	
			* (	30			2.6			n v 🚗		galler	s/foot	°1.18	gallons
TIME	VOLUME PURGED (gallens)	CUMUL VOLUM PURGE (gallons	E TEMP 0 (°C)		(၁ <b>೧</b> ) Նમ	۸		rs) DND	,	(wð\r D.)	, 1	TURB IDITY (NTU)	,	COLOR	ODOR
0849			24.1		6.2		13		=	1.1		49	E	Clc	mod
															<del> </del> -
				+				-							
		<del> </del>													
													_		
MCEL A	10000														
WELL CI	TRUIT (GSII	uns Per Poo	); <b>0.75" =</b> 0.0;	2; 1"=(	1.04; 1.2	<b>6</b> ≈ 0.06;	2" = (	).16; (	3" = Q.3'	7; 4° = 0.	65; 6*	1.02; (	F = 14	17, 12" =	5,88
SAMPLE	DBY (PRINT)			CAMP)	SA	MPLING	DA	TA		1-2	<del></del>				
	ver S	ack	-	21	1200	NATURE(S)				SAMPLIN 4/3			9	849	
DEPTH IN	WELL (feet). TE COLLECTE	(D: Y		MATER	AL CODE					FIFELD-PIL Filtration	TERED Equipment	Type		PILTER	SIZE.
***					······································	<del>.</del>					NDEO	201	WPLING		MPLE UMP
MAN	PLE CONTAIN	er specif	ICATION		8AMPI	Le preser		N		ANAL AND MET	/OR	EQU	ipmen Ode	T i	LOW RATE (Vinin)
Sample D code	CONTAINER S	MATERIA L CODE	VOLUME		RVATIVE SED	TOTAL V ADDED IN (mL)	PIELD	FIN P							
	2	C.C	40001	Ho						8,26	013	I	3		
											17				
REMARKS	3											<u></u>	-		
MATERIA		G • Amber t		Clear Glas		Polyethyler			dypropyl		Silicone,	T o Teft		0 = Other (	Specify)
eamplin	G EQUIPMENT	CODES:	APP = After I	Peristante I Pre e Flow F	Pump. Peristatiic F	B = Bailer, Pump; Bl	H = Str	e Blad W Met	der Pun 10d (Tu:	np, <b>88</b> 1 ding Gravity	P = Electri Orain),	Submers O = Oth	sible Pu er (Sp	um p, ecity)	

STABILIZATION ORITERIA

SITE	Clouds Che	WAS D			SITE	·		<del></del>			*
NAME		***		×	LOCA	_	Street & Two			ımbla. SC	
WELLN	Ü,	2 45	<del></del>	SAN	APLE ID MW	1-7		[ C	ATE LI/.	3/14	
				ρ	URGING D	Δ <b>Τ</b> Δ .					_
WELL		) To	al Well Deptn (1		WELL SCRE	EN INTERVAL	STATIC (	DEPTH 0	g a Pu	PGE PUMP	TYPE
WELLV	ER (INCHES). OLUME PURG	E: 1 WEL	L VOLUME e (	TOTAL WELL DEPT	DEPTH: 20	feet to 30	feet   TO WATE	ER (feet) 2		BAILER -	
			s (		et- 23.				ilons/foot :	1,12	gallons
TIME	VOLUME	COMO		04		OND.		TU		<del>'''`</del>	
1100	PURGED (gallons)	PURGE (gallon	(°C)	^ (SU)		(μS)	(w&r) DO	A (D)	14 1	COLOR	ODOR
1131			23.1	- 6.3	1-10	76	1,6	-10		CC	200
											70.
		<del> </del>									
	<del> </del>	<del> </del>									
		+		<del>  </del>	++-			<b>-</b>			
					+				-++		
							-				
							1				
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		<del> </del> -		<del>  </del>							
		<del>                                     </del>			+				╌┼		
WELL CA	PARITY (Gall	nna Per Foo	t) <b>0.75"</b> = 0.0	2; 1" = 0.04, 1.4	M0 - 0.00 - 0.1		<u> </u>				
				2, 1 -024, 12	26" - 0.06; 2" -	0.16; 3" = 0.5	37; 4" = 0.65;	5" = 1.02;	6° = 1,47	12" = 5.	88
				ÇA.	MPLING D	ATA					
	BY (PRINT)			SAMPLER(S) SIG	NATURE(S)	AIA	SAMPLING D	ATE <sup>.</sup>	SAMPLI	NG TIME:	<del></del> 1
PUMPO	ver S	lack		Tam	7/10		4/3/14	4	11	31	
DEPTH IN	i WELL (feet)			TUBING MATERIAL CODE		-	FIELD-FILTER Filtration Equip	ment Type		PILTER SI	Z€:
DUPLICA	TE COLLECTE	B Y	(B)								
2415	<b>.</b>						NTENDE		Bampling	SAM	
SAN	PLE CONTAIN	ek specii	ICATION	SAMP	LE PRESERVAT	ON	ANALYSI AND/OR	"   1	CODE		DM
SAMPLE		MATERIA	1	PRESERVATIVE	TOTAL VOL	Shire	METHOD	<u> </u>		(mt)	
D CODE	CONTAINER S	LCODE	VÕLUM <u>€</u>	USEO	ADDED IN FIELD	FINAL pH	ł			- 1	- 1
	2	CG	Homl	HCL		<u> </u>	8260B		13	1 -	•
			<del> </del>								
						<del>                                     </del>					
			<del>                                     </del>		<del> </del>						
						<del>                                     </del>					
REMARKS	3					<u> </u>	<u> </u>				
MATERIA	CODES AS	3 a Amhar (	Ginec 66	Clear Glass; PB	Deb - The Assess						
	S EQUIPMENT		APP = After	Peristaltic Pump:	Polyethylene;  B = Baller;	PP - Polyprany BP - Bladder Pul			Tellon; O nersible Purr	∞ Other (Sp	entry)
	<del></del>		RFPP = Revi	erse Flow Penstaltic	Pump; SM = S	traw Method (Tu	bing Gravity Oral	n), O:	Other (Spec	ny)	

STABILIZATION ORITERIA

BITE LOCATION Taylors Street & Two Notch Road, Columbia, SC

WELLNO		1			SAMP	TEID W	W-	प्ट				DATE	4/	3/14	
					PU	RGING	DAT	ra -							
	R (Inches) -	4	Well Depth (fe	28		WELL SC DEPTH	REEN 8.516	INTERVAL et to 28 H TOWAT	ree	X WELL C	F (fee	1) 9,9	5] oi	irge pum Bailer -),29	
TIME	VOLUME PURGED (gailons)	CUMUL VOLUME PURGED	TEMP (°C)		р <del>н</del> (Su)	,	CON (µ2	O.	$\overline{\ }$	^ <u></u> <u> </u>	٥ ،	TURB IDITY (NTU)	۸	COLOR	ODOR
1209	(gallers)	(gallors)	19,9	- 6	.3		12	-		1.9	_	8		cir	none
			ļ												
			1				-		4						
WELL CA	PACITY (Galid	ins Per Foot)	<b>0.75" =</b> 0.02	2; 1" = 0.04	1,28	j" = 0.06,	2" = O.	16. <b>3</b> ° e	037	, 4" = 0.65;	5" «	1.02;	3" • 14	17: 12" •	5 98
	<u></u>				SAM	APLING	B DA'	ΓA		<del></del>					<u>_</u>
Tre	PRINT)	lock		In	(S) SIGN	IATURE(S)	m			SAMPLING E	1		12		
	WELL (feet). TE COLLECTE	6 V	6	MATERIAL	.CODE:		-			Pieto-Pil Tel Pilitation Equ	pment eec:	Type (N)		FILTER	SIZE
SAM	'LE CONTAIN	er specifi	CATION		SAMPL	e preser		N		entende Analys And/or Metho	iB L	EQU	MPLINI IPMEN CODE	m	IMPLE PUMP PLOW RATE (Min)
SAMPLE D CODE	CONTAINER	MATERIA L CODE	VOLUME	PRESERV		ADDED IN I		Final ph		53.5.4			<i>-</i>		
	<u> </u>	CG	Hom	HCL						82601	3_	):	3_		
REMARKS	,												***************************************		
MATERIA: SAMPLIN	L CODES A	0 = Amber 6   CODES:	APP = Afteri RPPP = Revi	Clear Glass, Peristatic Pu erse Floor Pe	mp,	Polyethyler B = Saller, lump, B	8	P = Polyn = Bladdel w Method	r Pun		Electri	T a Tel Submer O 7 Ot	side P	D = Other ( ump, eciM	Specify)

**Clouds Chevron** 

SITE	Clouds Che	vron					OCATION	Taylors	Street & Tw	o Note	ch Road	l. Colu	mbia S	c
WELLN	· M	w-9 }			SAME		Μw				DATE		2 - 14	
					ÐI	IBGIN/	2 047	Δ					· · · · · · · · · · · · · · · · · · ·	
WELL DIAMETE WELL V	ER (Inches) DLUME PURG		Well Clepth (fi	TOYALWEL	) H1930 J	DEPTH - STAT	CPEEN IN 20 fee IC DEPTH	TERVAL	est   TOWA	TER (fee	ŤΥ	OR	RGE PUM BAILER	_
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallors)	TEMP (°C)	30	pH (su)	^	0,6c	, (	ης (mg/L)	16	TURB ICITY (NTU)	Π	1,50	©DOR
15:00		=	26.9	<b></b>	6.0	-	40	/ <del>  -</del>	1.0	F	207	=	ella	sky
								_	<del> </del>	-		-		
	PACITY (Galid	ons Per Foot	). <b>4.76" =</b> 0,0;	<del></del>		" = 0.06, APLING	2" = 0.16		37; 4" ≈ 0.65;	6" =	1.02;	# <b>=</b> 1.47	12" =	5.88
SAMPLEC FUMP OR	OM FINE	Warli	ck	SAMPLE	(a) aley	APLING LATURE(S)			.1. / 4	2-1	4		OO	
DEPTH IN	WELL (feet)	C: V	· · · · ·	MATERIA	LCODE:		•		FIELD-FILTE Filtration Equ	RED Ipment	Type		FILTER	SIZE.
BAMI	PLE CONTAIN	er specifi			SAMPL	.e prosei	RVATION		entendi Analys And/o: Metho	iis R	EQU	MPLING IPMENT ODE	P F	WPLE UMP LOW LATE (Vmin)
SAMPLE D CODE	CONTAINER	MATERIA L CODE	VOTUME	PRESERV USE		ADDED IN (mL)	FIELD	FINAL pH						
	â	CG	4001	Ha					8260	<u> </u>	E	}		
												····		
REMARKS														
MATERIA	LCODES A	G = Amber G	lass; <b>CO</b> = (	Clear Glass,	<b>PB</b> 8	Polyetnylei	ne, PP	o Polyprop	ylene, 8 = Sil	icone;	T o Teff	en, O	o Other (:	Specify)
BAMPLIN	SEQUIPMENT	CODES:	APP = After			B = Bailer,	#P =	Bladder Pu	mp, BSP =	Electric	Submers			

STABILIZATION CRITERIA

SITE	Clouds Che	vron					OCATION TO	nylors	Street & Tw	o Note	h Rea	d. Col	umbia. S	С
WELLN	o MV	10			SAME		Mw-10			7.00	DAT		-1-14	
												-7-	1-11	
WELL		1 1 21	Mall Booth M				DATA							
DIAMET	ER (Inches)	3	l Well Depth (fe	3.8		DEPTH	CREEN INTER	XX 4	STATIC			9 0	URGE PUM P BAILER	29YT 9
WELLY	OLUME PURG	8: 1 WELL	VOLUME = (1	OTAL WE	LL DEPTH		C DEPTH TO	WATER	) X WELL	APACI	ŤΥ			·
	1	CUMUL	<del></del>	_ ଅଞ	161	1	7.69	1561	) × 0	46	gallon	3/7001	<u>°1, 65</u>	gallons
TIME	VOLUME PURGED (gallons)	VOLUME PURGED (gallors	(°C)	Δ.	рн (su)	۸ ا	COND (# <b>\$</b> )		D() (mg/L)	,	TURB IDITY (NTU)	A	COLOR	ODOR
1428			24.2		7.0	_	663	-	0.7	=	209	=	Cldv	37/m
1442	2.0	2.0	22.4	11.8	1.8	0.2	661	2			104	105	SINA	10
1500	2.0	4.0	22.7	3	8.8	0	622	39			12	92	CIC	
1517	120	14.0	22.6		6.7	0.1	634	112			8.6	34	CIF	
						,								
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	<del> </del>	<del>                                     </del>						ļ						
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		<del> </del>	<del></del>											
				<del>   </del>					×			-		
WELL CA	APACITY (Gali	ons Per Foot	). <b>0.78" =</b> 0.02	t; 1" ≠ 0	04; 1.26	)" = 0.06,	2" = 0 16;	<b>3"</b> = 0.37	7. 4" = 0.65;	6» =	1.02;	P = 1.4	7, 12" =	5 86
					SAN	APLING	DATA							
	DBY (PRINT)	1. 15	1.	SAMPL	ER(B) SIGN	ATURE(S)	·		SAMPLING E				NG TIME.	
PUMP OF	TUBING	Ja-lie	<u>K</u>	TUBING					HELD-FILTE				. 17	
	WELL (feet):	<u> 93</u>			ALCODE	Pt			Filtration Equ	bweur sen	Y Type: (4)	<b>)</b> 	FILTER	SIZE"
DUFLICA	TE COLLECTE	E Y	0											
SAM	ple contain	er specifi	DATION		BAMPL	8 PRESER	HOITAY		Intende Analybi And/or Methol		EQU	/PLING IPMEN ODE	T P	MPLE UMP LOW LATE
SAMPLE D CODE	CONTAINER S	MATERIA L GODE	VOLUME		RYATNE	TOTAL V ADDED IN	FIELD	NAL H						Vmin)
	3	CG	4001	1+ C	,L			_	82601	3	RF	pp		
											<del></del>			
					I									
					]									
REMARKS				-	1			]						
MATERIA	LCODES A	<b>G</b> = Amber G	lass; <b>CG</b> = (	lear Glas	; <b>PB</b> s	Palyethyler	16, <b>PP</b> = <b>P</b> (	dypropyl	ene: 8 o Suh	enne;	T = Teff	on, (	o a Other (S	Specify)
SAMPLIN	3 Equipment	CODES:	APP = After F RFPP = Reve	eristaltic i rse Flow F	Pump. Penstalbe P	<b>0 -</b> Baller, ump, <b>S</b> l	EP = Blox M = Stow Met	ider Pun hod (Tub	ip, ESP • I	Electno	Submers O = Oth	ible Pu	mρ,	

STABILIZATION CRITERIA

NAME	Clouds Che	vron					SITE LOCATION	Taylors	Street & Tw	o No	ch Roa	d. Co	lumbia. S	c
WELLN	• N	W-113	3		MAR	PLE ID	Mw-		The Services		DAT			
			<del>,                                      </del>	* ***								1-	<u> </u>	
					P		ATAD E							
WELL DIAMET	ER (Inches)	<b>J</b>	Well Depth (fo	50		DEETH	CREEN INT	. 2 .	STATIC et TO WAT	DEPT	Het) 18,6	P	URGE PUM	P TYPE
MELL V	OLUME PURG	E: 1 WELL	VOLUME : (	OTALWE	LL DEPT	- STAT	IC DEPTH T	OWATER	) x WELL (			110	RBAILER	
	<del></del>	CUMUL	B (	30	) re	*t-	8.61	feet	) × O.	16	gallon	3/foot	1,82	gallens
TIME	VOLUME PURGED (gallons)	VOLUME PURGED (gallons)	(°C)	۸	(ne) Hd	۸	COND (B <sub>4</sub> )	٥	(m8/r) ບົບ	۸	TURB IDITY (NTU)	۵	COLOR	ODOR
1430			24.6		6.8	_	220	-	1.1	_	41	二	Cle	mad
1440		3.5	23,1	1,5	6.5	0.3	194	26			186	145	SICIA	1
1451	1.5	5.0	22.9	0.2	6.4	0.1	176	18			al	165	CIT	
1501	3.0	7.0	29.9	0	£ - L	10	171	5			9.3	11.2	CIT	
1520	1.5	8.5	22.9	0	63	0.1	172	1			9.4	0.4	CIr	V
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			<del>                                     </del>	<del>                                     </del>		-								
	<b></b>			1							<b></b>			
WELL CA	APACITY (Galle	ons Per Foot)	0.75" = 0.02	2; 1" = 0	104; 12	r = 0.08;	2° = 0.16;	3" = 037	'. 4" = 0.65;	5" =	1.02;	3" = 1 <i>A</i>	7. 12" =	5.69
Da Later Pi	D BY (PRINT)	·····			SA	MPLING	B DATA			· · · · · ·				
	eneren	Warli	. <i>I</i> .	SAMPLE		NATURE(S)	_		EAMPLING E 4-1 -	ATE:		SAMP	LING TIME:	<del> </del>
PUMP OF	LUBING		K	TUBING			<del> </del>		FIELDFILTE		V		FILTER	Nive:
DUPLICA'	WELL (feet):	<u> </u>	0	MATERI	AL CODE.	PE	·		Filtration Equ	pment	Type:		FILTER	312.5
			<u> </u>					<del></del>			<del></del>		ووروسيوالسادا	
SAMI	PLE CONTAIN	er speciph	CONTAC		SAMPL	e preser	IVATION		entende Analysi And/Or Methol	8	EQU	apling Ipmen Odb	T P	MPLE UMP LOW LATE (Min)
Sample D code	CONTAINER 8	MATERIA L CODE	AOTAME	PRESEF US	wative ed	TOTAL \ ADDED IN (ml.)	FIELD	Final ph		,				,,,,,,
	3	CG	4001	Hc			7		8260L	3	R	FPX	,   =	
				-							,			
REMARKS									······································	<del></del>	<u> </u>			
	4415													
MATERIAL	L CODES AC	a Amber G		lear Glass	0.00	Polyethyler		Polypropy			T 12 Teff		o Other (S	specify)
	- 440 (FIRE (1)	~~D05	APP = Atter F RFPP = Reve	renstallic F rise Flow F	enstatic P	8 = Bailer, ump, 8	BP = BI M = Straw M	adder Purn thed (Tub	ip.	Electric in),	Submers O = Oth	ible Pu er (Spe	mp,	

STABILIZATION CRITERIA

SAMPLE ID

MW12

SITE LOCATION Taylors Street & Two Notch Road, Columbia, SC

						DATA							
VELL (INChes)	Total W	'eli Depth (fee	21) D4	15	WELL S	CREEN INTE	A -	STATIC	DEPTH	4.2	O PI	IPÇE PU	
IAMETER (Inches)	1 WELL VO	ILUME = (TC	OTAL WE	LL DEPTH	4						المرا الم	REALER	7-
			24.6		et – L		feat)		. 1	gallons	/foot	*3, 2°	7 gano
TIME PURGED	CUMUL VOLUME PURGED (gallens)	TEMP (°C)	١	рН (Su)		COND (µ8)	`	DC) (ràg/L)	٨	TURB IDITY (NTU)	۸	COLOR	9 000
150 -	(FIGURE 19)	22.7	-	6.1		345		1,3		46	_	Clr	DOUB
	3.0	224	0.3	6.4	0,3	301	46			62	16	clc	
	5.0	22.3	0.1	6.3	0.2	296	5		Ţ	1/	51	clr	1
528 2.5	75	22.5	0.2	5.9	0.3	294	13			io	ΙĻ	cle	$\perp$
	0.0	22. 4	or!	5.8	0,1	297	3			9,8	0.2	clr	
3.0	13.0	22.3	0.1	5.8	0	295	2			9.5	0.3	CIC	14
													1
-++							+		-				+
1 1			<del></del>		-						-		-
ELL CAPACITY (Gallons	Per Foot)	<b>0.75"</b> = 0.02	. 1* o (	0 04; 1.24	5" = 0 06;	2" = 0 16,	<b>3" =</b> 0.37	7; 4" = 0.65;	8" -	1.02;	6" = 14	17, 12"	°= 5 86
MPLED BY (PRINT)					MPLIN	G DATA	<b>3" =</b> 037	SAMPLING	DATE		SAMP	LING TIN	
MPLED BY (PRINT)  CANCOL  MP OR TUBING	Jarli	·k	SAMPL	SAI ER(S) SIG	MPLING NATURE(S	G DATA	3° = 0.37	SAMPLING 4-1	DATE -/}	<i>*</i>	SAMP	LING YIN	
AMPLED BY (PRINT)  CANYOL  IMPORTUBING  EPTH IN WELL (feet):	Jarli:	·k	SAMPL	SAI ER(S) SIG	MPLIN	G DATA	3° = 031	Sampling 4-1	DATE -/}	<i>*</i>	SAMP	LING YIN	ΛE·
AMPLED BY (PRINT)  CANYOL  IMPORTUBING  EPTH IN WELL (feet):	20,0	ek O	SAMPL	SAI LER(S) SIGI G RIAL CODE	MPLING NATURE(S	G DATA ):  E	3° = 037	SAMPLING 4-1	DATE - / J RED spment	Type:	SAMP	LING YING	ME SIZE
AMPLED BY (PRINT)  CANCIO  MP OR TUBING  PTH IN WELL (rest):  PLICATE COLLECTED:  SAMPLE CONTAINER	20.0	ATION VOLUME	SAMPL TUBING MATER PRESE U	SAI LER(S) SIGN G RIAL CODE SAMPI ERVATIVE ISED	MPLIN	G DATA ):  RVATION  VOL FIELD	3" = 0.31	SAMPLING  4-1 FIELD-FILTE FIIDED EQUIPMENT ANALYI AND/O METHO	DATE -/J RED spment	Type.	SAMP /5	LING YING YING FILTE	ME SIZE
MPLED BY (PRINT)  CATALO  MP OR TUBING  PTH IN WELL ((cet):  IPLICATE COLLECTED.  SAMPLE CONTAINER  IMPLE  CORE  S	20.0	ATION	SAMPL TUBING MATER	SAI LER(S) SIGN G RIAL CODE SAMPI ERVATIVE ISED	MPLING NATURE(S)	G DATA ):  RVATION  VOL FIELD	FINAL	SAMPLING  4-2 FIELD-FILTE Filtration Equ  INTEND ANALYI AND/O	DATE -/J RED spment	Type:	SAMP /5	LING YING YING FILTE	ME SIZE
MPLED BY (PRINT)  CACCIO L  MP OR TUBING PTH IN WELL (rest): PLICATE COLLECTED.  SAMPLE CONTAINER  MPLE CORE S	20.0	ATION VOLUME	SAMPL TUBING MATER PRESE U	SAI LER(S) SIGN G RIAL CODE SAMPI ERVATIVE ISED	MPLING NATURE(S)	G DATA ):  RVATION  VOL FIELD	FINAL	SAMPLING  4-1 FIELD-FILTE FIIDED EQUIPMENT ANALYI AND/O METHO	DATE -/J RED spment	Type.	SAMP /5	LING YING YING FILTE	ER SIZE
MPLED BY (PRINT)  CATALO  MP OR TUBING  PTH IN WELL ((cet):  IPLICATE COLLECTED.  SAMPLE CONTAINER  IMPLE  CORE  S	20.0	ATION VOLUME	SAMPL TUBING MATER PRESE U	SAI LER(S) SIGN G RIAL CODE SAMPI ERVATIVE ISED	MPLING NATURE(S)	G DATA ):  RVATION  VOL FIELD	FINAL	SAMPLING  4-1 FIELD-FILTE FIIDED EQUIPMENT ANALYI AND/O METHO	DATE -/J RED spment	Type.	SAMP /5	LING YING YING FILTE	ER SIZE
AMPLED BY (PRINT)  CATURE LA TUBING  EPTH IN WELL ((cet):  JPLICATE COLLECTED.  SAMPLE CONTAINER  AMPLE  CORE  S	20.0	ATION VOLUME	SAMPL TUBING MATER PRESE U	SAI LER(S) SIGN G RIAL CODE SAMPI ERVATIVE ISED	MPLING NATURE(S)	G DATA ):  RVATION  VOL FIELD	FINAL	SAMPLING  4-1 FIELD-FILTE FIIDED EQUIPMENT ANALYI AND/O METHO	DATE -/J RED spment	Type.	SAMP /5	LING YING YING FILTE	ΛE·

SITE Name

WELLNO

Clouds Chevron

6M = Straw Method (Tubing Gravity Drain),

O = Other (Specify)

RPPP - Reverse Flow Penstaltic Pump.

NAME	Clouds Che	vron					OCATI	ON. Tay	iors 8	Street & Tw	Not	ch Road	i, Col	umbia, S	C
WELLN	9				SAME	PLE ID. 🔨	1W:					DATE	4-	1-14	
	_	-			Pi	JRGING	a DA	TA							
WELL DIAMETE	EP (inches)	<b>J</b>	l Well Depth (fe	30	0.10	WELL S	CREE	I INTERV		STATIC et TOWAT	DEPTH	) //. /	3 8	IRGE PIJM R BAILER	P TYPE
WELLVO	DLUME PURG	E: 1 WELL	VOLUME : (T	OTAL W	EU. DEPTH	- STAT	O DEP	THTOW	ATER) feet)	X WELL		TY gallens		-3.03	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOI UMF FURGEO (gallons)	(°C)	Λ	pH (SU)	Α .	CC	ND (S)	,	(wō\r) DO	,	TURB IDITY (UTU)	٨	COLOR	QUOR
1432		(Hamelin)	25.0		6.2	_	16	7	_	2,4	=	21		clr.	nune
148	3.5	35	24.0	1.0	6.0	0.2	14		26			49	28	CIC	
500	1.5	5.0	29.8	0.3	60	0			2			11	38	clc	
30	3.5	7.5	23.9	0.1	5.9	10.7	13		3			10.5	0.5	cla	
1527	2.0	19.5	23.9	10	6.0	0.1	13	8	2			9.8	0.7	cla	4
										- 71					
						,									
		<del> </del>							_						
	<del> </del>		<del> </del>		<del> </del>					<del></del>					
										***************************************					
			!							<u> </u>					
		ons Per Foot	): <b>9.76*</b> = 9.02		SAI	P - 0.06; WPLING	3 DA	· · · · · · · · · · · · · · · · · · ·	= 0.37	; 4" = 0.65;		1.02;	3" = 1,4	7; 12° =	5.88
	oby (Print) meen h	selick		SAMP	LER(S) SIGN	VATURE(S	).	````		SAMPLING E				ING TIME	
PUMP OR	TUBING WELL (feet).	20,	0	TUBIN		0	E		_	PIELD-FILTE	₹D.	V A		532 T	size <sup>,</sup>
	TE COLLECTE	D Y	0	MATE	RIAL CODE:		<u> </u>		J	Filtration Equi	pmert	Туре		<del></del>	
BAM	PLE CONTAIN	er specifi			Sampl	e presei	RVATIO	N		ENTENDE ANALYS AND/OR METHOL		EQU	APLING IPMEN ODE		MPLE UMP LOW LATE (Vmin)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	VOLUME.		ERVATIVE ISEO	TOTAL ADDED IN (mL)	FIELD	FINA pH							
	ಎ	CG	410m1	140	<u> </u>	,,,,,,	`			82601	3	R	PP		->
									$\Box$						
										<del>*************************************</del>		<del> </del>			
REMARKS															
MATERIAL	L CODES A	<b>G</b> ¤ Amber û	ilass, CG = (	ileor Gia	59, PB a	Privethyle	ne.	PP = Paly	mmu	ene, 8 × Sili	enne	T = Tell	60 '	0 = Other (	Sporter
	G EQUIPMENT		APP = After F	enstaltic	Pump.	B = Bailer	6	e Gladd	er Pum	D. ESP -	Electric	Submer	ide Pu	mp;	atharti <b>y</b> )
	·		RFPP = Reve	ise Floa	Pensialtic F	אַמייני, בּ	M = Str	aw Metho	d (Tub	ing Gravity Dra	in),	O + OM	er (Spe	city)	- 1

STABILIZATION CRITERIA

WELL NO WELL NO PURGING DATA  WELL SCREEN INTERVAL STATIC DEPTH 16,0 PI DEPTH 15 reet to 25 reet 10 WATER (rest)	1/14
WELL Total Well Depth (feet) A.F. WELL SCREEN INTERVAL STATIC DEPTH J. D. P.	1/15
WELL SCREEN INTERVAL STATIC DEPTH / DIP	,
WELL SCREEN INTERVAL STATIC DEPTH A DIE	P DTP 161
	PGE PUMP TYPE
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY	BAILEP
a feet - feet x gallons/foot	o gallons
TIME PURGED COMUL TEMP A PH COND DO TURB	
PURGED PURGED (°C) A (3U) A (mgr.) A (CIT) A (NTU)	COLOR CDOP
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.97; 4" = 0.65, 6" = 1.02, 6" = 1.4	. 12" = 5.88
100, 0 11da, 0 11da	, 12 - 0.00
SAMPLING DATA	
SAMPLED BY (PRINT)	NG TIME:
PUMP OF TUBING TUBING	
DEPTH IN WELL (feet) MATERIAL CODE Filtration Equipment Type.	FILTER SIZE
DUPLICATE COLLECTED Y N	
SAMPLE CONTAINER SPECIFICATION SAMPLE PRESERVATION ANALYSIS SOURCE.	PUMP
AND/OR ENGINEER	FLOW
SAMPLE # MUTGOLA CRECOGNISTIC TOTAL VOL	(m/min)
D CODE CONTAINER LCODE VOLUME PRESERVATIVE ADDED IN FIELD PH	
REMARKS	
0.60 feet Free-product.	
MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PB = Polychylene, PP = Polypropylene, B = Silicone, T = Tellon,	• Other (Specify)
SAMPLING EQUIPMENT CODES: APP - After Peristaltic Pump, B = Beller, BP - Bladder Pump, BSP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tuting Gravity Drain), O = Other (Spa	na

STABILIZATION CRITERIA

SITE	Clouds Che	vron	·				HTE		dans f							
NAME.	Φ.				SAMP		MW.	N 10)	/iors a	SITE	& IW	0 1401	DATE	, Col	umbie, S	C
					Granie		/ IW		2	·——		-		4	2-14	, =
					PU	RGING	DA1	Α								
WELL DIAMET	ER (Inches)	2 Tot	al Well Depth (f	eet) 25		WELL S DEPTH	CREEN	INTER	/4 <u>L</u>		TATIC	DEPTH	17.5	H PI	UPGE PUN	P TYPE
WELLY	OLUME PURG	E 1 WELL	. VOLUME = (	TOTALWELL	HTEBU	- STAT	C DEPT	HTOW	ATER:		*******	ريقيان وسنه	• •		ROALER	
ļ	T	CUMUL		25	fee	'-  -	7.54	<del>-</del>	feet	) X	0.	16	gallon	/foot	-1,19	gallons
TIME	VOLUME PURGED (gallans)	VOLUM PURGEI (gallons	E TEMP D (°C)	4	рн (su)	۸	(#8	- 1	۸		ე∂ (g/L)		TURB IDITY (NTU)	٨	COLOR	ODOR
14:47			26.6	<u> -  </u>	2		361	2	)	$\int_{\mathcal{I}}$	9	_	32		CIC	none
		<b>-</b>														
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		<del>                                     </del>		<del>1  </del>			- :	-+								
								+								
WELL ¢	APACITY (Gaill	ons Per Foo	t). <b>0.78" =</b> 0.0	2, 1" = 0 04	1, 126	° = 0.06,	2" = 0.1	6, <b>3</b> °	- 0.37	'; 4°	<b>•</b> 0.65;	<b>5"</b> a	1.02;	3° = 1.4	7, 12" =	5.89
-					SAN	PLING	DAT	•								
Co	SY (PRINT)	larlish	ί.	SAMPLER	(S) SIGN	ATURE(S)	سرا	<u> </u>			PLING D				ING TIME	
LOW CA	TUBING WELL (feet):	-		TUBING MATERIAL	CODE:		,			FIELD	FILTER On Equi	ED.	V N	<del>,</del>	FILTER	AIZE
DUPLICA	te collecte	D Y	0					****		1 119 01	on equ	hinese	1700.			
EAM	PLE CONTAIN	er bpeoif	ICATION		Sample	PRESER	VATION			A	ITENDE NALYSI AND/OR METHOL	S L	EGU	PLING IPMEN ODB	T P	MPLE UMP LOW LATE (MIN)
SAMPLE ID CODE	CONTAINER S	MATERIA L CODE	VOLUME	PRESERV/ USED		TOTAL V ADDED IN I (ml.)		Fina ph								
	a	Ce	40ml	HCL						ع	260	B	L	3		_
								· · ·								
						<del></del>			$\dashv$							
															_	
REMARKS							<del></del>		<u>L</u>							
MATERIA	L CODES A	O m Amhas A	linee en -	SPAFGIASS.	20 - ×	losts onto										
	B EQUIPMENT		APP - After	enstattic Pu	no.	olyethyler - Baller,	<b>DP</b>	e Paly Bladd	er Pum	D.	S = SHI	Electric	T = Teff		o = Cither (!	specify)
			RFPP = Reve	rise Flow Per	istallic Pu	mp, Bl	M - Stal	Metho	d (Tub	ing Gr	nity Dra	in),	O = OM			

STABILIZATION CRITERIA

SITE	Clouds Che	vron		***************************************		S	STE OCATIO	<sub>N</sub> Tay	lors S	Street & Two	o Nate	h Road	i. Coi	umble. S	С
WELLN	· Mw	-174	<u> </u>		SAMP		Μw					DATE		2/14	
·										<u></u>		ــــــــــــــــــــــــــــــــــــــ		41.1	-
WELL		1			PU	RGING		The second second							
DIAMETE		<b>カー</b>	l Well Depth (fe	50		WELL'S	20 fe	et to 3'	?) te	STATIC I	Depth ER (fes	0.25	0 0	idge pun R bailer	P TYPE
WELLY	DLUME PURG	E: 1 WELL	VOLUME # (†	OTAL WELL	DEPTH Iei	- STATI 22.	CDEPT	H TOW	ATER)	) x Merr c	APACI	TY gallens			gallons
	T	CUMUL	<u> </u>	T 50		20.	00			<u> </u>	6	····		-1.28	ganoris
TIME	VOLUME PURGED (gallens)	VOLUME PURGED (gailors)	(°C)	1	βH (Su)	Λ	COλ (μ5	5)	A	(mg/L) ©©	۸	TURB IDITY (NTU)	۸	COLOR	ÓDOR
14:50	_		24.7	_	6.9		25	5		1.0	_	87		clr	Then
		<del> </del>													
ļ	<del> </del>	<del>                                     </del>			<del></del>							ļ		<del></del>	
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10511.04														·····	<u> </u>
WELL CA	TPACITY (GBII)	ans Per Poor	): <b>0.76"</b> = 0.02	2, 1"=0.0	4; 1.26	e 0.06;	2" = 0,	16; 3*	= 0.37	7, 4" = 0.65;	6* =	1.02; (	3" = 1.4	7, 12" =	5 68
					SAI	MPLING	3 DA	ΓA							
SAMPLE	DBY (PRINT)	War	1.6	SAMPLER	i(S) SIGN	IATURE(S)	)			SAMPLING D		1		ING TIME	
PUMP OF	4 1050463		16.	TUBING					_	FIELD-FILTE Filtration Equi		VON		/:50	SIZE:
	WELL (feet)	D: Y	(6)	MATERIA	L CODE:		_			Filtration Equi	pment	Type.			
		· · · · · · · · · · · · · · · · · · ·				<del></del>			_		-	ι		1 8	MPLE
SAM	PLE CONTAIN	er specif	CATION		SAMPL	<b>4</b> Preser	WATIOI			entende Analys	18		viplini Upmen	3	PUMP
								-	1	AND/OF METHO			ODE		RATE nimin)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	VOLUME	PRESERV USE		TOTAL ADDED IN (mL)	FIELD	FINA pH						1	11 V 414 11515
-	J	CG	40ml	HCL	<b>a</b>					8260E	3	13	3		
	•														
		ļ						- !				<b> </b>			
												<del>                                     </del>		_	
REMARK	S S	L	L			<del></del>						L	<del></del>		
															_
	L CODES A			inar Glass,		Polyethyle		P = Pol				T a Tef		O = Other	Specify)
SAMPLIN	g equipment	r CODES:	APP = Atter			B = Bailer ump. 8	. <b>gp</b> M = Stra	e Bladd Metho	ler Pun 3d (Tul	np, <b>ESP</b> = bing Gravity Dr.	Electric ain),	Submer O - Ot			

STABILIZATION CRITERIA

SITE NAME	Clouds Che	norve					SITE LÜCATI	mi Te	eviors	Street & Tv	vo Not	ch Ros	d Col	lumbia S	<u>.                                    </u>
WELLN	o Mw	-181			SAM		NW.	18				DAT	Ē	2-14	
WELL		n Tot	el Well Depth (I	eet)		URGING			BV/AT	. /	SES.		- 1 -		
DIAMET	ER (inches)	<b>~</b>	. VOLUME = (	30	9	DERTH	20	bet to	2~ "	4 er   1 e. 1143	· Fix lie	123.6 et)	7 0	urge pun R Bailer	P TYPE
			s (	38	) le	el- 3.	3.6	ти то <b>2</b>			CAPAC	gallen	s/feet	1.01	gallons
TIME	VOLUME	CUMUL		T	рн		1	ND	T	T T	Ť	TURB	Γ	1, <u>01</u>	T
i tanië	PURGED (gallons)	PURGEI (gallons	(°C)	^	(90)	^		S)	^	DO (mg/L)	۸	(NTU)	۸	COLOR	000
13:49			250	_	5.6	=	18	2		0.4	1=	341	_	cldy	sira
														1	
	<del>                                     </del>	<del> </del>		<del>-</del>		<b></b>	ļ	<u>.</u>							
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		1	+	1							-				
								***			<del> </del>				-
		uis rei roui	). <b>9.75" =</b> 0.0		SAI	MPLING	3 DA	•	3" = 0.3	7, 4" = 0.65;	6° •	1.02, 6	- 14	17, 12" ×	5.88
	BY (PRINT) MYCM	1.10.16	L	SAMPL	ER(S) SIGI	NATURE(S	);			SAMPLING				JNG TIME.	
	TUBING WELL (feet)		<u></u>	YUBING						FIELD-FILTE	PFD.	Y A		:49 FILTER	SIZE
	E COLLECTE	:D: Y	0	MAIER	MLCODE.				i	Filtration Equ	ipment	туре:			
BAM	PLE CONTAIN	er specip	CATION		6 AMPL	e preser		N		ENTENDI ANALYS AND/OI METHO	iis R	EQU	apling Ipmen Ode	T F	IMPLE UMP LOW LATE (Vmin)
SAMPLE D CODE	CONTAINER S	MATERIA L GODE	VOLUME		RVATIVE SED	TOTAL ( ADDED IN (mL)	FIELD		H N						
	3	CG	4001	上	1				-	8260	3	1.	2,		
EMARKS															
IATERIA	CODES A	3 • Amber G	ilass; CG = I	Sigar Glas	9. PA z	Polyetnylet	ne é	3D p Da	lypropyl	ene. <b>8</b> = Sil	leans	¥ _ T		A _ A	
	EQUIPMENT		APP - After	Peristaltic	Pump,	B = Baller	Q.	e Blad	der Pun		Flector	T = Teff: Submers		o o Omer (: mp,	sperify)

STABILIZATION CRITERIA

SITE	Clouds Che	ATOP	· · · · · · · · · · · · · · · · · · ·				∌ITE				<del></del>				<del></del>
NAME		7.7		····	1.				iors S	ireet & T	wo Not	ch Roat	J. Coli	ımbla, S	<u> </u>
WELLNO	EX**	N-19	7		SAMP	LE ID	MW	-10	<u> </u>				- 4/	3/14	
	-				Pi	IRGIN	S DA	ΤΔ		•					
WELL		Tota	Well Depth (fe	et) 3C		WELLS	CPEEN	INTERV		STATI	C DEPTI	23.3	3 PL	IRGE PUM	P TYPE
WELLV	R (Inches) OLUME PURO	L: 1 WELL	VOLUME = ()			DEPTH	20 1	eet to 3	O fee	71 I IL. 1 VV	TER (18	2()	OF	BALER	
			<b>e</b> (	30	fee	et- D	3.3	<u>ع</u>	feet)			gallors	Most .	1.07	gallons
TIME	VOLUME	VOLUME		A	рн		co	D	Α	טָת	Τ,	TURB			
	PURGED (gallons)	PURGEO			(SU)		' (μ	S)		(mg/L)	^	IDITY (NTU)	^	COLOR	COOR
1435		_	23.4		6.3	_	191	1		0.8	_	164	_	SICILLY	med
<b></b>	ļ	<del> </del>					<u> </u>								
<del></del>	<del> </del>	<del> </del>		1		<del>                                     </del>					<del> </del>	<b> </b>		-	
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				<del>                                     </del>				-			+-				
				1 1	·····	<b> </b>	<del>                                     </del>	_			╁		$\vdash$		
WELLGA	PACITY (Gali	ons Per Fooi	0.76" = 0.0	2; 1" = 0	fi4: 1.2/	P = 0.06;	0" a 0	16 3*	- 0 27	4"=06	e ev.	102	<b>"</b> = 1 <i>A</i>	2 407 -	4.00
			y. 0.05	.,		- 0.00,		10, 0	- 0.57	. 4 -06	o, o ·	1.02,	- 14	7, 12"=	7.65
					SAI	MPLIN	G DA	TΔ							
SAMPLE	D BY (PRINT)		<del></del>	SAMPL	R(S) SIG	NATURE(				SAMPLING		T	SAMP	ING TIME	
Tre	TUBING SI	act		JURING	1	M				4/3	114		14	135	
DEPTHIN	WELL (feet)				AL CODE	-				FIELD-FIL Filtration E	dribwey EMED.	Type O		FILTER	SIZE"
DUPLICA	TE COLLECTE	D. Y	<b>O</b>	<del>,</del>											
5435	5: F 66117451		14 ATIMA		<b>b</b> 444 <b>5</b> 1				1	entën Anal'			MPLING	)   1	UMPLE UMP
enm.	Ple Contain	en ereçir	ICATION		BAMP	Le Prèse	RVATIO	N		AND/	OR	Ear	iipmen Sode	1 1	LOW RATE
SAMPLE	CONTAINER	MATERIA	VOLUME	PRESE	RVATIVE	TOTAL		FINA	.			†			(Vmin)
id code		LCODE	ļ	US	ED	ADDED IN		Hq							
	2	CG	40ml	1+4	-		•	-		82601	3	- 5	3		
		<b> </b>		<del> </del>	****	~~						1	·····	_	
	<u>-</u>	<b></b>		<del> </del>								<del> </del>			
	<u> </u>											†			
REMARK	Š														
MATERIA	LCORR 4	G = Amber (	Since An-	Plant Plan	a 80 -	Batresta	NO.	0B - 0-1		<b>an</b> o <b>a</b>	Pilitae a				
	G EQUIPMEN		APP = After	Clear Glas Penstallic		Polyethyle B = Balle		PP = Poi			Silicone, s Electri	T = Tel		O = Other (	Sperily)
			RFPP = Rev			oump, I	SM = Str	aw Meth	ed (Tut	ing Gravity	Drain),		sicie Pt ter (Spi		İ

NAME	Clouds Che	vron					OCATIO	N Taylor	s Stre	et & Tw	o Not	ch Roa	d. Cal	umbia. S	С
WELL N	o EN	W-20	j		SAME		۱w-	-					4	3/16	
														911	+
WELL		5 Tabu	Mai Banta H		PL	IRGINO		- Contract of the Contract of							
DIAMET		<b>~</b>	Well Depth (fo	al E	5	DEPTH	151		feet		€R (fe	et)と1.9	25	urge pun Fraker	P TYPE
WELL T	olume purg	e: 1 Well	s (	25			1930 31 <b>2</b> 9,	H TOWATE	et) X	\	APAC 6	gallen	s/foot	°0,49	gallons
TIME	VOLUME PURGED (galions)	VOLUME PURGED	TEMP (°C)	1	рн (Su)	۸	CON (#S			DO (mg/L)	\	TURE IDITY (NTU)	۸	COLOR	ODOR
135	(93110713)	(gallons)	23.4		6.1	+=	13		-   -	7.7		7/	+	Cle	mod
														<u> </u>	17700
<del></del>	<del> </del>	<del> </del>	<del>- </del>	<b>  </b>					$\Box$						
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	-		<del> </del>	-											
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		1	<del> </del>						╁			<del> </del>			
									†	···					
					· · · · · · · · · · · · · · · · · · ·									****	
WELL OA	NPACITY (Gallo	ons Për Foot)	<b>0.75" =</b> 0.07	2, 1" • 0	04, 126	)* = 0.06;	2" = 0.1	6, <b>3"</b> = 0	.37;	4" = 0.65,	6" <b>-</b>	102;	B" = 14	7; 12" =	6 88
					ÇAI	APLING	e DAT	• A			<del></del>				
	BY (PRINT)			SAME	F(S) SIGN		DA	Α	SĄ	MPLING (	ATE:	Т	SAMP	ING TIME:	
T CON		ock-		11	10 /	1			_  4	1311	4		13	15	
DEPTH IA	WELL (feet):				ALCODE:		_		Filt	I.D.FILTE ration Equ	PMent	Y (N Type:	<b>7</b>	FILTER	SIZE
DOPLICA	TE COLLECTE	:D: (Y)		MAR											
SAM	PLE CONTAIN	er specific	PATION	v	BAMPL	e preser	EVATION			NTENDE ANALYS AND/OF METHOI	18 1	EQU	VPLING IPMEN IODE	T P	MPLE UMP LOW (ATE
SAMPLE D CODE	CONTAINER S	MATERIA L GODE	VOLUME		RVATIVE JED	TOTAL \ ADDED IN (mL)	FIELD	FINAL ph							VMIN)
	2	CG	40m1	HCT					ě	7-00E	3	7	3		
								·							
						<del></del>		- <del> </del>	-	-					
-									╁	<del></del>		-			
REMARKS															
MATERIA	L CODES A	0 = Amher Gi	399, <b>CG</b> = (	irar Glass	. PE :	Polyethyler	re, Pi	a Polypro	oylene.	8 o Şili	rone.	T = Tef	on (	o = Other (!	Specify
SAMPLIN	O EQUIPMENT	CODES:	APP = Atter i		omp,	= Baller,	ep.	Bladder P	ump:	ESP =	Electric	Submen	sible Pu	mp;	- press ( )

STABILIZATION CRITERIA

SITE	Clouds Che	vron				] :	SITE CICATIO	nu Te	viors S	Street & Two	o Note	h Rose	i. Col	umbia S	c
WELLN	LMV	V-AT			SAMP		1w-					DATE		3/1-	<del></del>
							100-			***************************************		<u> </u>		<i>9</i>	
					PU	RGIN									
WELL DIAMETE	R (Inches)	<b>4</b>	Well Depth (fe	51		WELL S	201	et to 🛭	LO te	OF I ILLWAL	DEPTH Sen de	21.11	P.	ipge pum R Bailer	P TYPE
WELL VO	LUME PURG	B: 1 WELL	VOLUME = (1			- STAT	IC DEPT	нто	WATER	X WELL C		ΥY			
	1	CUMUL		<u>30</u>	, , ,	1-21	$: \bot \bot$		1551	^ 0.	6	gallons	ποοτ	9.42	gallons
TIME	VOLUME PURGED (gallons)	VOLUME PURGED (gallons)	(00)	۸	(an) bH	Α	C (μ			(mg/L)	۸	TURB IDITY (NTU)	۸	COLOR	ODOR
12.44			24.8		6.6	_	24			1,4		37	-	Clr	med
															111027
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		<u> </u>	<del>- </del>												
******			-		· · · · · · · · · · · · · · · · · · ·										
Well Ca	PACITY (Gaild	ons Per Foot	0.76" = 8 02	1" = (	04; 120	r" = 0.06;	2º = 0	.18;	3" = 0,37	7, 4" = 0.65,	<b></b>	1.02,	P = 1,4	7, 12" =	5.88
	***** <u>********************************</u>				SAD	<b>IPLIN</b>	3 DA			***************************************		<del> </del>			
SAMPLE	BY (PRINT)	- 1		SAMPL	R(S)SIGN			10		SAMPLING E	ATE:		SAMP	ING TIME:	
PUMP OR	ever 8	Slack			وسرسود	10 183		·		4/3/1	니		121	44	
DEPTH IN	WELL (feet).		lok	TUBING MATER	AL CODE:					FIELD-FILTE	bweur sec	Type:	,	FILTER	SIZE
DUPLICA.	re collecte	D Y	101												
BAM	LE CONTAIN	er specifi	CATION		SAMPL	.e pre861		N		intende Analys And/of Methol	IB L	EQU	PLING IPMEN ODE	T F	WPLE UMP LOW RATE IVMIN)
Sample D code	CONTAINER S	MATERIA L GODE	VOLUME		RVATIVE SED	TOTAL ADDED IN (mL)	FIELD		HAL H						
	a	CG	40~1	He						8200		]:	3		
								-							
	-							,				<b> </b>			
	· · · · · · · · · · · · · · · · · · ·														
REMARKS								<del></del>				L			
h * A T T T * * * * * * * * * * * * * * *	44757					<del></del>				<del></del>					
BAMPLIN	CODES A	G = Amber ( CODES:	APP = After	lear Glas Peristatic	Pump.	Polyethyle B = Bailer			alymany Ider Pun			T = Tefi		o = Other (	Specify)
			RFPP = Reve	ise Flow	Penstallic P					ing Gravity Dr.	un),	O = OM	er (Sp	city)	

STABILIZATION CRITERIA

SITE NAME Clouds Chevron SITE LOCATION Taylors Street & T	wo Notch	Road	, Colu	mbla. S	C
WELL NO (MW-23) SAMPLE 10 MW-25		DATE		3/14	
		<del></del>		<del>, , , ,</del>	
WELL O Total Well Depth (feet) WELL SCREEN INTERVAL STATI	C DEPTH	297	وروع لم	RGE PUM	PTYPE
Deer March	ATER (feet)	'	OR	BAILER	_
I A See - A - C C C C C	16	gallons	floot =	1.02	gallone
TIME VOLUME VOLUME TEMP A DH A COND A DO (mg/L)	A	TURB IDITY (NTU)	۸	COLOR	ODOR
(gallons) (gallons) (14)25 — 24.2 — 6.5 — 20 — 7.9	_1	96		clr	moch
				1	
	++				
	+-+		-+		
			$\dashv$		
	+++				
			L		
WELL CAPACITY (Gallons Per Foot): 0.76" = 0.02; 1" = 0.04; 1.26" = 0.06, 2" = 0.16, 3" = 0.87, 4" = 0.6	66; <b>6" =</b> 1	1.02, 6	" = 1 <i>A</i> 7	: 12° =	5.88
CAMPI INC DATA					
SAMPLED BY (PRINT) SAMPLED BY (PRINT) SAMPLED BY (PRINT) SAMPLING	G DATE:	-11	SAMPLI	NG TIME	: 1
Trever Slock In 1/31	1-1		14	35	
DEPTH IN WELL (feet): MATERIAL CODE: Filtration E	TERED Y quipment T	ype.		FILTER	SIZE.
BUPLICATE COLLECTED: Y					
Sample container specification bample preservation analymetric	YÉIS OR	EQUI	PLING IPMENT ODE	.	AMPLW PUMP FLOW RATE nimin)
SAMPLE CONTAINER LODGE VOLUME PRESERVATIVE ADDED IN FIELD PH		***************************************			
2 CG 40ml HCL - 8266	4	)-	3	-	
	23		4		
	2B				
	28				
	28				
	28				
REMARKS	28				
		T ∘ Te∏u		o Other (	(Sperily)

STABILIZATION CRITERIA

SITE	Clouds Cho	evron		<u> </u>		Š	NTE			2 LUG					
WELLN		W125	]	**************************************	SAM					Street & Tv	/O NOI			mbia, S ' - /4	
			/	<del></del>			<u> </u>	<u>- ) -</u>	<u> </u>	<del></del>			7-1	• / 7	····
WELL		. 7.48-	11 Many Manch of		P	URGING									
DIAMET		2 '**	il Well Depth (f	eer) 35	5.6	WELL S DEPTH	OPEE:	v in TER feet to	Ç <sup>∆L</sup> (	STATIC Pet TO WA	DEPTI	(st) 19.7	/ PUI	rge pum Bailer	P TYPE
METT A	OLUME PUR	e: TWELL	VOLUME ? (	TOTAL WE	LL CEPTI	17478 - F 1951 1961	ic def	THYOV	WATER	X WELL	CAPAC	ITY	/loot =		gallons
	VOLUME	COMOL				T	<u> </u>				P	TURB		0.11	1
TIME	PURGED (gallons)	PURGE! (gallers	(°C)	^	គ្គH (Su)	۸		72) ND	A	(talatr)	^	(NTU)	^	COLOR	ODOR
9:12			18.8	_	6.6		49	1		1,2	-	496		eldu	Stro
			_											1	
	<del>                                     </del>	┪──		1-1		-	-				┼				
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				╂		+									
						1					-	<del> </del>	-		-
		<del> </del> -	+	-		<del>                                     </del>									
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-											-				
well ca	PACITY (Gail	ons Per Fool	): <b>0.75" =</b> 0.0	2; 1* = 0	04; 12	<b>6" = 0.06</b> ;	2" - 0	.16, 3	<b>" =</b> 0.3	7; 4" = 0.65;	6	102; 6	" = 1 <i>A</i> 7,	12" =	5.88
<del></del>					<del></del>							·			
AMPLE	O BY (PRINT)			- CANADI	SAI	MPLING	DA	TA							
Ca	meron l	Lerlie	k	SAMPLE C	100 (6)75	W-	•			SAMPLING	DATE:		Sampli 9:/	IG TIME:	
PUMP OF DEPTH IN	WELL (lest)	~		TUBING	ALCODE:	<u> </u>				PIELD-PILTE Filtration Equ	RED'	Y O	-	FILTER	aize .
DUPLICA	LE COTTECLE	D Y	<b>Ø</b>								, p	1900.	<del></del>		
RAM	PLE CONTAIN		ATION							NTENDI ANALYS			PLING		MPLE
		en ermeir	2M112H		SAMP	lb preser	VATIO	N		AND/O	R		ipment Ode	F	LOW LATE
SAMPLE D CODE	# CONTAINER	MATERIA	VOLUME		RVATIVE	TOTAL V		FIN			-	<del>                                     </del>		(m	(min)
OUDE	2	CG	Homi	1+ cl	ED	(mL)		ρH		0.67		<u> </u>		4_	
-			10/01	175	-					8260	5		3	+=	•
													<del></del>	_	
EMARK				<u> </u>								L			<del></del>
MATERIA	LCODES A	A a Ambar -	ilar a a a	54aa- 54								·			
	CODES A	<b>G</b> = Amher G	485, <b>CG = (</b>	Blear Glass	· PB c	PolyPhylen	P.	PP = Pai	ypropyl	ene; SøSII	lcone,	T = Teffe	nn; O	o Other (S	Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

O = Other (Specify)

ESP = Electric Submersible Pump.

SAMPLING EQUIPMENT CODES: APP = After Peristatic Pump, B = Baller, BP = Bladder Pump, BSP = Bleck RFPP = Reverse Flow Peristatic Pump; SM = Straw Method (Tubing Gravity Oraln);

SITE	Cicuds Che	vron				8	ITE	Tav	dore f	Street & Tw	a Nat	ch Pose	1 Cal	umble C	<u></u>
WELLN	MV	v-26			SAMF		1W :			Direct di 141		DATE		3/12	<u> </u>
·										···········			<u>, , , , , , , , , , , , , , , , , , , </u>		<u> </u>
WELL	·-··	o Total	Well Depth (fe	etr 🔿 🗅	PL	IRGINO			/Δι	STATIC	DEBTH		1 6	JPGE PUN	D TUBE
	ER (Inches) (	ムー		عد	o reevo	WELL S DEPTH	2 '	***	,	et TOWAT	ER (fe	x)20.0	1 0	R BAILER	
			a (	30		et - " ີ <u> </u>	0.0	1	feet		6	gallens	/fost	-1.60	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	(00)	۸	րH (9u)	Δ	CO(		۸	©© (mg/L)	۸	TURB IDITY (NTU)	٨	COLOR	ODÚR
1155		_	22,9		7.0		19			1.2	_	296		Cly	mod
-															
		<del> </del>	<del></del>	-		-									
SAMPLE	APACITY (Galic DBY (PRINT)				SAI	MPLING NATURE(S	2" = 0		- 03:	7; 4" = 0.65,	<u>-</u>	·	= 1/	17. 12" • LING TIME	
Tr	ever s	slack		In	V 1	M				4131	14		11	35	•
DEPTH IN	V TUBING V WELL (feet):			TUBING MATER	ALCODE	-				PIECD-FILTE Filtration Equ	HED ipment	Type:	7	PILTER	SIZE.
DUPLICA	TE COLLECTE	D: Y	Ø									,			
EAM	PLE CONTAIN	er specipi	CATION		ÇAMPI	.o presei		N		ANALYS AND/O METHO	ilB R	EQU	MPLIN IIPMEI IODE	it l	AMPLY PUMP FLOW RATE DVMIN)
SAMPLE D CODE	CONTAINER	MATERIA L CODE	VOLUME	US	RVATIVE SED	TOTAL ADDED IN (m)	FIELD	FIN pH		*701					
	2	CG	Yong	HC	<b></b>		•			8260	<u>rs</u>		3		
												ļ			
REMARK	5														
		<b>G =</b> Ambér (		Clear Glas		Polyetnyle		P = Pa				T o Tef		O = Other	(Specify)
BAMPLIN	O EQUIPMENT	T CODES:	APP = Ateri RPPP = Revo	Peristanic erse Flow i	Pump; Peristallic f	B = Bailei Pump; {	: Bi IM = Str	= Elisad w Meth	der Pul IOd (Tu	np; ESP e bing Gravity Dr	Electri ain),	c Submer O = Ot	sitie P ner (Sp	ecity)	

NAME	Clouds Che	vron					SITE LOCATION TO	aviore	Street & Tw	n Mai	ah Baa	4.0-		
WELLNO	0 -				SAMP	re io	Mw-2	1	oncol a 111	U ITU	DAT	e. Co €4.	iumbia, s /-/4	iC .
SAPEL :	#*************************************				PU	RGIN	G DATA							
WELL VO	R (Irenes)	<b>∞</b> 人	otume = (1)			WELL	SCREEN INTER	30 t		ER (fe	<sub>et)</sub> 14. <b>(</b>	. s :	URGE PUN	P TYPE
<del></del>	<del></del>	CUMUL.	* (	30			4.65		) x WELL C		galion:	3/100t	· 2.46	gallons
TIME	VOLUME PURGED (gallone)	VOLUME PURGED (gallans)	TEMP ( <sup>Q</sup> C)	^	pH (su)	^	COND (#8)	۸	( <b>w</b> ゚®/ト) D:つ	۸	TURB IDITY (NTU)	Λ	COLOR	ODQR
0812	3.0	3.0	19.3	=	6.7	=	400		2,3		86	=	cle	nune
0848	2.0	5.0	18.3	0.3	6.4	0.4	387	13			3	55	c/r	
0907	2.5	7.5	18.6	0	6.3	0.1	382	4			9.4	2).6		

WELL CAPACITY (Gailons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06, 2" = 0.16; 3" = 0.37, 4" = 0.65; 5" = 1.02; 5" = 1.47; 12" = 6.68

SAMPLED	BY (PRINT)	***************************************		SA	MPLING DA	TA			
Ca	LMETON	Har	ick	SAMPLER(S) SIG	NATURE(S)		SAMPLING DATE	SAMPLING 9:0	TIME:
PUMP OR 1 DEPTH IN V DUPLICATE	WELL (feet): E COLLECTE	19	0	TUBING MATERIAL CODE	PE		PIEI D-FILTERED Filtration Equipment	V ()	TER SIZE
	LE CONTAIN	er specifi		9AMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	EAMPLE PUMP FLOW RATE
BAMPLE D CODE	CONTAINER S	MATERIA L CODE	AOTAWE	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			(mVm(n)
	2	CG	40ml	HU			8260B	RSPP	
EMARKS	<u>-</u>					1			

STABILIZATION CRITERIA

SITE	Clouds Ci	nevron	· · · · · · · · · · · · · · · · · · ·				SITE	74.4-							
WELL	NO		B		SA	MPLE ID /	Mba-	Taylor	s Siree	I & TV	vo Nol	Ch Roa	d, Co	lumbia, S	C
											<del></del>		17	1//-	
WELL		) To	tal Well Dopth	feet) A		URGIN			<del></del>	<b>***</b>				***	
WELL	TER (inches). VOLUME PUR	al I	T AOLUMB =		O DED	DEPTH	15	INTERVAL et to 30		STATIC TO WAT	TER (te	et) (5 •		urge Pun P Bailer	P TYPE
				3	0	feet-	5. <b>63</b>	H TOWATI	ER) X eet) X	WELL (			s/fact	e	gallons
TIME	VOLUME PURGED (gallons)		TEMP	A	nH (SU)	۸	COA (µS	10		DIJ ng/L)	T <sub>A</sub>	TURB	A	COLOR	COUR
9:03			18.6		6.	1-	18	<del>/  -</del>	+ 2	<u>. द</u>	-	(NTU)	_	-//	
		-										108		Cldy	N
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		-				-									
				1	<del></del>	1							-		
WELL O	APACITY (Gail	ians Per Poo	t): <b>0.75" =</b> 0.0	2; 1" = 1	0.04; 1.2	## = 0.06;	2" = 0 1	6; 3° = 0;	37. 4"	0.65		102 8	* = 14	2 402 -	
		· · · · · · · · · · · · · · · · · · ·										1.02,	- 14	7, 12"45	90.
SAMPLE	DBY (PRINT)		······································	SAMPL	SA ER(8) SIG	MPLING NATURE(S)	DAT	Α	I SAMO	INC D	AYE				
	toping	arliel	<u> </u>		<u></u>	ルー	_			UNG D			ampl 9	NG TIME	
DEPTH IN	WELL (feet): TE COLLECTE	- T	407	MATER	ALCODE				FIFED Filtration	FILTER In Equip	ED: \	Ype (D)	<del></del>	FILTER S	ZE.
			(1)	<u> </u>											
SAM	PLE CONTAIN	er specifi	CATION		BAMP	LB PRESER	VATION		AA	render IALYEII ND/OR ETHOD	9	EQUI	PLINO MENT DE	PU FL	APLE IMP OW ATE
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	AOFRIVE	PRESER US		TOTAL V ADDED IN F (mL)		FINAL pH			+	<del></del>			min)
	2	CG	Haml	Ha		1007			82	601	5	E	3		
									-		-				
				**********							-				
EMARKS															
MTERIAL	CODES AC	a - Amber (4	855. CG - C	lear Glass	DE .	Palvethylene		n Éntressa							

STABILIZATION CRITERIA

BAMPLING EQUIPMENT CODES:

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ± 10 NTU or ± 10%

PP = Pnlypropylene,

B = Bailer, SP = Bladder Pump, EBP = Elect Pump, SM = Straw Method (Tubing Gravity Drain),

S - Silicane,

T = Teffon,

BBP • Electric Submersible Pump. 3Mty Drain); O • Other (Specify)

On Other (Specify)

PB = Polyethylene,

CO . Clear Glass,

APP = After Peristalitic Pump, B = 8 RFPP = Reverse Floor Penstalitic Pump,

#### GROUNDIA/ATED GARADI INIC

SITE NAME	Clouds Che					[ §	SITE LOCAT	ion To	aylors	Stree	I & TW	ro Not	ch Road	d, Co	lumbia, S	c
WELLN					SAME			,-D c	(a.c. 1400			-	DATI	4-	1-14	
					PL	IRGINO	a DA	TA				_				
WELL DIAMET	ER (inches)		) Well Liepth (f			WELLS	REE	INTER	2 A 6	ant i	STATIC TO WAT	DEPT	1.15.5		URGE PUM	
WELLY	olume purd	E: 1 WELL	VOLUME = (	TOTAL WELL	DEPTH let	- STAT	ic der	THIO	WATER	) X	WELL	CAPAC	E()		RBAILER	gallona
TIME	VOLUME	COMOL			пн		T	ND		T	DO. 11	T	TURB		* 2.4/6 	Ballotto
	PURGED (gallons)	PURGE (gallons	) ` '	١,	(su)	٠,	()	<b>.</b> \$)	^	(1	ng/L)	^	ICITY (NTU)	`	COLOR	ODOR
<u>0943</u>		1	19.5	- 18	-8		17	4	<b> </b>	3	.5		48	)	clr	N
														<del> </del>		
1																
										_				-		
**	<u> </u>						-									
												-				<del>                                     </del>
				-							-					
MELL A	DARFFY (Calle						-				~					
	IFAOTI I (Gam	SIS PET POOL	(): <b>0.78" =</b> 0.0:	2, 1-40.04	·	<del></del>	<b></b>		3" = 0.37	7. 4	°= 0.65;	6" •	1.02,	- 14	17. 12" =	5.88
SAMPLE	BY (PRINT)	T		SAMPLER(	SAR S) SIGN	APLING	DA	TA		SAM	PUNGI	2075		SAME	The State	
C PUMP OF	AMT . D.	n War	lick	TUBING		w_	<u>~</u>			4	1-1-	14		9	HY3	
DEPTH IN	WELL (feet)	5. Y	<del>- 19</del> -	MATERIAL	CODE:					Filte	2-FILTE Ion Equ	PED:	Typs: (N)		FILTER	SIZE.
<del></del>								<del></del>			VTGNDE	D	T			MPLE
	'LE CONTAIN		IOATION		BAMPL	e preser		N		,	NALYS AND/OI METHO	₹	EQU	PLINI PMEN BOO	n p	ump Low IATE I/min)
SAMPLE D CODE	CONTAINER 8	MATERIA L CODE	VOLUME	PRESERVA USED	rve	ADDED IN (mL)	FIELD	FIN Pi	ial H							
	<u>3</u>	CB	40ml	)+CL	-			-	$\subseteq$	8	16012	)	• • • • • • • • • • • • • • • • • • • •	3	-	<b>.</b>
	<del></del>										······································				_	
								-1								
EMARKS		-	<del></del>					**	<u>.</u>							
MATERIAI	.CODES A	3 = Amber C	91998; <b>CO</b> = (	ilear Glass;	P8 =	Phlyethyler	ne, l	PP s Po	lypnopyt	ene.	8 s SIII	cone.	T e Tefli	n.	D = Other (S	ineritoi
AMPLING	EQUIPMENT	CODES:	APP = After F	Peristaltic Puri	p. Natic Pi	B o Baller, imp. Bi	e:	- Blad	ider Pun 10d (Tub	D.	BSP a	Plannin	Submers 0 = Oth	ible Pi	mp.	.p.co

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

SITE	Clouds Ch	evron				SITE	Toyloro	Street 6 To					<u> </u>
WELL	NO				BAMPLE ID /	Mw-2	D	Street & Tw	O NO	DAT	E 4_	umble, S	<u> </u>
								······································					<del></del>
WELL		70	tal Well Depth	THEN O O	PURGIN	G DATA	7.4						
DIAME	TER (inches)	4		30	heer	u 1 <b>G</b>				1,20.	24 P	urge Pun Pibailer	P TYPE
		OC. I WEL	T AOTOME :	TOTAL WELL	FPTH - STA feet -	20,50	TCI WATER	e) × WELL (			s/foot		gallon
TIME	VOLUME PURGED		IF TPMP		nH A	COND (µS)		80	10	TURB		COLOR	000
10:09	(galions)	(gallon	22.3	- 6.	1	3/8	+_	(mg/L)		(NTU)	ļ.,		
					7			3.0		56		clr	N
	-	<del>- </del>											<del>                                     </del>
-	<del> </del>	<del>- </del>				<del> </del>							
		<del>                                     </del>		++									
						1							<b> </b>
	+	<del></del>											
	<del> </del>	+		<del>  </del>		ļ							
				+		<del>                                     </del>							
	<u> </u>	<u> </u>											
		Una Per PW	(). <b>4.76</b> ° = (),(	2; 1" = 0.04;	SAMPLIN	G DATA		7; 4" = 0.65;	§" »	1.02;	<sup>™</sup> = 14	7, 12" = (	5.69
AMPLE C	OBY (PRINT)	varlick		SAMPLER(S)	SIGNATURE	i) .		SAMPLING D		7	SAMPL	NG TIME:	
UMP O	YUBING WELL (feet).			TUBING				4-1-1	FD	Y (N)		FILTERS	TVE:
UPLICA	TE COLLECTE	D. Y	0	MATERIAL CO	JOE			Filtration Equip	ment 1	уре		LIFIENS	ILE.
SAM	PLE CONTAIN	er specip	ICATION	81	MPLE PRESE	RVATION		NTENDE ANALYSI AND/OR METHOD	9	EQUI	PLING PMENT ODE	PI FI R	MPLS JMP LOW ATE
CODE	CONTAINER S	MATERIA L CODE	VOLUME	Preservativ USED	E TOTAL ADDED IN	FIELD	FINAL pH						(min)
	थ	<u>C6</u>	40ml	HCL	_			82603		[=	₹	1_	
-							+						
				L					[			- {	
						•	1					_	
MARK													
		3 = Amber (	ijass 60 a	Clear Glass;	e Polyeinye		Polypropyle	ane, 8 a Silir		T = Teño		□ Omer(S)	

STABILIZATION CRITERIA

SITE	Clouds Ch	evron		·	· · · · · · · · · · · · · · · · · · ·		SITE	Tevi	lare S	troot 8 To	- No.	ah Ban			
WELL	10 M	W-31		· · · · · · · · · · · · · · · · · · ·	SAM		LOCATIO MV	21	1013 3	treet & Tw	וסאו סי	DAT	E .		
-			2				11/	191					4	1-2-1	4
14(5)					P	URGIN	G DA	ГА							
DIAME	(inches)	ムー	tal Well Depth (	<b>3</b>	5	WELL	SCPEEN 16	INTERV	Š	STATIC TO WAT	DEPT	124,	4/ 19	VRGE PUM	PTYPE
MELL	OLUME PUR	JE: 1 WEL	L VOLUMS a	TOTAL W	ELL DEPTI	- 01A	HIL DEPT	H TOWA	ATER)	X METT	E 14 (15)	er) ITV	10	r Bailer	
		СИМИ		<u> </u>	· ''	et- <u>J</u> L	1.91		feet)	× О,	16	galler	e/foot		gallons
TIME	VOLUME PURGED (gallons)	VOLUI PURGI (gallor	B) (°C)	^	pH (Su)	,	CON (4,8	3)	^	(mg/L)	1	TURB IDITY (NTU)	۸	COLOR	ODOR
13.34			23.0	<del> -</del>	6.0	1	12	2		2,9		110		SICIAY	N
		<del></del>		-			-	+							
		<del> </del> -		_		<del> </del>	<del> </del>	+	-+			<del> </del>	ļ.,		
							<del>                                     </del>	++	-+	-		<u> </u>	-		
												<b></b>			
<del></del>	<del> </del>	<del> </del>				ļ									
	<del> </del>	1		-		┼									
		<del> </del>		+		<b> </b>	<u> </u>		-			<u> </u>			
								_	+						
									十						
	<u> </u>	<u> </u>													
WELL C	APACITY (Gail	ons Per Fo	ot): <b>0.75" =</b> 0.0	12; 1" = 1	0.04, 1.26	5" = 0.06;	2" = 0 1	6; 3"	0.37;	4" = 0.65;	6" =	1.02,	F = 1.4	7. 12" = 8	3.88
			<u> </u>				<u> </u>			<del></del>			741		
SAMPLE	D BY (PRINT)	1 1	7	SAMPL	ER(S) SIGI	MPLINO VATURE(S	) )	A		SAMPLING C	ATE.		SAMP	ING TIME	
EUMP CE	TUBING	Jarl. c	h	- // / // / / / / / / / / / / / / / / /		- ~	٠		_	4-2-	-14			7:56	
DEPTHR	WELL (feet):			TUBING MATER	AL CODE				F	IELD-FILTER Iltration Equi	ement '	V N		FILTERS	IZE.
DUPLICA	TE COLLECTE	D: Y	<u></u>												
<del>"                                    </del>	PLE CONTAIN		PICATION		SAMPL	e presei				intende Analysi And/Or Method	2	EQU	PLING IPMEN ODE	PL T PL	MPLE JMP .OW ATE /min)
D CODE	CONTAINER S	MATERIA L CODE	VOLUME	US	RVATIVE SED	TOTAL \ ADDED IN (mL)	FIELD	FINAL ph							
	य	<u>C6</u>	4am1	HC	_				I	82601	3	Le			
			<del> </del>					<del></del>	_ _						
				<del> </del>			<del></del>	<del></del>	-						
									_						
REMARKS									1						
MATERIA	CODES A	G ≈ Amber I	Glass, CG • I	Clear Glas	9. <b>PB</b> 2	Polyethyler	1A. PI	e Polypi	ranylon	e; 8 a Silic	nne	T = Tefti	) A	a Observa	
BAMPLIN	3 EQUIPMENT	CODES:	APP = After	Peristallic I erse Flow f	อนากต	B & Baller,	6P :	Bladder	Pump.		lectric	Submers	ble Pu	n p;	necity)

STABILIZATION CRITERIA

SITE	Clouds Ch	evron					SITE LOCATION	Taviors	Street 6	Two	No.	ch Ros	d Co	diametria d	
WELL	IO M	W-30	j	/r	JAP.	MPLE ID	Mw-S	30			7110	DAT			
														2 17	
MELL / MELL	(EP (inches)	4	ital Well Cleptn ( L VOLUMÉ a (	3	0	WELL!	G DATA STREEN INT 1 5 feet t	ERVAL					2 <b>8</b> [	Purge Pun Dr Bailer	AP TYPE
	<del>-,</del>		<b>n</b> (	30	ָ כ	leet - D	1.28	Te:		O 1	APAC		s/foot	c	gallon
TIME	VOLUME PURGED (gallons)	VOLUI PURGI (gallor	MF TEMP ED (°C) B)	٨	р <b>н</b> (su)	Α	COND (µS)	۸	Dia (mg/		۸	TURB IDITY (NTU)	1	COLOR	ODOF
10.15			22.8	-	5.5		218	_	2,			145	Ξ	c/2,	51.36
		1						$\pm$		_			-		
								+		$\dashv$					
<del></del>		<del> </del>								$\exists$					
								+	-	$\dashv$					
		1													
well c/	APACITY (Gall	ons Per Foo	ot): <b>0.75" =</b> 0.0	<del></del>	0.04; 1.2	.5" = 0.05,	2" = 0.16;	3° = 03	7: 4" = f	165	<u> </u>	100	P = 1,4		
				**					., , ,			1.02,	- 1,0	17, 12" = 1	0.88
_	BY (PRINT)	4.2	111	SAMPL	SA ER(S) SIG	MPLING NATURE(S)	DATA		SAMPLI				SAMP	ING TIME	
AIMA OF	UME 10 TUBING WELL (fest):	<u>~ ~~</u>	<u>rlick</u>	TUBING	ALCODE	Wee	<del>-</del>		FIELD-FI	TES	-	V -	18	7:15	172
OUPLICA	TE COLLECTE	15: Y	(1)	MATER	MECODE				Filtration	Equip	nent '	туре:			3026
SAM	LE CONTAIN	er specif	ICATION		BAMP	Le Preser	VATION		ANA ANI	NDED LYSIS D/OR HOD		EQUI	PLING PMEN DDE	T FI	MPLE UMP LOW ATE
CODE	CONTAINER S	MATERIA L CODE	VOLUME		RVATIVE SED	TOTAL V ADDED IN F (mL)	nein F	inal ph					<del></del>	(m	(min)
	3	55	40ml	HC	<i></i>				826	19		Ľ	3		
			ч								$\dashv$				
emarks															
	CODES A	3 = Amber (		lear Glass		Polyethylen		ojyprobyl		Silicon		T = Teño	n, C	o Other (S	pecify)
WILES		TVUED:	APP - After P RFPP - Reve	eristattic F rse Flow P	enstaltic P	B = Baller, ump, BN	er = Bia I = Straw Mei	dder Pun thod (Tu:	np. <b>88</b> 1 ang Gravity	a Ele Drain)	ctric ),	Submersi O = Othe	ble Pur	ř O.	

STABILIZATION CRITERIA

SITE	Clouds Che	yron				15	SITE	Tav	lors S	Street & Tw	a Nate	th Book		umble 6	
WELLN	- Emu	-23/			SAME	LEID A	-		1910	Direct of 14	0 14011	DATE	,		×
L	61.44				1	## · · · · / ·	IAA					<u> </u>	7	1-14	·
					PL	IRGINO	3 DAT	ΓΑ							
WELL	EP (inches)	Q Total	Well Depth (16	<sup>et)</sup> 35		WELL S	CREEN AD 18	INTERV	AL	STATIC et TO WAT	DEPTH	23.	8 8	urge fum	PTYPE
	LUME PURO	E: 1 WELL	VOLUME : (1	OTAL WELL	DEPTH	- STAT	IC DEPT	HTOW	ATER	X WELL	APACI	it V	10	PBAILER	
	T	CUMUL	• (	<u> </u>	161	Pt- <u>J</u>	3.18	3	reet;	) × 0.1	6	enolieg	//oot	В	gallons
TIME	VOLUME PURGED (gallons)	VOLUMP PURGED (gallens)		`	рН (Su)	۸	CQN (µS	_		(mg/L)	^	TURB IDITY (NTU)		COLOR	ODOR
10:24			241		6.3		22	.4		2.0		383	J	cldy	stra
	ļ	<del> </del>	_	<del>                                     </del>		<b>↓</b>	<b>}</b>								
			<del> </del>	-			-				-		<u> </u>	<u> </u>	
		<del> </del>	<del>- </del>												<b> </b>
				1		<u> </u>									
			<del> </del>	<b>  </b>											
		<del> </del>	<del></del>	-			<b> </b>								
		<del>                                     </del>	<del> </del>									-			
Well Ca	PACITY (Gall	ons Per Foot	<b>9.75" =</b> 0.63	2; 1° = 0.0	4; 1.21	" = 0.06;	2" = 0.	16; 3"	- 0.37	7; 4" = 0 66;	5" c	1.02;	j" = 1 z	17, 12" <b>=</b>	5 88
					SAI	VIPLING	G DA'	ΓΔ					<del>,</del>		
SAMPLE	BY (PRINT)	, )	1 \ 6		(S) S(G)	VATURE(S	)	<u> </u>		BAMPLING I		Т	Samp	LING TIME	
PUMP ()E	TURING	War	101	TUBING		- W~	<del></del>			4-1-				0:24	
DEPTH IN	WELL (feet):			MATERIA	LCODE					FIELD-FILTE Filtration Equ	ipment	Type.	) 	FILTER	SIZE.
DUPLICA	re contecte	U Y	0	<del></del>											
BAM	PLE CONTAIN	er specifi	CATION		BAMPL	.e presei	RVATION	į		entendi Analys And/oi Metho	18 1	EQU	ipmen Ipmen Iode	T	NAPLE PUMP PLOW RATE DEMIN)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	VOLUME	Preserv USE		TOTAL ADDED IN (ml.)	FIELD	Fina ph							
	2	CG	40ml	HCL				-		82601	3		3		-
								<del></del>							
												<del> </del>		$\dashv$	
REMARK			<u> </u>	l		<u> </u>	L					L	***************************************		
	· · · · · · · · · · · · · · · · · · ·			···				-							
	LCODES A			Clear Glass		Polyethyle		P = Paly				T = Tef		O = Other (	Specify)
GAITIFLIN	G EQUIPMENT	40068;	APP * After	renstatic Pi erse Flow Pe	an p; Installic F	B = Bailer Pump: E		= Blada w Metho	ier Pun id (Tui	np;	Electric ain)	Submen	able F	um p, ecito	1

STABILIZATION CRITERIA

SITE Clouds Chayron

SITE NAME	Clouds Ch	evron				S	ITE OCATION	Taylors	Street & Tv	vo Nat	ch Rose	d. Coli	ımbla S	c
WELLN	· 5M	w-34			SAMP		MW.				DAT		-1-1	
			-		PU	RGING	DATA					· · · · ·		
WELL DIAMET	ER (inchés)	11	al Well Clepth (f	೨೨		WELLS	REEN IN	ERVAL	STATION AND THE	DEPTI	1 24. c	6 PU	RGE PUM	BAYT 9
WELLY	OLUMB PURC	se: 1 well	VOLUME = (	10TALWEILT	DEPTH f <del>e</del> e	- STATI 1- 24	C DEPTH	OWATE	t) X WELL	CAPAC	ITY .	s/foot		gallons
TIMÊ	VOLUME PURGED (gallons)	VOLUM VOLUM PURGE (gallom	E TEMP		рН (SU)	Λ	COND (µS)	1	(mg/L)	1,	TURB IDITY (NTU)	٨	COLOR	ODOR
10:30			236	-5	.2	_	129		2.7	_	441	_	cldy	N
<del>- 11-11</del>	<del>                                     </del>	-		<del>  -</del>			·						J	
		<del> </del>		+ +-				$\dashv$		+	<del> </del>			
									<u> </u>	1				
	<u> </u>	<del>-</del>												
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······································		<del>                                     </del>								-				
							<del></del>	+		-				
			t). <b>0.76"</b> = 0.01		SÄM	PLING			7, 4°≈0.65		······································		· · · · · · · · · · · · · · · · · · ·	5.88
(	aby (Print) -4 m+//	- Wa	-lick	SAMPLER	S) SIGN/	ATURE(S)			SAMPLING 4-1-				NG TIME:	*****
PUMP OF	TUBING WELL (feet):	حــ		TUBING MATERIAL C	ODE:				FIELD-FILTE Piltration Equ	RED	<u>~ (b</u>	10.	FILTERS	eze
DUPLICA'	LE COLLECTE	D. Y	Ø						Fill acout Edi	pmere	туре.		·	
BAMI	ele Contain	er spacif	ICATION	s	ample	Preser	/ATION		NTEND ANALYS AND/O METHO	iis R	EQUI	PLING PMENT ODE	P P	MPLE UMP LOW ATE Vibin)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	VÖLUM <u>€</u>	Preservat USED	NE	TOTAL VI ADDED IN F (mL)		FINAL ph				······································		
	2	<u>C6</u>	40001	HCL					82h0	3_	1	3		-
						·								
					$\neg$		_						+-	
]								,						
EMARKS														
MATERIAL		3 = Amber (		ilear Glass,		olycthyleni	, PP o	Polypropy	ipne; B = Sil	icone,	T = Teffo	n o	= Other (S	necety)
AMPLING	EQUIPMENT	CODES:	APP = After F	eristallic Pum Ise Flow Pensi	o, E	e Baller,	8P = 8	adder Pun		Floring	Submerel O = Other	ble Pur	Э,	

STABILIZATION CRITERIA

SITE NAME Clouds Chevron	SITE
13.00%	LOCATION Taylors Street & Two Notch Road, Columbia, SC
	Mw-35 DATE 4-1-14
	7-7-19

WELL					Pl	JRGIN	G DATA	_i						
DIAMETER	(Inches) 2	: 1 WELL V	Vell Depth (fe	(H) 35			20 feet to		EL TOWA	168 (f6	H 2/. 3	5 P	UPGE PIJM R BAILER	P TYPE
		CUMUL	a (	35	eu. Depth	I - STAT	1. 35	WATER	X WELL	CAPAC	gallon			gallor
TIME	VOLUME PURGED (gallons)	VOLUME PURGED (gallons)	TEMP (°C)	۸	pH (3u)	A	COND (µS)	۸	∏⊙ (mg/L)	1	TURB	,	COLOR	000
10:55			24.2	=	3.8		197		1.8	=	50 l	-	ckly	V
								-					/	_
										<del>                                     </del>				<b> </b>
									<del></del>					
		-										$\dashv$		
		s Per Foot). G										_		

SAMBLE	D SY (PRINT)			SA	MPLING DA	TA				
1	GMERO RTUBING		-lik	SAMPLER(S) SIG	ENATURE(S):		SAMPLING DATE:	SAMPLING	TIME.	
DEPTH II	N WELL (feet).		- 1	TUBING MATERIAL CODE	<b>:</b>		FIELD-FII, TERED Filtration Equipment	TER SIZE		
			U	T					<del></del>	
	PLE CONTAIN	ier gpecip	ICATION	SAMP	LE PRESERVATIO	N	intended Analysis And/or Method	EAMPLING EQUIPMENT CODE	PUMP PLOW PLOW RATE	
SAMPLE D CODE	CONTAINER S	MATERIA L GODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			(mkmin)	
	2	CG	40001	HCL			826013		<b>13</b>	
						,				
REMARKS										
MATERIAL	CODES A	3 = Amber G	iass 60 n C	ilear Glass, PB •						
	GQUIPMENT		APP & After F		B = Bailer, EP	P = Polyprapy = Bladder Pu w Method (Tu		T = Teffon; O = O: Submersible Pump.	her (Sperify)	

STABILIZATION CRITERIA

	10 MW	- <b>L</b> LL					OCATION T	-,,	Street & Tw	O No	cn Ro	au, Cl	iumbia, S	C
	17.144	30/			SA	MPLE ID				·	DAT	4	-1-14	
in a					F	URGINO	DATA							
VELL NAMET VELL V	ER (inches) OLUME PUR	Ta	tal Well Depth :	feel) 3	5	WELLS	CREEN INTER	35 1	STATIC Pet TO WAT () X WELL (	DEPTI	1,22.8	94 5	PURGE PUM OR BAILER	PT
		CUMU		36	5	feet=	C DEPTH TO	WATER feet	i) x Welli	APAC		is/loot	•	gal
TIME	VOLUME PURGED (gallons)	VOLUM PURGE (gallon	ME TEMP ED (°C) 3)	A	(su)	A	(PS)	۸	(w&/r) DO	۸	TURB IDITY (NTU)	^	COLOR	OE
:19			23.4	-	5.9		220	=	2.6	Ξ	86	E	SICIDY	SIL
								-		-		┼-		
	_	+		-										_
				+	<del> </del>	╂╼╼┥								
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		<del> </del>		-		+								
						1								
L CA	PACITY (Galic	ins Per Foot	). <b>0.75" =</b> 0.0	2, 1" = 1	0.04; 1 <i>2</i> :	<b>6"</b> = 0.06;	2" = 0.16,    \$°	" = 0.37,	4" = 0.65;	5" ×	102; 6	= 14	7. 12" - 5	88
							-				-			
PLED	BY (PRINT)				SAI	MPLING	DATA							
FLED ( 4	BY (PRINT)			Sampl	SAI ER(S) SIGI				SAMPLING D	¥¥¥		SAMPL	ING TIME	
CA CA OB OB OB	BY (PRINT) M < 104 TURING WELL ((leat)	(Jerl.	ick	SAMPL	SAI ER(S) SIGI	MPLING NATURE(S):			4-1-19	<u> </u>		Sampl /C	ING TIME.	ZE'
PLED Ca P OR I H IN	BY (PRINT) M & 104 TURING	(Jerl.		SAMPL	SAI ER(S) SIGI	MPLING NATURE(S):			4-1-1	<u> </u>		Sampl /C	:19	ZE
OR HIN	BY (PRINT) M 4 / PM TUBING WELL (leet) E COLLECTE LB CONTAINE	( Jarl,	ik	SAMPL	SAI ER(S) SIGI CALCODE:	MPLING NATURE(S):			4-1-19	ED: Y	ype SAM EQUII	SAMPL /C PLINO PMENT	FILTER SI	PCI MP DW
C Q OR H IN ICAT	BY (PRINT)  M 2/64  TUBING WELL (Red)  E COLLECTE  LE CONTAINE  CONTAINER	( Jar I.  O Y  BR BPBCIFM  MATERIA L CODE	CATION  VOLUME	SAMPL TUBING MATER PRESEIVS	SAI ER(S) SIGI VAL CODE: BAMPL RVATIVE ED	MPLING NATURE(S):	ATION		4-1-1/ FIELD-FILTER FIIT BLOOR EQUIP  NTENDED ANALYGIE AND/OR	ED: Y	ype SAM EQUII	/C	FILTERS	PCI MP DW
OR HIN	BY (PRINT)  M 2 / 0 ~  TUBING WELL (lest): E COLLECTE:  LB CONTAINE	( Jar I.	ck N OATION	SAMPL TUBING MATER	SAI ER(S) SIGI VAL CODE: BAMPL RVATIVE ED	MPLING NATURE(S):  E PRESERV  TOTAL VO ADDED IN FIR	ATION FINA		4-1-1/ FIELD-FILTER FIIT BLOOR EQUIP  NTENDED ANALYGIE AND/OR	ED ment 1	ype SAM EQUII	/C	FILTER SI	PCI MP DVA TE
C Q OR H IN ICAT	BY (PRINT)  M 2/64  TUBING WELL (Red)  E COLLECTE  LE CONTAINE  CONTAINER	( Jar I.  O Y  BR BPBCIFM  MATERIA L CODE	CATION  VOLUME	SAMPL TUBING MATER PRESEIVS	SAI ER(S) SIGI VAL CODE: BAMPL RVATIVE ED	MPLING NATURE(S):  B PRESERV  TOTAL VO ADDED IN FIR	ATION FINA		4-1-1 FIELD-FILTER Flitration Equip NTENDED ANALYSIE AND/OR METHOD	ED ment 1	ype SAM SQUII	/C	FILTER SI	PCI MP DW
PLED CAP OR H IN ICAT	BY (PRINT)  M 2/64  TUBING WELL (Red)  E COLLECTE  LE CONTAINE  CONTAINER  S	( Jar I.  O Y  BR BPBCIFM  MATERIA L CODE	CATION  VOLUME	SAMPL TUBING MATER PRESEIVS	SAI ER(S) SIGI VAL CODE: BAMPL RVATIVE ED	MPLING NATURE(S):  B PRESERV  TOTAL VO ADDED IN FIR	ATION FINA		4-1-1 FIELD-FILTER Flitration Equip NTENDED ANALYSIE AND/OR METHOD	ED ment 1	ype SAM SQUII	/C	FILTER SI	PCI MP DW
PLED Ca P OR I H IN ICAT	BY (PRINT)  M 2/64  TUBING WELL (Red)  E COLLECTE  LE CONTAINE  CONTAINER  S	( Jar I.  O Y  BR BPBCIFM  MATERIA L CODE	CATION  VOLUME	SAMPL TUBING MATER PRESEIVS	SAI ER(S) SIGI VAL CODE: BAMPL RVATIVE ED	MPLING NATURE(S):  B PRESERV  TOTAL VO ADDED IN FIR	ATION FINA		4-1-1 FIELD-FILTER Flitration Equip NTENDED ANALYSIE AND/OR METHOD	ED ment 1	ype SAM SQUII	/C	FILTER SI	PLE MP DW TE

STABILIZATION CRITERIA

SAMPLING EQUIPMENT CODES:

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

■ © Bailer, BP = Slodder Pump; BBP ≈ Elect Pump; BM ≈ Straw Method (Tuting Gravity Drain),

APP = After Peristallic Pump, B = B RFPP = Reverse Flow Periotallic Pump;

O = Omer (Sperity)

ESP = Electric Submersible Pump. Framity Drain), O = Other (Specify)

AME.	louds Che	vron	-				<u>OCATION</u>	Taylors	Street &	Two No	ich Roa	d, Co	lumbia, S	С
/ELL NO	MW	·-37			SAM	PLE ID					DAT	4/-	1-14	
					PI	JRGING	DAT	4						
ELL AMETER	R (inches)	l l	Nell Depth (fe	25	5	WELL S	CREEN IN	TERVAL to 35	feet TO V	VATED N	гн <b>22.</b> ј eet)		URGE PUM OR BAILER	gayt q
	LUME FURG		. VOLUME a (1	3 <u>5</u>	le DEPTH	9 - STATI <b>91-</b>	C DEPTH		et) X WE	LL CAPA		s/foot	•	gallon
IME	VOLUME PURGED (gallons)	CUMUL VOLUMI PURGEI (galigna	TEMP	Λ	nH (su)	۸	COND (µS)	Λ.	(mg/L)	Λ	TURB IDITY (NTU)	٨	COLOR	000
25			23.6	-	4.9	-	129		2.6	0 -	301	=	cldy	Sha
		ļ ———		+					-			-		-
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$\dashv$						-	<del></del>							
							; <del></del>	_						
LL CAP	ACITY (Galic	ns Per Fool	): <b>0.76" =</b> 0.0:	2; 1° = 0	.04; 1.2	5° = 0.06,	2" = 0.16	<b>3° -</b> 0.5	37, <b>4"</b> = 0.	65, <b>5</b> -	s 1,02;   (	<b>5" = 1</b> /	47; <b>12"</b> =	5.88
MET EO	BY (PRINT)	<b>5'''</b>		T-12-1-12-12-12-12-12-12-12-12-12-12-12-1	SA	MPLING	DAT	4						
Car	ST (PRINT)	Wal.	èk .	SAMPLE	R(S) SIG	NATURE(S)	-		SAMPUN 4-1	G DATE -/4			LING TIME:	
TH IN				TUBING MATERI	AL CODE:				FIELD-FIL Filtration (	YERED Equipmen	Y N		FILTER	SIZE:
LICATI	e Collecte	D: Y		γ <del></del>										
SAMPL	LE CONTAINI	er specip	ICATION		8AMP(	LO PRESSA	VATION		ANAI ANAI ANG MET	/OR	EQU	MPLIN IPMEI IODE	0 F VT F	WPLE UMP LOW LATE (Vmin)
APLE ODE	CONTAINER S	MATERIA L CODE	VOLUME	PRESER US		TOTAL \ ADDED IN (mL)	FIELD	FINAL PH						- Telling
	2	(6	4Uml	H	U_	-	-		82	6113		6		
_					<del></del>		<del></del>				+			
<del>-</del>														
ARKS		<del></del>	li	L		L	l l		I					
TERIAL	CODES AC	3 = Amber (	Slass: On a f	Clear Glass	9b =	Polyethyler	10° D2	e Bullhirop	Maria	Calinana	·		<b>0</b> - 0	*****
	EQUIPMENT		APP = After I	Peristallic F	um p,	B ≈ Baller,	8P =	Gladder Pu		Silicone:	T = Tell		o a Othèt (t	abeculy)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

SITE C	Clouds Chev	/ron				] S	ITE OCATIO	n Tay	lors S	Street & Two	Note	h Road	i, Col	umbla. S	C
WELLNO					SAMP							DATE		-1.14	
	•				PL	IRGINO	B DA'	ΓΑ							
	R (inches)	1	Well Depth (fel			WELLS	CREEN	INTERV	5 fe	STATIC (	DEPTH ER (fee	24.6	P	JPGE PUM R BAILER	PTYPE
MELLYC	LUME PURGE	: 1 WELL	YOLUMB = (To	OTAL WE		- STATI et-	C DEPT	HTOW	ATER) feet)	X MELL C	apaci	Ϋ́Υ gallons		•	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallors)	TEMP (°C)	A	ρ∺ ( <b>SU</b> )	Δ	CO1 (μ)		Δ	( <b>m</b> g/L)	۸	TURB IDITY (NTU)	Λ	COLOR	ODOR
11:35	_		24.7	1	4.8	-	//	9		3,2	Ξ	198	-	clay	Ν
								二							
WELL CA	PACITY (Gallo	ne Ser Foot)	0.75% = 0.03	47.00	04 104	T = 0.0%:	<b>6</b> 100			2 40 - 0 40					
WELLOA	IFACIT (GOIG	(15 Per Post)	. 0.76 = 0 02	, , - ,	.04, 121	- 0.00,	2 - 0	10, 0	0.31	r, 4" = 0.65,	<b>.</b>	1.02;	* • 14	17, 12" -	5.88
SAMPLET	BY (PRINT)		-	SAMEL	SAI	MPLING NATURE(S	3 DA	TA		SAMPLING	SATE.		CAME	LING TIME	
PUMP OR	a mern	War	1.26	TUBING		- w.				4-1-	14		Seutile /	1:35	•
DEPTH IN	WELL (feet)	D Y	(M)		AL CODE:					Filtration Equ				FILTER	9126
IMAB	PLE CONTAIN	er specifi	CATION		SAMPI	Le presei	EVATIO	N		INTENDE ANALYS AND/OF METHO	18	EQU	YPLIN IPMEI IODE	o i	AMPLE PUMP PLOW RATE NVMIN)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	VOLUME		RVATIVE SED	TOTAL ADDED IN (mL	FIELD	FINA ph							
-	2	CE	40mb	P	CL		_			8261	B		B		
											<del></del>				
REMARKS	Š														
MATEDIA	L CODES A	0 = Amher G	Useq - Ameri	Diear Glas		Polyethyle	rha.	PP = Pal	· Aran	lene, <b>8</b> a Sil	10000	<b>*</b> 5 Te	lee.	On China	San San San
	G EQUIPMENT		APP = Ateri	Peristaltic	Pump,	8 = Gailei	, B1	a Blade	ier Pur		Electri	T = Tel Submei O = Ot	sible P		shearly)

STABILIZATION CRITERIA

SITE NAME	Clouds Che	vron		·			SITE LOCATION T	aylors	Stroet & Tw	o Note	in Rose	d. Co	lumbia. S	c
WELLN	· •M	w-39			SAME						DATI	4	-2-1	4
					Bi	IBCIN	CDATA	·						<i>t</i> ,
WELL VO	ER (Inches) DEUME PURG		Well Depth (16	21	S ELL DEPTH	WELL	G DATA SCREEN INTE 120 feet to TIC DEPTH TO	AS 16	STATIC Pet TO WAT	ER (rea	TV	11 0		5
TIME	VOLUME PURGED	CUMUL VOLUME PURGED	TEMP (°C)	<u>دو.</u>	pH (Su)	1	COND.	1	DO (mg/L)	۸	TURB IDITY	1001	COLOR	gallons
12:13	(galions)	(gallons)	23.5	-	5.9	=	49	=	1.4	=	(NTU)	=	SICIAY	Sligh
-														
Mēll ca	PACITY (Gallo	ons Per Foot)	• <b>0.75</b> " = 0.03	2; 1" = !	0.04, 1.28	J" = 0.06,	2" = 0.16;	3" = 0.3	7, 4" = 0.65;	<b>6"</b> =	1.02;	<b>"</b> o 1,	47, 12°=	5.88
ambi en	PRINT)			EAMO!	SAN Er(s) sign	APLIN	G DATA							
ACI AMU	Camero TUBING WELL (feet):	n Wa	erlick	TUBING		- W	_	·	SAMPLING DE 4-2-	/ 4 RED	V	_	LING TIME 2:/3 FILTER:	ize
	E COLLECTE	U Y	0	MATER	AL CODE.				Filtration Equ	pmen	туре:			
SANF	'le Contain	er specific	ATION		Bampl	8 PRESS	RYATION		Intende Analys And/of Methol	is ?	EQU	WPLIN	G P	MPLE UMP LOW (ATE (Min)
AMPLE CODE	CONTAINER S	MATERIA L CODE	VOLUME		RVATIVE SED	TOTAL (I DEDDA (m)	FIELD	NAL IH						- L
	$\nu$	<u>C6</u>	40mi	_H	(1)				8260	B		3		
EMARKS	,													
ATERIAL	CODES A	B = Amber G	200 60 - 1	iear Glas	o en -	Palyethyl	nac	olygrapy			T = Teft		O = Other (	

STABILIZATION CRITERIA

SAMPLING EQUIPMENT CODES:

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

BSF = Electric Submersible Pump, Gravity Drain). O = Other (Specify)

APP = After Peristaltic Pump, B = Baller, BP = Bladder Pump, BBP = Blects
RPPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain).

SITE	Clouds Che	vron					SITE	Taviore	Street & 1	New Mat	ah Baa	- Cal	emple 6	
WELLN	o M	W-40	.i		SAME	LE ID	CICATION	Taylord	Street & 1	WO NO	DAT	0, COI	umbia, S ·ユ-/ケ	. C
<u> </u>			J		1					<del></del>		7-	<u> </u>	
					Pl	JRGING	DATA	1						
WELL DIAMETI	ER (inches)	Tota	el Well Depth (fe	et) 35		WELLS	CREEN IN	ERVAL	STAT	IC DEPTI	1 26	79 P	ibûê bûw	P TYPE
WELLV	OLUME PURG	E 1 WELL	VOLUME . (1	DTALWELL	DEPTH	- STAT	IC DEPTH	TO WATER	) X WEL	ATER (16	(1) <b></b>	~(] O	R SAILER	
			u (	35	fe	et -		fee	t) ×			s/feet	•	gallons
TIME	VOLUME PURGED (gallons)	YOLUMI PURGES (gallers	F TEMP 0 (°C)	٨	рН (Su)	Α	COND (µS)	۸	(wb/r) Di.	Α	TURB ICITY (NTU)	Λ	COLOR	ODOR
12:18			23.0		6.0	_	154		21		245	-	clah	Y
		-					, , ,						0	/
	<del> </del>	<del> </del>		<del>  -</del>				_	<u> </u>					
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		<del>}</del>	-											
		<del> </del>				<del>                                     </del>		-						
					····			-				-		
WELL CA	APACITY (Galle	ons Per Foot	): <b>0.78"</b> = 0.62	1"=0.04	i, 126	l™ = 0.06;	2" = 0.16;	<b>3" =</b> 03	7. 4"=06	i5; 8" =	1.02;	P = 1.4	7, 12" =	5.68
					SAI	APLING	DATA							
SAMPLEC	EV (PRINT)	11	1:6	SAMPLER	(S) SIGN	IATURE(S)			SAMPLING	DATE	,		ING TIME	
HUMB DR	TUBING	- 7/a	, 1162	TURING					PIELD-FILT	2-/7		12	:/ <b>9</b>	271270
	WELL (feet):	<b>Б</b> У	0	MATERIAL	CODE		<del></del>		Piltration E	quipment	Туре.	····	FILIER S	are.
												<del></del>		MPLE
SAMI	PLE CONTAIN	er specifi	OATION		BAMPL	e preser			ANALY ANALY AND METH	Y618 OR	EQU	VPLING IPMEN IODE	T P	UMP LOW LATE (/min)
SAMPLE D CODE	CONTAINER B	MATERIA L CODE	AOTAME	Preserva USED		TOTAL V ADDED IN (mL)		FINAL pH						
	7	CG	40ml	HU				/	826	13		В		
						<del></del>								
														]
													+-	-
REMARKS						<del></del>	<del></del>				L.,	<del></del>		

STABILIZATION CRITERIA

MATERIAL CODES AG = Amber Glass.

SAMPLING EQUIPMENT CODES:

Ob = Clear Glass;

APP = After Peristatic Pump, B = E RFFP = Reverse Flow Peristatic Pump;

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

PP a Palypropylene;

ier, BP = Sladder Pump, BSP = Elect BM = Straw Method (Tubing Gravity Drain);

B a Silicone.

T = Teffan

0 = Other (Specify)

BSP - Electric Submersible Pump,

O = Other (Specify)

PB = Palyemyene,

B a Baiter,

WELL NO	Mw	,34	1	· · · · · · · · · · · · · · · · · · ·		SAMP	LE IO	<del></del>	<del></del>	····		DATE	4	-1-19	/
						PU	RGING	S DATA	<del>-</del>						
	R (inches)			ell Depth (fee	-د		DEPTH	CPEEN INTER	35 feet	STATIC TO WAT	DEPTH ER (fe	1,24.7	0 P	urge pum IR Bailer	P TYPE
WELL YO	Lumb Purge	: 199	err vo	E (	3.9			ic depth to	feet)		CAPAL	gallons	/foot	a	gallons
TIME	VOLUME PURGED (gallons)	VOL PUR	MUL LIME IGED Igns)	TEMP (°C)	۸	рН ( <b>su)</b>	۸	COND (µ5)	۸	(mg/L)	٨	TURB IDITY (NTU)	۸	COLOR	ODGR
1.17		-		249	_	6.9	_	321	-	2.7	=	401		dy	Sty
									-		$\vdash$		<del> </del>		
									+	<del> </del>	-				<u> </u>
							<u> </u>				1				
/ell ca	PACITY (Gallo	ns Per	Foot)	<b>0.75" =</b> 0.02	, 1" «	004; 1.2	P = 0.06;	2" = 0.16,	<b>3" =</b> 0.97;	4" = 0.65	6*	= 1.02, (	8" = 1. 	47, 12° a	5.88

SAM	PLE CONTAIN	er specifi	CATION	SAMPI	LE PRESERVATIO	4	Ditended Analyeis And/or Method	Bampling Equipment Code	EAMPLE PUMP PLOW RATE (mVmin)
SAMPLE CODE	CONTAINER S	NATERIA L CODE	AOTAME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL ph			
-	2	CG	4uml	HUL			89000	Ø	
						1			
EMARK	s								

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

SITE NAME	Clouds Che	vron					SITE LOCATION TO	aylors Si	reet & Tw	o Not	ch Road.	Col	umble, S	c
WELLN	MW-	40			SAMP			· · · · · · · · · · · · · · · · · · ·			DATE	4-	1-14	,
					PU	RGIN	G DATA			·			Access to the Access to	
	ER (Inches)		vell Depth (fe		5	WELL	SCREEN INTER	<b>3.5</b> fee	AWOT I	ier (fe:	2.5.35	PL	JPGE PUM R BAILER	P TYPE
WELLV	DLUME PURG	: 1 WELL V	OLUME = (T	OTAL WE	HT430 LU	- STA	OF HT430 DIT	WATER) feet)	X WELL	CAPAC	gallons/			gallens
TIME	YOLUME PURGED (gallens)	CUMUL VOLUME PURGED (gallons)	TEMP (°C)	Α	рН (Su)	A	COND (µS)	۵	(wà/r) tio	۸	TURB IDITY (NTU)	A	COLOR	QBOR
11:56	-		24.7		4.8	~	75	-	2.9	-	108	_	clda	N
								1		┼				
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					<del></del>			+		-		-	-10 -10 -10 -10 -10 -10 -10 -10 -10 -10	<del> </del>
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AMPLED BY (FRINT)	Wa	rlich	SAMPLER(S) SIG	W.L	_	SAMPLING DATE:		
EPTH IN WELL (feet): UPLICATE COLLECTI	20. V		Tubing Material code			FIELD-FILTERED Filtration Equipment		LTER SIZE
SAMPLE CONTAR		CATION	BAMP	LE PRESERVATION	1	ntended Analysis And/Or Method	Sampling Equipment Code	CAMPL PUMP FLOW RATE
AMPLE CONTAINER	MATERIA L GODE	AOFAWE	Preservative USED	ADDED IN FIELD	FINAL pH			
- 2	CG	4uml	HCL	-	~	8abus	Pz	
								<b> </b> -
EMARKS								
ATERIAL CODES /	G = Amber C	31889; <b>CG</b> = (	ilear Glass, PB	Polyethylene, P	P o Polypro	pylene; 8 = Silicone;	Ta Teflon, D=1	Mer (Spec

WELL CAPACITY (Gallons Per Fcot) 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16, 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47, 12" = 5.88

SITE CI	ouds Chev	ron			Š	ITE OCATION	Taylors	Street &	Two Notel	n Road	, Colu	ımbia, S	C
WELLNO		5		SA	MPLE ID					DATE	4 -	2-14	
				F	PURGING								
WELL DIAMETER	(inches)		vell Depth (fee	70	DEPTH	CREEN IN	t to 4D	feet TO V	TIC DEPTH VATER (feet LL CAPACIT	) J4. O	O PU OF	irge pum Railer	PTYPE
MELL VOI	ume purge		OLUMB a (TC	TALWELL DEP	TH - STAT	IC DEPTH	TO WATE	et) x we	LL CAPACII	•	/foot	•	gallons
TIME	VOLUME PURĞED (gallons)	CUMUL VOLUME PURGED (gallers)	TEMP (°C)	.) pH (9u)	Α	CON( (µS)		nn (mg/L	, ,	TURB (DITY (NTU)	۸	COLOR	ODOR
14:28		_	264	- 4.3	<b>-</b>	12	<del>'/ -</del>	3.b		55	1	(Ir	N
	· · · · · · · · · · · · · · · · · · ·												
WELL CA	PACITY (Gaild	ons Par Foot)	<b>0.78" =</b> 0.02	, 1° = 0.04;	1.26" = 0.06;	2" = 0.1	6, <b>3</b> " =	0 97; 4* = 1	0.65; •*•	1.02,	<b>6</b> ° = 1,	47, 12"	5.88
SAMPLEC	BY (PRINT)			SAMPLER(S)	SAMPLIN SIGNATURE		<u>A</u>	SAMPL	ING DATE.			LING TIME	
PUMP OR		Worl	ick	TUBING	<u>~ ~ ~</u>		*	FIELD	2 - / 4	Y	7	7;28 FILTER	
	WELL (feet)	D Y	0	MATERIALCO	De.			Filledou	n Equipment	туре,			
SAM	PLE CONTAIN	ier specifi	CATION	84	wple pres	ERVATIO	3	AN	ended Alysis ND/OR ITHOD	10	MPLIN UIPME CODE	NT IS	AMPLE PUMP FLOW RATE (m/m/m)
SAMPLE ID CODE	CONTAINER S	MATERIA L GODE	VOLUME	Preservativ USED	ADDED	in Field In Field	FINAL pH						
-	2	(6	40ml	HLL		-	_	8	bus	┼	3,		

STABILIZATION CRITERIA

MATERIAL CODES AG = Amber Glass,

SAMPLING EQUIPMENT CODES:

CO = Clear Glass;

APP • After Peristaltic Pump, 8 • 8 RFPP = Reverse Flow Penstaltic Pump,

REMARKS

pH: ± 0.2 units Temperature: ± 0.3 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

PP a Polypropylene,

SM - Straw Method (Tubing Gravity Drain),

BP = Bladder Pump,

PB - Polyethylene,

B = Baller,

T = Tetlan;

O = Other (Specify)

ESP = Electric Submersible Pump,

O o Other (Spenily)

8 = Silicone,

SITE C	Ciouds Chev	/ron					OCATION	Taylor	s Str	eet & Two	Note	h Roac	i. Col	umbia. Si	
WELLING					SAMPI		وتبيئا المتحوط مثم	1				DATE	4	-1-14	′
L.,														<u>' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' </u>	<del></del>
	···				PU	RGING						-			
	ER (Inches)	j j	Well Depth (fee	2		DEPTH	le fee	NTERVAL et to 3	reet				L Pi	URGE PUMI R BAILER	PTYPE
MELLYC	olume furge	E 1 WELL V	VOLUME (TO	OTALWE 31	ELL DEPTH fee		र विश्वव जा		ER) > eet) >		APACI'		/foot		gallons
TIME	VOLUME PURGED (gallons)	VOLUME PURGED	TEMP (°C)	,	рн (su)	۸	CON	- 1 4	T	(mg/L)	Α	TURB IDITY (NTU)	۸	COLOR	ODOR
14:20	(ganons)	(gallons)	25.2	-	4.6		111		土	3.2	_	88		SICIAN	N
									1					7	
		<del> </del>				<del> </del>	<del> </del>		+			-	<u> </u>		
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		<del> </del>	1			<del> </del>		-+-	十			-		<b></b>	<del></del>
									工						
WELL CA	APACITY (Galo	ins Per Foot):	: <b>0,75</b> ° = 0.02	i, 1° =	0.04; 1.20	5° = 0.06;	2° = 0.1	16; <b>3"</b> =	0.37,	4" = 0.65;	6" =	1.02,	8" a 1 <i>i</i>	47. 12==	5.88
					SAI	MPLIN	C DAI	PA							
SAMPLE	D BY (PRINT)		7	SAMPI	LER(S) SIGN	NATURE(S	3)	<u> </u>	] 8	SAMPLING (	DATE			LING TIME:	
Ca	merm 4	Varlice	<u>k</u>	PHENN	<u></u>	<u> </u>	<u> </u>			4-1-			/4	<u>: 20</u>	
DEPTH IN	N WELL (feet)			MATER	G RALCODE:					IELD.FILTE Il <b>tration Eq</b> u				FILTER	SIZE.
DUPLICA	TE COLLECTE	D: Y	€	<del></del>								<del></del>			
BAM	PLE CONTAIN	er specific	CATION		SAMPI	le prese	RYATION	1		Intendi Analye And/oi Metho	IIB R	EQI	MPLIN JIPMEI CODE	NT I	AMPLE PUMP FLOW RATE nkmin)
Sample D code	GONTAINER S	MATERIA L GODE	VOLUME		ervative Jsed	TOTAL ADDED IN	N FIELD	Final ph							
	2	16	40ml	<u></u>	166	-			T	826	UB.		B		
	<u> </u> '	<del>  </del>	<b></b>						$\dashv$			<del>  </del>			
	<del> </del> -	<del> </del>		<del> </del>					+	·-·		┼─			
	<b> </b>	<del>                                     </del>		<b> </b>		<del> </del>			十	*****		+			
									工						
REMARK	S.				-										
MATERU	AL CODES A	G = Amher G	ings. CO at	Clear Gla	150 PB 1	Polyethyli	ana I	P a Polyp	nadvler	ne. 18 ≈ Si	irone:	T = Te	finn.	O = Other	(Snecity)
	O EQUIPMENT		APP = After	Peristalti	c Pump	B = Balle	r. DP	e Eladder	ือนmb.	. ESP s	Electri	ic Subme	rsible F	oump,	101.00.31
ı			REPP = Revi	erse Flow	/ Penstallic r	Pump,	BM = Stra	w Method	(Tuten	ng Gravity Di	ain);	0 = 01	ther (Sp	aecify)	

SITE C	louds Chev	ron				1 00 L	ITE OCATION TE	ylors S	Street & Two	Note	h Road	, Col	umbia, S¢	3
WELLNO					SAMPI						DATE	4-	1-14	
		Production of the Control of the Con			PU	RGING	BOATA	1						
WELL DIAMETER	R (inches)	1	rell Depth (fee	9		DEPTH:	CREEN INTER	3 <i>0</i> 1 te	et TO WATE	DEPTH ER (les	at) 21.2.	2 61	urge Pum R Bailer	PTYPE
WELL VO	LUME PURGE	: 1 MELT V	DLUME s (T)	TALWI 30	DEPTH fee	- STAT	C DEPTH TO	WATER feet	,	APACI	enolisg		<b>E</b>	gallons
TIME	VÖLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallora)	TEMP (°C)	۸	p+ (su)	,	COND (µ\$)	A	( <b>mg/L</b> )	۸	TURB IDITY (NTU)	۸	COLOR	ODOR
14:22	_	-	24.3	=	4.7		101		3.3	-	56	_	cir	N
						<del> </del>	<u> </u>	<del> </del>						
						<del>                                     </del>		<del>                                     </del>	<del></del>	-		-		<del> </del>
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			ļ			<del> </del>		<del> </del>	ļ	-	├	-	<del> </del>	<u> </u>
	<u> </u>							+		╁──	<del> </del>		<del>                                     </del>	╁
						<del>                                     </del>		1						
					<u> </u>			<u> </u>		<u> </u>		<u></u>		<u> </u>
WELL CA	APACITY (Galle	ons Per Foot)	<b>0.75</b> ° = 0.02	2; 1" =	0.04; 1.2	<b>6" =</b> 0.06,	2" = 0.16;	3° = 0.3	)7; 4" = 0.65	6"	1.02,	<b>G"</b> = 1	47, 12" -	5.69

Comeron Werlick			<u>.</u>	4-1-14	14:2	
PTH IN WELL (reat):	Tubing Material Code			FIELD-FILTERED. Y Filtration Equipment T		Ter size.
BAMPLE CONTAINER SPECIFICATION	BAMP	LE PRESERVATIO	N	mtended Analygis And/or Method	eampling Equipment Code	SAMPLI PUMP FLOW RATE (m/min
MPLE CONTAINER MATERIA VOLUME	Preservative USED	TOTAL VOL ADDED IN FIELD (ITL)	FINAL pH			
2 C6 40m	L HCU		-	82000	B	
			i			
						1
MARKS						
TERIAL CODES: AG = Amber Glass, Ci	= Clear Glass, PB	= Palyethylene,	PP o Pálypro	pylene, Basillenne,	To Tellon; Os	Other (Sper

SITE C	Clouds Chev	/ron				(E)	OCATION TO	aylors S	treet & Tw	o Note	h Road	I, Col	umble, S	c
WELLNO		R			SAMPL	<b>P</b> ID		,			CATE	4-	1-14	
					PU	RGING	DATA							
WELL DIAMETE	R (inches).		/ell Depth (fei	93		WELL 9	CREEN INTE	SVAL 35 181	STATIC TAWOT to	DEPTH ER (fet	23.5	SFI	urge pum R bailer	PTYPE
MELL 40	LÚME PÚROL	: 1 WELL V	CLUME = (T)	OTAL WE	DEPTH		IC DEPTH TO	WATER) feet)		Capaci	ITY gallons			gallens
TIME	VOLUME PURGED (gallens)	CUMUL VOLUME PURGED (gallons)	TEMP (°C)	Λ	рН (su)	۸	Cônd (as)		DO (mg/L)	٥	TURB IDITY (NTU)	۸	COLOR	ODOR
14:30			26.4	-	6.7	_	221	+	3.8	-	171	E	Clare	V
										-		╫		<del>                                     </del>
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		ļ								+-	1	├		
WELL CA	APACITY (Galli	ons Per Foot)	<b>0.75" =</b> 0.02	2; <b>1</b> ° =	0.04; 1.26	5" = 0.06,	2" ≠ 0.16,	<b>5"</b> = 03"	7; 4" = 0.66	s, 📭	= 1.02;	<b>6"</b> = 1,	47; <b>12" -</b>	5.88
					SAI	MPLIN	G DATA							
SAMPLE	D BY (PRINT)	Westi	ek	SAMP	LER(S) SIGI	VATURE(	5):		SAMPUNG				4:30	
PUMP OF DEPTH IN	R TUBING N WELL (feet):			TURIN MATE	G RIAL CODE:				FIELD-FILT Filtration Ed	eRED Women	Y N t Type		FILTER	
DUPLICA	TE COLLECTE	ÊD: Y	A)											

EPTH IN	TUBING WELL (feet): E COLLECTE	D: Y	1	MATERIAL CODE:			FIELD-FILTERED Filtration Equipment		iter size
BAM	PLE CONTAIN	er specifi	ATION	SAMP	LE PRESERVATIO	N	intended Analysis And/or Method	SAMPLING EQUIPMENT CODE	PUMP PUMP FLOW RATE (mVmin)
SAMPLE D CODE	CONTAINER	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD	FINAL pH			
	<b>1</b>	LG	40ml	HCV			82643	В	
REMARK			······································						
(E NACKA)	<b>3</b>								

STABILIZATION CRITERIA

/E.1.1 M.C	A STATE OF THE STA				T		OCATION T	1			DAT			
AFITNO	er e. m.	ish et. Recogni			SAMPI	LE ID		<del></del>			6	4-	2-14	
					PU	RGING	DATA							
YELL NAMETEI	R (inches)	1	/ell Depth (fe			DEPTH	REEN INTE	3 / fai	STATIC et TOWA	TED Ha	7 7 4 '	0 0	urge pum Or Bailer	P TYP
PLL VO	LUME PURGE		OLUME = (T	OTAL WE	LL DEPTH	- Stati t-	C DEPTH TO	(WATER)	X WELL	Capac	gallon:	s/foot	•	gallor
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	TEMP (°C)	Α	/hH (\$u)	Α	COND (µS)	Λ	ეტ ( <b>ო</b> ஓ೬)	,	TURB IDITY (NTU)	Α	COLOR	ODO
138		<b>-</b>	25.4	-	6.4		233	-	4.0	三	33	Ξ	cle	N
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		1500		·										
								1-1		-				ļ
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ell cap	PACITY (Gallor	is Per Foot)	<b>0.75"</b> = 0.02	; ¶" = {	0.04; 1.26	° = 0.06;	ް ≈ 0.16;	<b>5" •</b> 0.37	4" = 0.65	. 5" -	102;	9° a 1 4	17, 12"	5.88
			<del></del>						<del></del>			<del></del>		<del></del>
Car	BY (PRINT)	Jarliel		SAMPL	SAN ER(8) SIGN	IPLING ATURE(S) んし		1	SAMPLING			SAMP	UNG TIME:	
PTH IN	TUBING WELL (fest):			TUBING	AL CODE:				FIELD-FILTE	RED	Y N		FILTER	size <sup>.</sup>
FLICAT	E COLLECTE	Y	N			<del></del>		l.	· of oral Er	abine) r	ye.			

SAM	PLE CONTAIN	er specifi	CATION	SAMP	Le preservatio	N	intended Analyeib And/or Method	Sampling Equipment Code	FLOW RATE (mVmin
SAMPLE D CODE	CONTAINER S	MATERIA L GODE	VOLUME	PRESERVATIVE USEC	TOTAL VOL ADDED IN FIELD (mL)	FINAL ph			
-	1	CG	40ml	1-16			8260 13	В	_
EMARKS									

SITE (	Clouds Chev	/ron					ITE OCATIO	Taylo	ors S	treet & Two	Note	h Road	l. Col	umbla, S	
WELLING	)	3			SAMP				-			DATE			
L	me te mên romanê	g Tarra Andrews			<u></u>					**************************************		٠			
					PU	RGING	DAT	Α	Soomaanian (%).		· · · · · · · · · · · · · · · · · · ·				
WELL DIAMETE	R (inches)	Total	Well Depth (fe	et) 30		WELL S	S te	NTERVA	AL Diter	STATIC (		11		JPGE PUMI R BAILEP	PTIPE
	LUME PURGE	: I WELL		OTAL WELL		- STATI			ITER)	X MELT C		ľΥ			
	<b></b>	5 SULDIO	<del>•</del> (	30	168	!!-			feet)	×		gallons	700t	•	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOI UME PURGED (gallons)	TEMP (°C)	4	pH (SU)	۸	C (#8		Λ,	no (mg/L)	۸	TURB IDITY (NTU)	,	COLOR	ODOR
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WELL CA	PACITY (Galo	ns Per Foot)	. <b>0.75" =</b> 0.02	t, 1" = 0£	4, 126	3° = 0.06;	<b>2"</b> = 0_	6; 5"	= 0.37	4" = 0.65;	8" =	1.02,	<b>3" =</b> 14	37, 12°°	5.88
					SAI	WPLING	3 DA	ra.						*******	
	BY (PRINT)					VATURE(S				Sampling (			SAMP	Ung time:	
DEPTH IN	TUBING WELL (feet)			TUBING MATERIA	L CODE:		-			FIELD-FILTE		Y N Type:		FILTER	SIZE
DUPLICA	TE COLLECTE	D: Y	N								·	<del></del>			
SAM	PLE CONTAIN	er specifi	CATION		SAMPL	.e presei		ı		ntende Analys And/of Methol	is {	EGL	MPLIN IIP MEI IODE	O I	UMPLE PUMP PLOW RATE (Fmin)
SAMPLE ID CODE	CONTAINER S	MATERIA L GODE	VOLUME	Preserv USE		TOTAL ADDED IN	FIELD	FINAL pN							
										····		<b> </b>			
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REMARK	5.	Gul	· Lock	. 1	W . 1		. 1	:				-		<del></del>	
MARPERIA	L AAARA						25.04		Angene :		100-0	<b>.</b>	hac	A - A.	
	CODES A	0 = Amber (   CODES:	APP = After	Clear Glass, Penstaluc P		Polyethyla B • Baller		P & Pinly				T = Tel Subme		O e Other (	specify)
			REPP = Rev	erse Flow Pi	eristaltic f		M = Sir	w Metho	d (Tu	oing Gravity Dr	310),	O = Ot			

STABILIZATION CRITERIA

pH: ± 0 2 units Temperature: ± 0 2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0 2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

NAME	Clouds Chev	ron					OCATION TE	ylors S	treet & Two	Note!	h Road	i, Colum	bia, S	5
WELL	NŌ	a Chine	1		SAMPL	.E 10					DATE			
			-		PU	RGING	DATA							
WELL DIAME	TER (inches)		vell Depth (fe			WELL 3 DEPTH	CREEN INTER	3 <i>(</i> ) 1ee	STATIC I		)		GE PUMI ALLER	PTYPE
MELL.	VOLUME PURGE	: 1 WELL V	OLUME 0 (T	30	L DEPTH fee		C DEPTH 10	WATER) (eet)		APACIT		/foot =		gallons
TIME	VOLUME PURGED (gallons)	CUMUL VIDLIIME PURGED (gallens)	TFMP (°C)	Λ	ηΗ (su)	Α	(mg) COND	4	ቦርነ (መ <b>ያ</b> ሴ)	۸	TURB IDITY (NTU)	۸ ٥	OLCR	ODOR
									· · · · · · · · · · · · · · · · · · ·					
											/			
WELL	CAPACITY (Galic	ns Per Poot).	<b>0.75" =</b> 0 02	); 1° = 0!	04, 1.25	* = 0.06;	2" = 0 16,	<b>3"</b> = 0.37	4" = 0.65;	g	1.02;	7" = 1.47,	12" =	5.68
نسبوات س					SAR	APLING	G DATA							
	ED BY (PRINT)			<u> </u>	R(S) SIGN	iature(S	):		Sampling (			Samplin		
DEPTH	OR TUBING IN WELL (feet): :AYE COLLECTE	D Y	N	TUBING MATERY	LCODE:				FIELD-FILTE Filtration Equ				FILTER	SIZE
8A	MPLE CONTAIN	er specific	ATION		SAMPL	e presei	RVATION		intendi Analys And/oi Metho	198 R	EQU	MPLING IIPMENT ODE	F	AWPLE PUMP PLOW RATE NUMIN)

MATERIAL CODES AG & Amper Glass & CO & Clear Glass

MATERIA L CODE

VOLUME

MATERIAL CODES AG = Amnet Glass, CO = Clear Glass, PE = Polyethylene, PP = Polypropylene, B = Sillcone, T = Tellon, O = Cliner (Specify)

TOTAL VOL ADDED IN FIELD

(mL)

FINAL pH

PRESERVATIVE USED

SAMPLING EQUIPMENT CODES: APP = After Peristatic Pump, B = Baller, EP = Bladder Pump; EBP = Electric Submersible Pump, RFPP = Reverse Flow Peristatic Pump; BM = Straw Method (Tubing Gravity Cirain); O = Other (Specify)

STABILIZATION CRITERIA

SAMPLE O CODE CONTAINER

NAME C	louds Chev	ron					ITE DCATIO	N Tayl	ors S	treet & Tw	o Note			ımbia, S	C
WELL NO	3				SAMP	LEID						DATE	4	-2-	14
						BOING	DAT	'A			-				
WELL		Total V	Vell Depth (fee	(t) A C		RGING			AL.	STATIC	DEPTH		PI	IRGE PUM	P TYPE
	R (Inches) LUME PURGE	9		_		DEPTH	20 te	et to 🕰	<b>5</b> fee	STATIC TO WAT	ER (fee	1)21.2	3 0	BAILER	
	20112 1 01102		- (	35					reet)		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	gallons	/foot	c c	gallons
TIME	VÖLUME	COMUL	TEMP		рiН	Α.	CON	D	,	no	,	TURB	۸	COLOR	0008
IIME	PURGED (gallons)	PURGED (gallons)	(₀∁)	^	(su)	, a	(µ\$	)		(mg/L)		(NTU)	ı"	COLOR	OBEN
15:25	,	-	25.8	_	5.7	I	9	4	-	3,3	-	41	-	(11	N
											-	<b> </b> -			
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<u> </u>	PACITY (Gallo			· •••••	SAI	MPLING	3 DA			-					· · · · · · · · · · · · · · · · · · ·
samplet Ca.	ey (Print) Less L	Jarlice	k	Sampl	EK(S) SIG	NATURE(S	):	-		SAMPLING 4-2	DATE: -14	- 1	SAMP	UNG TIME	5
ONIP OR	TUBING WELL (feat):			YUBIN	G RIAL CODE:					PIELD-FILTI Filtration Eq	RED	YN		FILTER	
	TE COLLECTE	D. Y	(A)	1997-17-00					1	1 000000	211.00	1700.	<del>-</del>		
SAMI	ple contain	er apacific	ATION		SAMPI	LE PRESE	RVATIO	N		ENTEND ANALY AND/O METHO	819  R	BOI	MPLIN JIPMEI CODE	NT S	AMPLE PUMP FLOW RATE m/min)
Sample D code	CONTAINER 8	MATERIA L GODE	VOLUME		ervative Jsed	ADDED IN	FIELD	FINA pH							
-	2	6	44ml	}	LL	-				826	uB		3	•	
					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										
				<del> </del>								+			
												1			
PEMARK	3.														
		A = A==== C	lage CO A	Clear Gla	244 DD :	Polyethyle	ne	PP = Po	luanram.	lora ene	ilicone.	Tore	tion	On Other	(Specify
MATERIA	LCODES A	g a winder G	(On), <b>₩₩</b> - 1						, plantario	ne.mo. 60 c 63	mit ince.	1 ~ 16	rasina"	→ chosi	

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ±5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ± 10 NTU or ± 10%

SITE CIC	ouds Che	vren		-			SITE	on Tav	dors 9	Stroet & Tv	va Nat	ch Ros	d Co	lumble	ec
WELLNO					SAM	PLE ID	التواكم	ON TO			.,,,,,	DAT	Ε	13/16	/
		A F. 0		***************************************									-	(3)   -	
WELL		Tota	i Well Depth (fe	et) ^		URGING		TA INTER	/A1	STATIS	DEE.		- T-		
DIAMETER (	(Inches):	- 1	VOLUME : ()	4		DEPTH	5	'eet to 🧘	D te	et   TOWA		et) 4 · 16 (	0 6	iupige pu Or Bailer	
			= (	21			60	YH TOW	feet)		CAPAC		s#00t	5	gallons
TIME	VOLUME PURGED (gallona)	COMUL VOLUME PURGED (gallans)	(00)	۸	pH (su)	۸	co	ND (S)	٨	(mg/L)	Δ	TURB IDITY (NTU)	٨	COLOR	ODUR
0851		_	24.3	-	7.1		1	16		3,6	-	19	-	Ur	IN
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WELL CAPA	CITY (Gallo	ns Per Foot	): <b>0.78</b> ° = 0.02	t; ¶¤ =	0.04, 1,2	5" = 0.06;	2" = 0	.16; 3"	- 0.37	4" = 0.65	5" =	1 02,	<b>5</b> " = 1,	17, 12"	5 88
						<del></del>	<del></del>		····	-			· · · · ·		
SAMPLED BY	V(PDINT)			BANG	SA	MPLING NATURE(S	3 DA	TA							
Trevi	er S	slack					)		1	SAMPLING			SAMP O	UNG TIME	
PUMP OR TU DEPTH IN WE	ELL (feat):			MATER	SIAL CODE				寸	FIELD-FILTE Filtration Eq	RED	V N		FILTER	SIZE
DUPLICATE	Collecte	) Y	(1)							Top case Cd	- hueir	турс.			
BAMPLE	CONTAINE	er specifi	CATION		BAMP	LE PRESEF	RYATIO	N		ENTEND ANALY: AND/O METHO	BIS R	EGÁ	VPLIN IIPMEI IODE	E IT	AMPLS PUMP PLOW RATE m/min)
D CODE CO	ONTAINER S	MATERIA L CODE	VOLUME	U	rvative sed	ADDED IN	FIELD	Fina ph							
-	2	CG	4Unu		LL.		]	-		826	0	Y	2		
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REMARKS	1		· · · · · · · · · · · · · · · · · · ·			<u></u>	i								
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MATERIAL CO		= Amber G	lasa, CO = (	lear Glas		Palyemylei	ne, I	P = P(l)	propyl	ene, 8 = Si	licane,	r a Tefi	on;	O e Other	(Sperity)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Diesolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

		-					OCATION I	aylors s	Areet & Tw	O MOIC	According to the page of		imbia, S	<del></del>
ELLNO				·	SAMP	LE 10	<u>.</u>				DATE	4-	1-14	/
					PII	RGING	DATA							
ELL	R (Irches)	Total V	Veli Depth (fee	*) 20	·	1		RVAL 20 te	STATIC EL TÚ WAT	DEPTH 'ER (fee!	v //. 3/	PU	IRGE PUM RAILER	PTYP
ELL VO	LUME PURGE	1 WELL V		JYALWE 20		- STATI	C DEPTH TO	) WATER)	X WELL	APACI	gallons			gallo
rime	VOLUME PURGED	COMUL VOLUME PURGED	TEMP (°C)	1	р <b>н</b> (SU)	۸	COND (µS)	Λ	ნი ( <b>ო</b> ტ£)	۸	TURB	۸	COLOR	000
:45	(gallons)	(anolisg)	24.0		6.0	-	227	+-	3,3	-	(NTU)	<b>1</b>	Cir	1
-75			7.0				24		3.9		170	7-7	C.//	
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ill ca	PACITY (Gallo	ns Per Foot):	0.75" = 0.02	; 1" = (	104; 12	5° = 0.06,	2" = 0.16;	<b>37 -</b> 03	7; 4" = 0 65	, <b>5</b> * =	1.02;	6" = 1 d	47, <b>12</b> " =	5.88
	DBY (PRINT)				SAI ER(S) SIG	MPLING NATURE(S	G DATA	<b>3* -</b> 03	SAMPLING	DATE		SAMP	LING TIME	
MPLET	DBY (PRINT)	ns Per Foot):		Sampl	SAI ER(S) SIG	MPLIN	G DATA	<b>37 -</b> 03	SAMPLING	DATE	<i>+</i>	SAMP	LING TIME	:
MPLEC Composition	D BY (PRINT)	lo clie	./-	Sampl	SAI ER(S) SIG	MPLING NATURE(S	G DATA	<b>37 - 03</b>	SAMPLING	DATE	<i>+</i>	SAMP	LING TIME	:
MPLEC MP OR PTH IN	DBY (PRINT) TUBING WELL (feet) TE COLLECTE	<i>lo cl</i> : e	/ <sub>*</sub>	Sampl	SAI ER(S) SIGI CODE	MPLIN NATURE(S	G DATA	3" = 03	SAMPLING 4 - ) FIELD-FILY Piltration Eq	DATE / - / - ERED upment	Y N	SAMP	UNG TIME	SIZE
MPLEC MP OR PTH IN	DBY (PRINT)  TUBING  WELL (feet)	<i>lo cl</i> : e	/ <sub>*</sub>	Sampl	SAI ER(S) SIGI CODE	MPLING NATURE(S	G DATA	3 03	SAMPLING 4 - ) FIELD-FILY Piltration Eq	DATE / - / - ERED Upment DED BIB DR	√ N Type:	SAMP	LING TIME	SIZE AMPL PUMP FLOW RATE
MPLEC MP OR PTH IN IPLICA SAMI	DBY (PRINT) TUBING WELL (feet) TE COLLECTE	<i>lo cl</i> : e	(N)  BATION  VOLUME	SAMPL TUBING MATER	SAI ER(S) SIGI CODE	MPLIN NATURE(S	G DATA	5° = 03	SAMPLING  4 -  FIELD-FILT  Filtration Eq  NTENE  ANALY  AND/6	DATE / - / - ERED Upment DED BIB DR	√ N Type:	SAMP	LING TIME	SIZE AMPL PUMP FLOW RATE
MPLEC MP OR PTH IN PLICA SAMI	TUBING WELL (feet) TE COLLECTE PLE CONTAINER	D Y  ER SPECIFIE  MATERIA	(N)	SAMPL TUBING MATER PRESE U	SAI ER(S) SIG IAL CODE GAMPI	MPLING NATURE(S	G DATA	Final	SAMPLING  4 -  FIELD-FILT  Filtration Eq  NTENE  ANALY  AND/6	DATE / - / - ERED upmers DED BIS DR DD	Y N Type:	SAMP	LING TIME	SIZE AMPL PUMP FLOW RATE
MPLEC MP OR PTH IN PLICA SAMI	TUBING WELL (feet) TE COLLECTE PLE CONTAINER S	B Y ER SPECIFIC MATERIA L GODE	(N)  BATION  VOLUME	SAMPL TUBING MATER PRESE U	SAI ER(S) SIG IAL CODE GAMPI RVATIVE SED	MPLING NATURE(S LE PRESE TOTAL ADDED IN	G DATA	FINAL	SAMPLING  4 -  FIELD-FILT  FILTRATION EQ  NTEND  ANALY  AND/C  METHI	DATE / - / - ERED upmers DED BIS DR DD	Y N Type:	SAMP / MPLIN UIPME CODE	LING TIME	SIZE AMPL PUMF FLOW RATE
MPLEC MP OR PTH IN IPLICA SAMI	TUBING WELL (feet) TE COLLECTE PLE CONTAINER S	B Y ER SPECIFIC MATERIA L GODE	(N)  BATION  VOLUME	SAMPL TUBING MATER PRESE U	SAI ER(S) SIG IAL CODE GAMPI RVATIVE SED	MPLING NATURE(S LE PRESE TOTAL ADDED IN	G DATA	FINAL	SAMPLING  4 -  FIELD-FILT  FILTRATION EQ  NTEND  ANALY  AND/C  METHI	DATE / - / - ERED upmers DED BIS DR DD	Y N Type:	SAMP / MPLIN UIPME CODE	LING TIME	SIZE AMPL PUMF FLOW RATE
MPLEC MP OR PTH IN IPLICA SAMI	TUBING WELL (feet) TE COLLECTE PLE CONTAINER S	B Y ER SPECIFIC MATERIA L GODE	(N)  BATION  VOLUME	SAMPL TUBING MATER PRESE U	SAI ER(S) SIG IAL CODE GAMPI RVATIVE SED	MPLING NATURE(S LE PRESE TOTAL ADDED IN	G DATA	FINAL	SAMPLING  4 -  FIELD-FILT  FILTRATION EQ  NTEND  ANALY  AND/C  METHI	DATE / - / - ERED upmers DED BIS DR DD	Y N Type:	SAMP / MPLIN UIPME CODE	LING TIME	SIZE AMPL PUMF FLOW RATE
MPLECAMP OF PTH IN PLICAMPLE GODE	DBY (PRINT) TUBING WELL (feet) TE COLLECTE PLE CONTAINER S T	B Y ER SPECIFIC MATERIA L GODE	(N)  BATION  VOLUME	SAMPL TUBING MATER PRESE U	SAI ER(S) SIG IAL CODE GAMPI RVATIVE SED	MPLING NATURE(S LE PRESE TOTAL ADDED IN	G DATA	FINAL	SAMPLING  4 -  FIELD-FILT  FILTRATION EQ  NTEND  ANALY  AND/C  METHI	DATE / - / - ERED upmers DED BIS DR DD	Y N Type:	SAMP / MPLIN UIPME CODE	LING TIME	SIZE AMPL PUMF FLOW RATE
MPLEC MP OR PTH IN IPLICA SAMI	DBY (PRINT) TUBING WELL (feet) TE COLLECTE PLE CONTAINER S T	B Y ER SPECIFIC MATERIA L GODE	(N)  BATION  VOLUME	SAMPL TUBING MATER PRESE U	SAI ER(S) SIG IAL CODE GAMPI RVATIVE SED	MPLING NATURE(S LE PRESE TOTAL ADDED IN	G DATA	FINAL	SAMPLING  4 -  FIELD-FILT  FILTRATION EQ  NTEND  ANALY  AND/C  METHI	DATE / - / - ERED upmers DED BIS DR DD	Y N Type:	SAMP / MPLIN UIPME CODE	LING TIME	

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

WELL NO THE		ron					SITE OCATION 1	eylors	Street & Tw	o Note				
AECT NO	<b>1W</b> -!	551			SAMP	ب د دستهر سدی.						4/		
					81	IBCIN4	DATA	-			<del></del>			-
VELL	^	Total V	Nell Depth (fe	et) ] L			OPEEN INTE	FVAL	STATIC	DEPTH	نحم ا	PI	JPGE PUM	PTYPE
DIAMETER (INC.		1 WELL V	OLUME . (T	•	•	DEPTH	4 feet to	14 6	et TO WAT	ER (fee	a) 25 (	0	REALER	
			• (	14	fee			teel		NULTE I	gallons	/foot	<b>E</b>	gallor
TIME PUI	LUME RGED allons)	CUMUL VOLUME PURGED (gallens)	TEMP ( <sup>0</sup> C)	A	(an)	۸	COND (µS)	A	( <b>wōv</b> r) [Ji],	۸	TURB IDITY (NTU)	,	COLOR	000
1.00	_	->	21.7		6.5		138	-	3.4	~	220	-	SICH	rize
	5	15	20.7	0.7	5.7	6.4	133	5			180	40	SICION	
	<u>o</u>	5.5	20.3	0.4	5.7	6.2	134	11			101	79.	S CIF	
	5	80	19.6	0.7	5.8	0.1	137	13		<b> </b>	41	60	C171	$\vdash \downarrow$
1015 3		11.0	19.5	0.1	98	0.0	137	2			9	32	CIC	¥
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								+						
JMP OR TUBI	NG	2 S	nde	TURIN	LER(S) SIGI		G DATA	p	SAMPLING	<u> </u>		SAMP C		SIXE.
UMP OR TUBIL EPTH IN WELL	NG L (feet):			TURIN	LER(S) SIG			2	4/3/14	PED.	V N	_	1 ~1	arze.
UMP OR TUBIL EPTH IN WELL UPLICATE CO	NG L (feet): LLECTEL	) Y	6	TURIN	EER(9) SIGE G RIAL CODE:	ATURE(S	RVATION	-	FIELD-FILTE	PED: Ipment ED HS	Y N Type:	_	FILTER	UMP LI UMP LOW LATE
JAMPLE CONT	NG L (feet): LLECTEL CONTAINE TABLER S	) Y	EATION VOLUME	TUBIN	EER(9) SIGE G RIAL CODE:	VATURE(S	RVATION VOL   FIELD	FINAL OM	FIELD-FILTE FIITE STORY  BYTEND ANALYS AND/O	PED: Ipment ED HS	Y N Type:	MPLINIPMEN	FILTER	UMP LI UMP LOW LATE
JAMPLE CONTROLL	NG L (feet): LLECTEL CONTAINE TABLER S	R SPECIFIC	EATION	TUBIN MATE	EAMPLE CODE:	E PRESE	RVATION VOL   FIELD		FIELD-FILTE FIITE STORY  BYTEND ANALYS AND/O	IPED Ipmert	Type:	MPLINIPMEN	FILTER	UMP LI UMP LOW LATE
MAPLE CONT	NG L (feet): LLECTEL CONTAINE TABLER S	R SPECIFIC MATERIA L CODE	EATION VOLUME	TUBIN MATE	BAMPI  BAMPI  BAMPI  BAMPI  BAMPI  BAMPI	E PRESE	RVATION VOL   FIELD	ρH	FIELD-FILTE Filtration Equ  ENTEND ANALYS AND/O METHO	IPED Ipmert	Type:	MPLINI IPMEI	FILTER	UMPLI UMP LOW LATE
SAMPLE CONTROL CODE	NG L (feet): LLECTEL CONTAINE TABLER S	R SPECIFIC MATERIA L CODE	EATION VOLUME	TUBIN MATE	BAMPI  BAMPI  BAMPI  BAMPI  BAMPI  BAMPI	E PRESE	RVATION VOL   FIELD	ρH	FIELD-FILTE Filtration Equ  ENTEND ANALYS AND/O METHO	IPED Ipmert	Type:	MPLINI IPMEI	FILTER	UMP LOW LATE (Vmin)
UMP OR TUBIL EPTH IN WELL UPLICATE CO. SAMPLE CONT. CODE CONT.	NG L (feat): LLECTEL CONTAINE TARRIER S	R SPECIFIC MATERIA L CODE C. G	EATION VOLUME	PRES	CAMPI  CA	E PRESE	RVATION VOL FIELD	ρH	FIELD-FILTE Filtration Equ  ENTEND ANALYS AND/O METHO	IPED Ipmert	Type:	MPLINI IPMEI	FILTER	UMPLE UMP LOW LATE (Vmin)

LLNO					SAMPL				treet & Two		DATE	4/	3/14	
	more a su supra	Company of the Company												
P. A.		- Tabilia	ell Depth (feet	\ <u> </u>			DATA	RVAL	STATIC	DEPTH		PI	JPGE PUM	P TYPE
LL METER		<u> </u>		<b>3</b>	0	нтязд	5 feet to	20 te	et TO WAT	ER (feet		7 0	RBAILER	
LL VOL	ume purge:	T WELL VO	SLUME = (TO	TAL WE	) fee	- SIAI t-	(C. DEPTH TC	feet)	X MECES	, AP 145	gallons	/foot		gailon
IMĒ	VOLUME PURGED (gallens)	CUMUL VOLUMF PURGED (gallons)	TEMP (°C)	۸	рН (su)	٦	COND (µS)	۸	(w8/r) DO	۵	TURB IDITY (NTU)	۸	COLOR	000
1	-	-	24.3		618	_	160	-	3,7	_	33	-	cir	N
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LL CAI	PACITY (Galic	ons Per Foot).	0.76" = 0.02	, 1":	0.04; 12	<b>5" = 0 0</b> 6	2" = 0 16,	3" = 0.3	7, 4° = 0.65	5, 6"	1.02,	<b>6"</b> • 1	A7, 12"	= 5.88
MPLED	BY (PRINT)	ons Per Foot)	<b>0.75" = 0.0</b> 2	SAM	SA ZER(S) SIG	MPLIN	IG DATA		SAMPLING	DATE	Ÿ	SAM	PLING TIMI	
MPLED TOO IMP OR EPTH (N	BY (PRINT)	plack	<b>9.76" -</b> 0.02	SAM	SA ZER(S) SIG	MPLIN	IG DATA		SAMPLING	DATE	Ÿ	SAM	PLING TIMI	Ē.
AMPLED TYPE IMP OR EPTH IN JPLICAT	BY (PRINT)  JEC C TUBING WELL (feet)	plack	b	SAM	SA ZER(S) SIG NG PRIAL CODE	MPLIN MATURE	IG DATA		SAMPLING	DATE:   L     L	t Type	SAM	PLING TIME D9 4 FILTER	EAMPL PUMP PLOW RATE
AMPLED  AMPLE  AMPLE	BY (PRINT)  YE COLLECTE  PLE CONTAIN  GONTAINER  E	plack	b	TUEN	SA ZER(S) SIG NG PRIAL CODE BAME SERVATIVE USEC	MPLINE STATUTE	IG DATA		SAMPLING 4 1 3 1 FIELD-FILT FIITMION E	ERED QUIPMENT	k Type:	SAM () AMPLI QUIPM GODE	PLING TIME D9 4 FILTER	EAMPL PUMP PLOW RATE
MPLED TO COMPORE PTH IN IPLICAT	BY (PRINT)  TUBING WELL (fest) E COLLECTE  PLE CONTAIN  CONTAINER	D Y	& EATION	TUBII	SA ZER(S) SIG NG ERIAL CODE BAME	MPLINE STATUTE	ERVATION  AL VOL	FINAL	SAMPLING 4 1 3 1 FIELD-FILT FIITMION E	DATE:   L     L	k Type:	SAM (N	PLING TIME D9 4 FILTER	EAMPL PUMP PLOW RATE
MPLED IMPOR PTH IN JPLICAT	BY (PRINT)  YE COLLECTE  PLE CONTAIN  GONTAINER  E	D Y IER SPECIFI MATERIA L CODE	CATION	TUBII	SA ZER(S) SIG NG PRIAL CODE BAME SERVATIVE USEC	MPLINE STATUTE	ERVATION  AL VOL	FINAL PH	SAMPLING 4 1 3 1 FIELD-FILT FIITMION E	ERED QUIPMENT	k Type:	SAM () AMPLI QUIPM GODE	PLING TIME D9 4 FILTER	EAMPL PUMP PLOW RATE
AMPLED  AMPLE  AMPLE	BY (PRINT)  YE COLLECTE  PLE CONTAIN  GONTAINER  E	D Y IER SPECIFI MATERIA L CODE	CATION	TUBII	SA ZER(S) SIG NG PRIAL CODE BAME SERVATIVE USEC	MPLINE STATUTE	ERVATION  AL VOL	FINAL PH	SAMPLING 4 1 3 1 FIELD-FILT FIITMION E	ERED QUIPMENT	k Type:	SAM () AMPLI QUIPM GODE	PLING TIME D9 4 FILTER	EAMPL PUMP PLOW RATE
AMPLED TYCE IMP OR EPTH IN UPLICAT	BY (PRINT)  VE C TUBING WELL (feet) FE COLLECTE  PLE CONTAINER  E CONTAINER  E	D Y IER SPECIFI MATERIA L CODE	CATION	TUBII	SA ZER(S) SIG NG PRIAL CODE BAME SERVATIVE USEC	MPLINE STATUTE	ERVATION  AL VOL	FINAL PH	SAMPLING 4 1 3 1 FIELD-FILT FIITMION E	ERED QUIPMENT	k Type:	SAM () AMPLI QUIPM GODE	PLING TIME D9 4 FILTER	EAMPL PUMP PLOW

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ± 10 NTU or ± 10%

NAME C	louds Chev	ron					ITE OCATIO	y Tayl	ors S	ireel & Two	Note	h Road	, Colı	umble, Si	C
WELLNO	Min	·-58.	7		SAMPL	E ID						DATE	4.	2-14	1
		The state of	<u> </u>											-A ALL	
				. 1 41	PU	RGING				0747/37			15	/RGE PUM	5 TVOC
WELL DIAMETEI	P (inches)	1	Vell Depth (feel	1-1		WELL S	4 re	et to ) C	<b>1</b> tee	STATIC E	R (feel			R BAILER	PINE
WELLYO	LUME PURGE	TWELLY	OLUMBA (10	19	HT430 . est	- STATI t-	C DEPT	H TOWA	(TER)	X WELL C	apaci	ry gallons	/feet	•	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	TEMP (°C)	۸	ηΗ (su)	٨	(#S		`	(mg/L)	Α	TURB IDITY (NTU)	٨	COLOR	ODOR
		*						  - 							
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SAMPLE	) BY (PRINT)			GAMPLE		<b>APLIN</b> O		,		SAMPLING	DATE		SAMF	UNG TIME	•
DEPTH IN	TUEING WELL (fest). TE COLLECTE	B ▼	N	TUBING MATERY	L CODE					FIELD-FILTE Filtration Equ				Pryer	SIZE
	PLE CONTAIN	, <u>, , , , , , , , , , , , , , , , , , </u>			SAMPI	LO PRESE	RVATIO	N		INTENDI ANALYI AND/O METHO	ii <b>s</b> R	EQI	MPLIN JIPME CODE	NT I	AMPLE PUMP FLOW RATE m/min)
Sample D code	CONTAINER S	MATERIA L CORE	VOLUME	PRESER US		TOTAL ADDED IN (ml	FIELD	FINA pH							
								2							
REMARK		of So	umded	. A\	own de	nd,				4					
		<b>G</b> = Amber C	11389, <b>CG</b> = (	lear Glos	, PE	Polyethyl		PP o PQ			lirone,	TRTE		O = Other	(Specily
iamplin	IS EQUIPMEN	r c 00 28:	APP = After			8 = Balle Pump;	r, 8 8M = Str	P = Black Bw Mein	der Pu 188 (Tu	mp, ESP : ibing Gravity D	electri rain),	ic Subme	rsible f ther (S	Pump, pecify)	

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

SITE C	clouds Chevi	ron					SITE	N. Tayl	iors S	Street & Two	Note	h Road	l, Colı	umbia, So	С
WELLNO	A-1-1-		<del></del>		SAMP		All Control of the Co	-		<del></del>		DATE			
		* 54(L)												<del></del>	
	<del></del>	<del></del>			<u>PU</u>	بحسن ونسطان المعرب	G DAT								
	P (Inches)	1	Well Depth (fee	17		DEPTH		et to )	7 186		ER (fee	116,05		JRGE PUMI R BAILER	P TYPE
WELL VO	Lume pur de:	1 WELL V	/OLUME • (TG	TAL WE	LL DEFTH		TIC DEPTI	A TO WA	ATER) (cet)		APAÇI	TV gallons	floot	8	gallons
TIME	VÖLUME PURGED (gallons)	CUMUL VOLUME PUPGED (gallors)	TEMP (°C)	۸	∄Н (\$⊔)	۸	CON (µS		۸	DO (mg/L)	Λ	TURB IDITY (NTU)	Λ	COLOR	COOR
555	(ganare)	10311012)	21.0	囯	6.4	匚	43	ड	_	3,1	_	88	=	SICHY	N
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							†								-
	PACITY (Galler	ns Per Footy	<b>0.76" =</b> 0.02		SAN		NG DA		• 0.97			1.02,	<b>5</b> • 14		<del></del>
Tre	BY (PRINT)	Junk		SAMPL	ER(S) SIGN	IATURE:	S)	AND THE PERSON NAMED IN		SAMPLING O		1		LING TIME:	
PUMP OR	TUBING (OC)	<u> </u>		TURING	IAL CODE:	£	**************************************			FIELD-FILTE	PED		•	FILTER	SIZE
	TE COLLECTE	5 Y	(3)						<del></del>	t be the party and	MILTON.	7 7 9			
SAMP	PLE CONTAINS	er specific	CONTRACT		SAMPI	Lu Presi	ERYATIO!	N		INTENDI ANALYI AND/OI METHO	118 R	EQL	MPLIN IPMEI CODE	Q NT	AMPLU PUMP PLOW RATE n/min)
Sample D Gode	CONTAINER S	Materia L gode	VOLUME		RVATIVE SED	ADDED	IN FIELD	FINA ph							
	2	GG	40mL	H	U	T	_			8260	B		B		
				<u> </u>				<del></del>				ļ			
		<del></del>				<del> </del>						-			<u></u>
=======================================															
REMARKS	3														_
MATERIA	LCODES AC	G = Amber G	ilg55, CO = (	Cipar Citas	SS, PE	≥ Palyetny	ylene,	PP = Pal	Much	lene, Se Si	lirone,	T º Te	Ron,	O o Other (	(Sperify)
BAMPLING	g equipment	CODES:	APP - After			B = Ball		· Bisde		mp. BSP =	Electri	c Subme			<del></del>

STABILIZATION CRITERIA

pH:±02 units Temperature:±02 °C Specific Conductance: ±5% Dissolved Oxygen:±0.2 mg/L or ±10% Turbidity:≤10 NTU or ±10%

				<del></del>	SAMP	<del></del>	DATA	<del></del>			1		<del>,</del>	
	R (inches)	j	'ell Depth (fe	17		WELL S	CREEN INTE	) 4 fe	STATIC eet TO WAT	ER (fee			irge pum R Bailer	P TYPE
ARLT AC	Lume purge	: 1 WELL VC	* (	L	LL DEPTH		IC DEPTH TO		) x Merro	CAPACT		s/100t	D	gallon
TIME	VOLUME PURGED (gallons)	CUMUL. VOI LIMP PURGED (gallons)	TEMP (°C)	۸	pH (SU)	۸	COND (E4)	\	(mg/L) (n)	۸	TURB IDITY (NTU)	۸	COLOR	೦೦೦
								1						
··········								<u> </u>						
IGHL UR					,		2 "0 18,	3" = U3	7; 4" = 0.65	<b>#</b> " ¤	1.02,	6" = 1/	47, 12" =	5.88
amplec UMP of EPTH IN	DBY (PRINT) TURING WELL (feet)			SAMPL	<b>SAI</b> Ler(s) sign	NPLIN(	G DATA	5-003	SAMPLING FIELD-FILTE Filtration Equ	DATE RED	V N	SAMP	47, 12" a FILTER	
AMPLEC UMP OF BEPTH IN BUPLICA	DBY (PRINT)	D. Y	N	SAMPL	SAI LER(S) SIGN RIAL CODE	NPLIN(	G DATA	3-03	Sampling Field-Filte	DATE  RED  Jepment  ED  SIB  R	Y N Type.	SAMP	FILTER	SIZE
AMPLE( UMP OF EPTH IN UPLICA	D BY (PRINT) I YUBING I WELL (feet) I'E COLLECTE	D. Y	N	SAMPI TUBING MATER	SAI LER(S) SIGN RIAL CODE	MPLING NATURE(S	G DATA  PRIVATION  VOL.   FIELD	ST = 03	SAMPLING FIELD-FILTE FIITISION EQUILIBRIUM INTENDIA ANALYI ANDIO	DATE  RED  Jepment  ED  SIB  R	Y N Type.	SAMP MPLIN UIPMEN	FILTER	SIZE
AMPLEC UMP OF EPTH IN UPLICA  SAM	DEY (PRINT) TUEING WELL (feet) TE COLLECTE PLE CONTAIN	D. Y  ER SPECIFIC.  MATERIA	N ATION	SAMPI TUBING MATER	SAP LER(S) SIGN RIAL CODE: BAMPL BRIVATIVE	MPLININATURE(S	G DATA  PRIVATION  VOL.   FIELD	FINAL	SAMPLING FIELD-FILTE FIITISION EQUILIBRIUM INTENDIA ANALYI ANDIO	DATE  RED  Jepment  ED  SIB  R	Y N Type.	SAMP MPLIN UIPMEN	FILTER	SIZE
AMPLEC UMP OF EPTH IN UPLICA  BAM	DEY (PRINT) TUEING WELL (feet) TE COLLECTE PLE CONTAIN	D. Y  ER SPECIFIC.  MATERIA	N ATION	SAMPI TUBING MATER	SAP LER(S) SIGN RIAL CODE: BAMPL BRIVATIVE	MPLININATURE(S	G DATA  PRIVATION  VOL.   FIELD	FINAL	SAMPLING FIELD-FILTE FIITISION EQUILIBRIUM INTENDIA ANALYI ANDIO	DATE  RED  Jepment  ED  SIB  R	Y N Type.	SAMP MPLIN UIPMEN	FILTER	SIZE

SITE C	louds Chev	ron				8	ITE OCATIO	N Ta	ylors (	Street	& Two	Note	h Rosc	I. Col	umbia, S	C
WELL NO	MW	-62 J			SAMP	LE ID							DATE	4.	1-14	/
					PU	RGING	B DAT	ra -								
WELL DIAMETE WELL VO	R (inches) LUMB PURGE	1	Well Depth (fel	OTALWELL		WELL S	CREEN 20 fe	INTER	S te	91 et Tú	ATIC ( WATI	DEPTH EP (fee	, 22.3	2 0	JPGE PUM P BAILER	P TYPE
			= (	35		:t <b>-</b>				Х			gallon	/feet	2	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallors)	TEMP (°C)	Δ	рН (80)	Α	COñ (µŝ		۸	<u>ព</u> ្រំ (៣ពួ			TURB IDITY (NTU)	,	COLOR	ODOR
3:38			23.1		5.0	_	2.5	8		2	<b>.</b>		405		cldy	N
					-											
Well Ca	PACITY (Gallo	ns Per Foot)	<b>0.75" =</b> 0.02	: 1*-00					)" = 0.3°	7. 4*1	0.65;	5° •	1.02,	S" = 1.	47, 12°=	5.89
_	BY (PRINT)	Warl	ick	SAMPLER	SAI (S) SIGI	MPLING NATURE(S	DA'	TA -			LING E				LING TIME	:
PUMP OR DEPTH IN	TUBING WELL (feet): E COLLECTE		(N)	Tubing Material	L CODE.					FIELD Filtrati	FILTE	RED	V N		FILTER	SIZE,
SAMF	PLE CONTAINI	er specific			SAMPL	e prese	RVATIO	N		Al	TONDE VALYS IND/OF ETHO	18 ?	EQU	MPLIN IIPMEI CODE	γ <b>τ</b>	AMPLE FUMP FLOW RATE nVmIn)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	<b>VOLUME</b>	PRESERV. USEC		TOTAL ADDED IN (m)	FIELD	FIN p								
	2	66	40ml	H1	L					8	260	B		13		
																·
REMARIS																
MATERIA	CODES A	o = Amber G	II355; CG = (	Clear Glass;		Palyahyli B = Balle			olypropy Ider Pul		8 = Sil	<del></del>	T = Tel		O = Other	(Specify)

SITE LCCATION Taylors Street & Two Notch Road, Columbia, SC

ÆLL NO	a distant	and the same of th			SAMP							DATE	4-	2-14	
					PU	RGING	DAT	A :							
ELL IAMETER	(inches)		ell Depth (feet	نو	5	WELL S	CREEN IN	ITERVAL Tto 35	feet	STATIC (	EW (IES	ic)	⊢ Pi O	JRGE PUM RBAILER	1P TYPE
ELL VOL	UME PURGE:	1 MELT A	DLUME = (10	TALWEL 35	L DEFTH fee	- STAT	IC DEPTH	TO WATE	R) et)	X WELL C	APACI	TY gailons	/foot	e	gallon
TIME	VOLUME PURGED	CUMUL VOLUME PURGED	TEMP (°C)		គH (SU)	١	CONI (μS)			₽¢ (m <b>g/L)</b>	۸	TURB IDITY (NTU)	۸	COLOR	000
:27	(gallons)	(galions)	26.2	_	5.2	-	221	-	1	3.5	Ξ	48	Ξ	CIV	N
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AMPLEO Ca	PACITY (Galle ) BY (PRINT) M < 10 A			SAMPL	ER(3) SIG			ΓΑ		Sampling 4-2:	14			PLING TIMI	<b>)</b>
UMP OR DEPTH IN	) TUBING I WELL (feet) TE COLLECTE		M	MATER	ALCODE					FIELDSFILT Filtration Eq		t Type:	1	lgt ljiet	H SIZE
BAM	PLE CONTAIN	er epecifi	CATION		SAMP	Le pres	ERVATIO	N		entend Analy And/o Metho	SIB DR		AMPLI UIPMI CODE	NO INT	BAMPLI PUMP FLOW RATE (m/min
Sample D code	CONTAINER	MATERIA L GOBE	VOLUME	PRESE U	RVATIVE SED	ADDED	IL VOL IN FIELD nl)	FINAL pH							
	r	CG	40m	H	W		-	-	-	940	OB.		3_		
									4						
				P .		1									
REMARK	s	<u> </u>		<del> </del>											

STABILIZATION CRITERIA

Clouds Chevron

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

ME .	louds Chevro	ON.					TE DOATION T	aylors S	ireel & Two	INDIC			MIIDIG, SC	,,
ELLNO	Mw-6	S			SAMPL	.e 10					DATE			المنافسين
	· · · · · · · · · · · · · · · · · · ·	2200			PU	RGING	DATA	No	+ Foun	d.	N	len	, 6	not
ell Ameter	(inches):		fell Depth (fee	تر		WELL S	PEEN INTE	35 tee	STATIC I	DEPTH ER (fee	t)	1	irge pumi Realler	PTYPE
ELL VOL	UME PURGE:	1 WELL V	DLUME : (TO	TAL WE	L DEPTH fee	- STATI	C DEPTH TO	WATER) feet)	x WELL C	APAC I	gallons	/foot	e	gallons
TIME	VOLUME PURGED (gallens)	CUMUL VOLUME PURGED (gallons)	TEMP (°C)	۸	ρΗ (su)	Λ	COND (µS)	\	ቦርን ( <b>ጠ</b> g/L)	Λ	TURB IDITY (NTU)	٨	COLOR	ODOR
$\dashv$														
								1 1		1		<u> </u>		
	1		1							T			l .	Ì
BLL CA	PACITY (Galin)	ns Per Foot):	9.76" = 0 0	2: 1": •	0.84; 1.21	B" = 0.06;	2" = 0.16;	3" = 0.3	7; 4" = 0.65		1.02,	6" = 1:	47; 12"=	5.88
	PACITY (Gallo)	ns Per Foot):	9.75" = 0 0			MPLIN	G DATA	3" = 0.3	7; 4" = 0.65		1.02,		PLING TIME	
AMPLEC UMP OR EPTH IN	DBY (PRINT) TUBING			SAMPI	<b>SA</b> ER(9) SIG	MPLIN NATURE(S	G DATA	3" • 0.3		DATE.	<b>~</b>	SAM		
AMPLED UMP OR EPTH IN UPLICA	O BY (PRINT)	D Y	N	SAMPI	SAI ER(9) SIG G RIAL CODE	MPLIN NATURE(S	G DATA	3" = 0.3	Sampling Field-Filti	DATE. EREO Upmen	t Type:	SAM	PLING TIME PILTER	
AMPLEC UMP OR EPTH IN UPLICAT SAMPLE	D BY (PRINT) TUBING WELL (feet) TE COLLECTE	D Y	N	SAMPI TUBIN MATE	SAI ER(9) SIG G RIAL CODE	MPLIN NATURE(S	G DATA  BELD	3" = 0.3	SAMPLING FIELE-FILT FIITMON EQ  NTENE ANALY AND/R	DATE. EREO Upmen	t Type:	SAMP AMPLID	PLING TIME PILTER	AMPLE PUMP FLOW RATE
AMPLEC UMP OR EPTH IN UPLICAT BAMI	D BY (PRINT)  TUBING WELL (rest) TE COLLECTE  PLE CONTAINS  CONTAINER	D Y ER SPECIFIC	N	SAMPI TUBIN MATE	SAL ER(9) SIG BAMP BAMP	MPLIN NATURE(S	G DATA  BELD	FINAL	SAMPLING FIELE-FILT FIITMON EQ  NTENE ANALY AND/R	DATE. EREO Upmen	t Type:	SAMP AMPLID	PLING TIME PILTER	AMPLE PUMP FLOW RATE
AMPLED UMP OR EPTH IN UPLICA	D BY (PRINT)  TUBING WELL (rest) TE COLLECTE  PLE CONTAINS  CONTAINER	D Y ER SPECIFIC	N	SAMPI TUBIN MATE	SAL ER(9) SIG BAMP BAMP	MPLIN NATURE(S	G DATA  BELD	FINAL	SAMPLING FIELE-FILT FIITMON EQ  NTENE ANALY AND/R	DATE. EREO Upmen	t Type:	SAMP AMPLID	PLING TIME PILTER	AMPLE PUMP FLOW RATE
AMPLEC UMP OR EPTH IN UPLICA BAMI SAMPLE O CODE	D BY (PRINT)  TUEING I WELL (rest) TE COLLECTE  PLE CONTAIN  CONTAINER  S	D Y ER SPECIFIC	N	SAMPI TUBIN MATE	SAL ER(9) SIG BAMP BAMP	MPLIN NATURE(S	G DATA  BELD	FINAL	SAMPLING FIELE-FILT FIITMON EQ  NTENE ANALY AND/R	DATE. EREO Upmen	t Type:	SAMP AMPLID	PLING TIME PILTER	AMPLE PUMP FLOW RATE
AMPLEC UMP OR EPTH IN UPLICAT BAMI	D BY (PRINT)  TUEING I WELL (rest) TE COLLECTE  PLE CONTAIN  CONTAINER  S	D Y ER SPECIFIC MATERIA L CODE	N	SAMPI TUBIN MATEI	SAL ER(9) SIG GRIAL CODE BAMP ERVATIVE USED	MPLIN NATURE(S  LE PRESE  TOTAL ADDED I	G DATA	Final gh	SAMFLING FIELELFILTI FIIITISION EQ INTENE ANALY AND/A METHI	DATE. EREO- upmen SIS SIS OR OD	Bype:	SAMI MPLII UIPME CODE	PLING TIME	AMPLE PUMP PLOW RATE MYMIN)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Dxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

VOLUME VOLUME TEMP DH COND DE TURB	TYPE gallons
WELL SCREEN INTER-Val   STATIC DEPTH 2	
WELL SCREEN INTEGED 1 WELL SCREEN INTEGED 1	
WELL CAPACITY (Gallons Per Foot): 0.78" = 0.02; 1" = 0.04; 1.28" = 0.06; 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.02; 6" = 1.47, 12" = 5.  SAMPLED BY (PRINT)  SAMPLED BY (PRINT)  COND  (10)  (1	
WELL CAPACITY (Gallons Per Foot): 0.78" = 0.02; 1" = 0.04; 1.28" = 0.06; 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.02; 6" = 1.47, 12" = 5.  SAMPLED BY (PRINT)  SAMPLED BY (PRINT)  COND  (10)  (1	jallons
TIME PURCED (g3/lons) ("C)   PHROED ("C)   PHROED ("C)   PHROED (g3/lons) ("C)   PHROED (g3/lons) ("C)   PHROED (g3/lons) ("C)   PHROED EV (PRINT) (NTU)   COLOR ("Mg/L)   PHROED EV (PRINT) (NTU)   COLOR ("Mg/L)   PHROED EV (PRINT) (NTU)   COLOR ("Mg/L)   PHROED EV (PRINT) (NTU)   COLOR ("Mg/L)   PHROED EV (PRINT) (NTU)   COLOR ("Mg/L)   PHROED EV (PRINT) (NTU)   COLOR ("Mg/L)   C	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 125" = 0.06; 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.02; 6" = 1.47, 12" = 6.  SAMPLING DATA  SAMPLEO BY (PRINT)  Caine on War I ic!  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLEO BY:  PUBLIC FIRED PLY FRED Y  MATERIAL CODE:  FILTER SI  FI	0008
SAMPLING DATA  SAMPLED BY (PRINT)  Carne-on War I.'c   SAMPLER(S) SIGNATURE(S): SAMPLING DATE: SAMPLING TIME:  4-1-14   12:42  PUMP OR TUBING DEPTH IN WELL (feet): MATERIAL CODE: Filtration Equipment Type:	V
SAMPLING DATA  SAMPLED BY (PRINT)  Capita - War I.'c   SAMPLER(S) SIGNATURE(S):  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14   12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Carne-on War I.'c/  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14 12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Carne-on War I.'c/  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14 12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Capita - War I.'c   SAMPLER(S) SIGNATURE(S):  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14   12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Capita - War I.'c   SAMPLER(S) SIGNATURE(S):  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14   12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Capita - War I.'c   SAMPLER(S) SIGNATURE(S):  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14   12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Capita - War I.'c   SAMPLER(S) SIGNATURE(S):  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14   12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	<del></del>
SAMPLING DATA  SAMPLED BY (PRINT)  Capita - War I.'c   SAMPLER(S) SIGNATURE(S):  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14   12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Carne-on War I.'c/  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14 12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Carne-on War I.'c/  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14 12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Capita - War I.'c   SAMPLER(S) SIGNATURE(S):  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14   12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLING DATA  SAMPLED BY (PRINT)  Carne-on War I.'c/  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE: SAMPLING DATE: SAMPLING TIME.  4-1-14 12:42  FIELD-FILTERED: Y N FILTER SI  MATERIAL CODE: Filtration Equipment Type:	
SAMPLED BY (PRINT)  Capine on War I.'c/  PUMP OR TUBING DEPTH IN WELL (feet).  SAMPLING DATE SAMPLIN	68
DEPTH IN WELL (feet). MATERIAL CODE: Filtration Equipment Type:	
DUPLICATE COLLECTED: Y	SE.
SAMPLE CONTAINER SPECIFICATION SAMPLE PRESERVATION AND/OR CODE RA	APLE IMP OW LTE (min)
SAMPLE CONTAINER MATERIA L CODE VOLUME PRESERVATIVE ADDED IN FIELD FINAL PH	
2 (6 90mL H(L 876WB B -	-
REMARKS	
MATERIAL CODES AO a Amber Glass, CO a Clear Glass, PE a Polyethylene, PP a Polypropylene; S a Sillhone; T a Tellon; O a Other (S	per ith-
SAMPLING EQUIPMENT CODES: APP = After Peristatic Pump, 8 = Batter; BP = Bladder Pump, BBP = Electric Submersible Pump, RFPP = Reverse Flow Peristatic Pump; BM = Straw Method (Tubing Gravity Drain); O = Other (Specify)	

SITE	Clouds Chev	ron	<del> </del>	<del></del>	**********		OCATIO	N Te	ylors S	ireet & Tv	vo Note	h Rosc	I, Col	umbia, S	C
WELLNO	- A	-		***********	SAMP			······································				DATE		אוג	
<u></u>		<u> </u>		<del> </del>		2011						<u> </u>		<del>*/ - </del>	
WELL		Tetall	Well Depth (fee	d)	PU	RGING	DAT	NTER	VΔI	STATIS	heetu		(O)	IDAS DIIM	e t√pe
DIAMETE	R (Inches).	1		حد	para di c	DEPTH	20 te	et to 3	5 %	STATIO	TER (fee	1) DH 1	6	r Bailer	r 1185
MELLAC	LUMB PUKGE		a (	35		t-	IC DEFI	H IUV	rater) feet)		CAPACI	gallon:			gallons
TIME	VOLUME PURGED (gallens)	CUMUL VOLUME PURGED (gallers)	TEMP (°C)	Λ	ηH (9U)	,	COV	3)	`	ħ¢ (mg/L)	۸	TURB IDITY (NTU)	۸	COLOR	ODOR
13:01			24.3	-	59		/3	7	-	2.4		28	_	111	7
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		<b> </b>			·····						+				
WELL CA	APACITY (Galic	ns Par Foot)	<b>0.76" =</b> 0 02	1"=0!	14, 1 <b>.2</b> 1	5° = 0 06;	2" = 0.	16; \$	3" = 0 37	7. 4"=06	5; 6"=	1.02,	6" = 1,	47, <b>12"</b> =	5.68
SAMDI EI	D BY (PRINT)			SAMBLE		MPLINO NATURE(S		TA		SAMPLING	DATE		SAME	LING TIME	,
Ca.	neron	Warli	k	CHINICE		~/~	-			4-2		- 1		3:01	
PUMP OF	? TUBING I WELL (feet).		_	TUBING MATERIA	LCODE					FIELD-FILT Filtration Ed		Y N		FILTER	SIZE
DUPLICA	TE COLLECTE	D. Y	(1)								6				
SAM	PLB CONTAIN	er specifi	CATION		SAMP	LE PRESE	RVATIO	N		ONTEN ANALY AND/ METH	/818 OR	EQI	MPLIN JIPME CODE	NT I	AMPLE FUMP FLOW RATE HVMIN)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	VOLUME	PRESER USE	0	TOTAL ADDED IN (m)	FIELD		NAL IH						
	1	CG	40 mL	H	(U				-	826	wa				
											-	-			
	<b></b>											<del>                                     </del>			
DEMARK															
REMARK	3														
MATERIA	r CODES. Y	<b>Q</b> a Amher G	ilass, CG = (	lear Glass	, PE:	Palyethy	ene;	<b>PP</b> = P	ùlÀbudb <i>i</i>	Anne, Se	Silicane,	Tele	flon.	0 = Other	(Specify)
BAMPLIN	ig Equipment	r codes:	APP = Atter			8 = Baile Fump,			dder Pui thod (Tu	mp, <b>BSP</b> Wng Gravily i		c Subme O o O	rsible f her (S		

AME C	Clouds Chev	/TON					IITE OCATION TO	ylors :	Street & Tw	o Note	h Road	i, Co	lumbie, S	C
ÆLL NO	MW-	5aB	\		SAME	PLE ICI					DATE	49.	1-14	67.0
					D.	IBGING	DATA	······································				1.	· · · · · · · · · · · · · · · · · · ·	
	R (Inches) LUMB PURGE	Total	Well Depth (fe	et) 25	3	WELL S	DATA CREEN INTER 18 feet to 3	) <b>8</b> 16	STATIC TO WAT	EP (fee	いてい	4 0	URGE PUN OR BAILER	IP TYPE
ull vo	LUMB FUNCE	. I 445 <i>67</i>	a (	21	<b>3</b> 18	et-	CUEPINIO		) X WELL (	;APACI	gallon	/foot	10	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	TEMP (°C)	4	pH (su)	`	COND (µS)	Α	(w8/r)	\	TURB ICHTY (NTU)	۸	COLOR	ODUF
30		_	20.7	_	6.8	-	987	=	1,8	_	203	E	Stron	5/0
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- <u>-</u>	PACITY (Gallo				······································	NATURE(S	3 DATA	303	7; 4° = 0 65;	DATE:	1.02;	SAME	PLING TIME	
	TUBING	War	ick	TURIN		W-	<u> </u>		4-1-	14		9;	30	
PTH IN	WELL (feet)	D Y	(N)		RIALCODE		<del> </del>		FIFLD-FILTE Filtration Equ		Y N Type:		FILTER	SIZE.
	LE CONTAIN				SAMP	Le preser	RVATION	<del></del>	NTENDI ANALYS AND/O METHO	iis R	EQL	MPLIN JIP MEI SODE	NT I	AMPLE PUMP FLOW RATE n/min)
MPLE CODE	CONTAINER S	MATERIA L GODE	VOLUME		ERVATIVE ISED	TOTAL ADDED IN (mL)	FIELD "	NAL H		*				
	7	16	40mi		HU	*			8261	B				
												·		
	*****										<del>                                     </del>			
MARKS				<del></del>		<b>.</b>			L.,		<u> </u>			
TERIA	L CODES A	G = Amher G	iass. CO e	Clear Gla	SS PP :	: Palyethyle	ne <b>so</b> a s	olypropy	Apna: 8 - SI	(renna	T = Tel	ion	O = Cither	(Cnorth -
	BOUIPMENT		APP = After	Penstalti	.Pump	B = Baller	BP = 61a	dder Pu		Electri	Submei	sible F	ump,	estoecny.

STABILIZATION CRITERIA

SITE C	Clouds Chev	ron					SITE LOCATION T	aylors S	Street & Tw	o Not	h Road	d. Co	lumbia. S	
WELL. NO	fw.	1R]			SAMP						DATE	4/	3/14	
			•		· PU	RGING	G DATA							
WELL DIAMETER	P (Inches).		/ell Clepth (fe	رن	0	WELLS	CREEN INTE	500	STATIC TAW OT 18		n o !	م ار	upge pum Dr Baller	PAPE
MELL VO	Lume Purge	: TWELL V	DLUMB : (Ye	WJATC	ELL DEPTH	- STAT	IC DEPTH TO	WATER feet	X WELL	APACI	TV gallons		a enter	galions
TIME	VOLUME PURGED (gallens)	CUMUL VOLUME PURGED (gallors)	TEMP (°C)	,	(an) LH	٨	COND (µS)	۸	D() (mg/L)	۸	TURE IDITY (NTU)	,	COLOR	ODOR
1227	± 0		15.1		6.2	-	168	-	1,3	Ξ	220		SICIAN	Y
1240	부.D 있.5	4.0		0.4	5.8	14	111	3		ļ	153	67	SUAY	
1306	3.0	615	14.0	1.5	5.6	0.2	86	25		ļ	101	52	SICIA	
1314		9.5	24.2	0.7	5.5	0.1	77	12			85	16.	SICIAY	
	3.0	मिंड	24.3	0.1	5.8	0.3	15	2			33	52	Cley	<u> </u>
1335	3.5	18.0	24.7	9.	5.8	0.0	73	2	<del></del>		21	12	Clear	
انتحدا	212	10.0	24.2	0.0	5.9	0.1	-42-	2	<del></del>		7	14	Clear	سل
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WELL CAF	ACITY (Galler	ns Per Footh	0.76° = 0.03°		0.04: 400	n = 0.06:	2° = 0.16			<u> </u>	l			

A 1 ( ) = 1					MPLING DA	TA			
Trev	DBY (PRINT)	ick		SAMPLER(S) SIG	NATURE(S)		SAMPLING DATE	SAMPLING	
DEPTH IN	P TUBING I WELL (fest). TE COLLECTE	b. /	- /	TUBING MATERIAL CODE	-		FIELD-FILTERED Filtration Equipment	Y N FI	LTER SIZE
SAM	PLB CONTAIN	er specifi		ZAMD SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	EAMPLE PUMP FLOW RATE (mVmin)
Sample D code	CONTAINER S	MATERIA L GODE	VOLUME	Preservative USEO	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			Lateration
	1	16	40mb	HCV			9760B	B	
REMARKS					<u> </u>	<del></del>			
		8 = Amber G	il399; <b>CG</b> = (	PearGlass; PB	Polyethylene, P	P = Polypror	ylene; B = Sillrone.	To Taffan; Oo f	imer (Sperii
iamplini 	B EQUIPMENT	CODES:	APP = After I	Peristaltic Pump; erse Flow Peristaltic (	B a Baller, BP Pump, SM a Stra	= Bladder Pi w Method (T	ump, BBP = Electric ubing Gravity Drain),	Submersible Pump. O = Other (Specify)	

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ⊴ 10 NTU or ± 10%

AME .	Clouds Chev	ron		****		S	itë <u>Ocation,</u>	Taylors	Street & Tw	o Note	ch Rosc	, Col	umbia, SC	;
VELLN	3 4 1	333			SAMP	LE ID	Jw-1				DATE	4/,	2114	_ * _========
					PU	RGING	DATA						•	
/ELL		Total V	Vell Depth (fer	rt)		WELL S	CPEEN INT	EPVAL	STATIC	DEPTH	ur.	P	UPGE PUMF R BAILER	LYPE
	R (Inches)		AT 118 - 200	7		DEPTH	65 feet 1	₀7 <i>0</i> π	et TOWAT	ER (fer	(f) フリン, (f) (f) (f) (f) (f) (f) (f) (f) (f) (f)	0 0	RBAILER	٤
VELL Y		. 1 472 55. 4	* (	70			5.00		) × O.1	1		/foot	- 4.00	gallen
TIME	VOLUME PURGED (gallons)	CUMUL VOLUMF PURGED (gallens)	TEMP (°C)	A	ρH (Su)	Α	COND (µS)	۸	ቦሶ ( <b>mg/L</b> )	۸	TURB IDITY (NTU)	۸	ĆŮLÓR	000
415	3-		25.7		6.7	-	71	1-	3.2	-	741	-	Cldy	N
114	5,5	5,5	26.0	0,3	6.9	0.2	80	14			496		CIU	N
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	APACITY (Gallo					<b>APLIN</b>	2" = 0 16; 3 DAT/		17. 4" = 0.65	`	1	SAMF	47, 12" e	
	ver Sli	a ele-				2.63							_	
Tre		h h l			111-0	PP			4/2/14			74	120	
UMP CI EPTH II	N WELL (feet).		- F	MATER	MAL CODE:				(11/0/11			14	FILTER	SIZE
UMP ()! EPTH ()			S	MATER	S SIAL CODE:				HILD-FILTI Filtration Eq.	uipmen		16	FILTER	
UMP (II IEPTH II UPLICA	N WELL (feet).	D; Y		MATER		.e prese			FIELD-FILTI	ulpmen ED BIS ER	RA EQI	MPLIN MPLIN JIP ME	FILTER	WPLE UMP LOW LATE
UMP CIPEPTH III UPLICA BAM	N WELL (feet)	D; Y		PRES			RVATION VOL FIELD	FINAL PH	FIELD-FILTE FIELD-FILT FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILT FIEL	ed BIS BIS BR	RA EQI	MPL(N JIPME CODE	FILTER	WPLE UMP LOW LATE
UPLICA  BAM  AMPLE	N WELL (feet). TE COLLECTE  PLE CONTAIN  CONTAINER	ER SPECIFIC  MATERIA L GODE	CATION	PRES	<b>SAMPI</b> ERVATIVE	E PRESE	RVATION VOL FIELD		FIELD-FILTE Filtration Eq. NTEND ANALY AND/O	ed BIS BIS BR	RA EQI	MPLIN JIP ME	FILTER	WPLE UMP LOW LATE
UPLICA  BAM  AMPLE	N WELL (feet). TE COLLECTE  PLE CONTAIN  GONTAINER  8	ER SPECIFIC  MATERIA L GODE	CATION	PRES	BAMPI ERVATIVE ISEO	E PRESEI	RVATION VOL FIELD	рH	FIELD-FILTE FIELD-FILT FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILT FIEL	ed BIS BIS BR	RA EQI	MPL(N JIPME CODE	FILTER	WPLE UMP LOW LATE
UMP CIPEPTH IF	N WELL (feet). TE COLLECTE  PLE CONTAIN  GONTAINER  8	ER SPECIFIC  MATERIA L GODE	CATION	PRES	BAMPI ERVATIVE ISEO	E PRESEI	RVATION VOL FIELD	рH	FIELD-FILTE FIELD-FILT FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILT FIEL	ed BIS BIS BR	RA EQI	MPL(N JIPME CODE	FILTER	WPL CUMP LOW LOW
UMP CI EPTH II UPLICA	N WELL (feet). TE COLLECTE  PLE CONTAIN  GONTAINER  8	ER SPECIFIC  MATERIA L GODE	CATION	PRES	BAMPI ERVATIVE ISEO	E PRESEI	RVATION VOL FIELD	рH	FIELD-FILTE FIELD-FILT FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILTE FIELD-FILT FIEL	ed BIS BIS BR	RA EQI	MPL(N JIPME CODE	FILTER	WPLE UMP LOW LATE
UMP OF EPTH II UPLICA BAM	N WELL (feet) TE COLLECTE  PLE CONTAIN  CONTAINER  B  V	ER SPECIFIC  MATERIA L GODE	CATION	PRES	BAMPI ERVATIVE ISEO	E PRESEI	RVATION VOL FIELD	рH	FIELD-FILTE ANALY AND/O METHO	ed BIS BIS BR	RA EQI	MPL(N JIPME CODE	FILTER	WPLE
BAM  AMPLE CODE	N WELL (feet) TE COLLECTE  PLE CONTAIN  CONTAINER E  Z	ER SPECIFIC  MATERIA L GODE	VOLUME	PRES	SAMPI ERVATIVE ISED	E PRESEI	RVATION VOL FIELD	рH	FIELD-FILTE Filtration Eq. INTEND ANALY AND/O METHO	ed BIS BIS BR	SA EQ1	MPLIN IP ME CODE	FILTER	UMP LOW LATE L'MIN

uds Chev	ron				5	ITE OCATIO	N Taylors	Stre	et & Two	Note			umble, S	SC .
				SAMP	LEID (	>w-:					DATE	4/.	2/14	
				PU	RGING	DAT	Δ.				- <u>-</u>		_	
nehes)	Total	Well Depth (fee	1) 75	5	WELLS	ÇREEN	NTERVAL	feet	STATIC (	DEPTH	,44.2°	PI,	IRGE PUN	MP TYPE
ME PURGE			SYALWE	L DEFTH	- STAT	C DEPT	H TOWATE	F) X	WELL		ſΥ			gallons
OLUME VRGED		TEMP (°C)		рн (su)	,	CON	,		00 (mg/L)	^	TURB IBITY (NTU)	٨	COLOR	ODOR
(80001.0)	(9310(8)	25.2	-	7.0	-	15	5 -	+-	3.2	-			clc	N
. 5	6.5	26,0	0.8	7.2	0.2	13	5 10				601		Cldy	N
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CITY (Gallo	ns Per Foot)	<b>0.75"</b> = 0.02	, 1° = 0	04, 120	5" = 0.06;	2" = 0.	16, 3" = 0	.37,	4" = 0.65;	6° =	1.02;	<b>5</b> ° = 1,4	17, 12"	5.88
				SAF	MPLIN	g DA	PA .							
(PRINT)			SAMPLE					S				_	_	·
BING	net		TUBING						ELD-FILTE	RED	V N	15	FILTER	SIZE:
	D: <b>V</b>	40)	MATERI	AL CODE:				Fo	ivation Equ	pment	туре:			
CONTAIN	er <b>e</b> pecifi	BATION		SAMPI			¥		ANALYS	1 <b>8</b> R	EQL	JIP MEN	it i	AMPLE PUMP FLOW RATE [m/min]
NTANED	MATERIA	VOLUME			TOTAL	VQL DELD	FINAL	T						
S	LCODE	40ml	H	ED	(mL		pΗ				<u> </u>			
	CONTAIN	CONTAINER SPECIFIC	Total Well Depth (feet)  WE PURGE: 1 WELL VOLUME = (TOTAL VOLUME   VOLUME	Total Well Depth (feet) 7.5  ME PURGE: 1 WELL VOLUME = (TOTAL WEIL  COLUME VOLUME TEMP PURGED (9C) (gallons) (gallons) (gallons)  TOTAL WEIL  COLUME VOLUME TEMP (9C) (9C) (gallons)  TOTAL WEIL  COLUME VOLUME TEMP (9C) (9C) (9C) (9C) (9C) (9C) (9C) (9C)	PUTCHES) 2 Total Well Depth (feet) 75  WE PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH 2 75 Feet)  VOLUME VOLUME TEMP PURGED (9C) (93)  (93)  1517 (Gallons) 25.2 - 7.0  15 6.5 26.0 0.8 17.2  WITTY (Gallons Per Feet) 6.78" = 0.02, 1" = 0.04, 120  (PRINT) SAMPLER(3) SIGNATURE PRESERVATIVE  CONTAINER EPECIFICATION SAMPLER(3) SIGNATURE PRESERVATIVE	PURGING  PURGING  PURGING  Total Well Depth (feet) 75 DEPTH  WELL S  DEPTH  WE PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATE  TOTAL WELL DEPTH -	PURGING DAT  PURGI	PURGING DATA  PU	SAMPLE ID DV-2  PURGING DATA  TOTAL WEIL DEPTH (feet) 75 WELL SCREEN INTERVAL DEPTH 70 feet to 75 feet  WE PURGE: 1 WELL VOLUME = (TOYAL WELL DEPTH - STATIC DEPTH TO WATER)  "COLUME VOLUME PURGED (°C) [SU) (uS) (uS)  COLUME VOLUME PURGED (°C) [SU) (uS)  "STY (Gallons) (25.7 - 7.0 - 155 -	SAMPLE ID DW-2  PURGING DATA  PURGING DATA  PURGING DATA  TOTAL WELL DEPTH (feet) 75   WELL SCREEN INTERVAL DEPTH 70 feet to 75 feet   TO WATT WATT	PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  WELL SCREEN INTERVAL DEPTH 70 feet 0 75 feet TO WATER (recommended for the purgence) of the purgence of	SAMPLE   D	DOCATION TOYORS Street & Two Notch Road, Collaboration   DOCATION TOYORS Street & Two Notch Road, Collaboration   DOCATION TOYORS STREET & STATIC DEPTH         3	PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING DATA  PURGING PURGING PURGING (Pect) 75  PURGING DATA  PURGING PURGING (Pect) 75  PURGING PURGING PURGING (Pect) 75  PURGING PURGING (Pect) 75  PURGING PURGING (Pect) 75  PURGING PURGING (Pect) 75  PURGING PURGING (Pect) 75  PURGING PURGING (Pect) 75  PURGING PURGING (Pect) 75  PURGING PURGING PURGING (Pect) 75  PURGING PU

STABILIZATION CRITERIA

MATERIAL CODES AG = Amber Glass,

BAMPLING EQUIPMENT CODES:

CO = Clear Glass,

APP - After Penstaltic Pump, B - B RFPP - Reverse Flew Penstaltic Pump,

REMARKS

PP = Polypropylene,

B = Baller, SP = Bladder Rump, Bur - Brain), Pump, SM = Straw Method (Tubing Gravity Brain),

B = Silicone,

T = Tefion;

**BSP - Electric Submersible Pump**, awity Drain), **O - Other (Specify)** 

O = Other (Specify)

PE = Polyethylene,

NAME	Clouds Che	/ron			-		BITE CCATION T	aylors	Street & Tw	o Not	ch Roa	d, Col	umble, S	C
WELLNO	DV	F:31			ŠAMI	LE IO					DATI	4/	3/14	
					PĮ	IRGINO	DATA							
	R (inches)	j	/ell Cleptin (fe	<b>9</b>	2	DEPTH	CREEN INTE	51 6	n∍r i niwv∆i	FB (16)		O PI	irge pum R bailer	P TYPE
WALL VO	Lume Purge		OLUMB : (1	STAL W	CELL CEPTH		от нтево о . <b>Ч</b> <i>О</i>		× WELL		gallen:	s/foot	=4.42	gallons
TIME	VOLUME PURGED (gallens)	CUMUL VOLUMF PURGED (gallons)	TEMP (°C)	Α	ր <b>н</b> (su)	۸	CÖND (µ\$)	۸	(mg/L) DO	3	TURB IDITY (NTU)	.\	COLOR	OBOR
1506	5-		16.1	_	6.6	_	75	=	2.0	_	18	423	CIC	Y
1515	5.0	5.0	27.2	11.1	7.2	0.6	101	18		<u> </u>	491	477	CILLY	
1522 1530	2.0	7.0	26.8	1.4	6.5	0.7	-44				204	287	Club	
	3.0	9.5	25.7	14	6.4	0.1	28	123			113	71	SLOW	
1539 1551		12.5	25.6	OT	6.4	0.0	87	11		<u> </u>	72	41	cir	
1551	^	15.0	25.6	0.0	6.5	O. I	87	D			16	56	CIC	
1600	2.0	17.7	25.6	0.0	6.6	VI.	88	₩			9.0	7	cle	-
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WELL CA	PACITY (Gallo	ns Per Foot)	<b>0.75" =</b> 0.02	. 1" =	0.04, 1.21	" • 0.06;	2" = 0.16;	<b>5" =</b> 0.3°	; 4" = 0.65;	8° a	1.02;	5° = 1A	7. 12"=	K 00
													-	
					SAF	#PLING	DATA							
	BY (PRINT)	ı i			ER(S) SIGI	ATURE(S)	-		SAMPLING E	AJE			JNG TIME	
TYC		sluck		JUBIN	em s				4/3/1	4		16	01	
DEPTH IN	WELL (feet)			MATER	NAL CODE:			1	FIELD-FILTE	RED pment	Y N Type:		FILTER	SIZE
DUPLICAT	E COLLECTE	). Y	(Y)								,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	*****	<del></del>	
									INTENDE	D		an ma	67	MPLE

BAM	PLE CONTAIN	er specifi	CATION	Samp	LB PRESERVATION	•	Intended Analysis And/Or Method	Sampling Equipment Code	EAMPLE PUMP FLOW RATE (mVmin)
SAMPLE CODE	CONTAINER S	MATERIA L CODE	AOTAME	Preservative USED	TOTAL VOL ADDED IN FIELD	FINAL ph			(maranero
_	1	CG	40ml	HU	-		8260B	В	
EMARKS	,								

STABILIZATION CRITERIA

pH: ± 0 2 units Temperature: ± 0 2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0 2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

TIME VOLUME PURGED (Gallons) (CC) A PH (SU) A COND (WS) A COND (Mg/L) A COLOR (Mg	PE IIONS DOR
PURGING DATA	ions DOR I AN I AN N N N N N N N N N N N N N N N N N N
WELL CIRCLES) A TOTAL WEIL DEPTH (feet)   O DEPTH   OS feet to   O feet   TO WATER (feet)   OR BAILER	ions DOR I AN I AN N N N N N N N N N N N N N N N N N N
WELL VOLUME FURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH = STATIC DEPTH TOWATER) X WELL CAPACITY  "(	ions DOR I AN I AN N N N N N N N N N N N N N N N N N N
TIME VOLUME PURGED (gallons) TEMP (ec) A ph (su) A COND (µS) A TURE (DITY (NTU) A COLOR (Qallons) (Qallons	DOR HAW W W W
TIME PURGED (gallons) (Gallons) (PC) A (SU) A (SU) A (GOND (	1912 1912 1812 1812 1812
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1337 4.0 19.5 25.1 0.1 7.3 1.7 87 1 16 16 C/C	
351 3.5 23.0 25.1 6.0 7.1 0.2 88 1 12 4 6/6	آ لام
1405 4.6 27.0 26.2 21 7.1 0.0 88 0 8.426 616	쒸
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06, 2" = 0.16, 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.6	
SAMPLING DATA	
SAMPLED BY (PRINT) SAMPLING TIME SAMPLING TIME	
PUMP OR TUBING TUBING TUBING FILTER SIZ	
DEPTH IN WELL (reet): MATERIAL CODE: Filtration Equipment Type:	
SAMPLE CONTAINER SPECIFICATION SAMPLE PRESERVA	P
SAMPLE CONTAINER LCODE VOLUME PRESERVATIVE ADBEOIN FIELD PH	<u>m</u>
2 CG 40ml HCL 82000 B	
	-
REMARKS	一
REMAINS:	
MATERIAL CODES: AG - Amber Glass, CG - Clear Glass, PE - Polyethylene, PP - Polypropylene, S - Silinme, T - Teffon, O - Other (Spr	1(5)
SAMPLING EQUIPMENT CODES:  APP = After Peristattic Pump, S = Baller, EP = Stadder Pump, SBP = Sectic Submersible Pump, RPPP = Reverse Flow Peristattic Pump; Sm = Straw Method (Tubing Gravity Drain); O = Other (Specify)	

SITE	Olaveda Oha			100.	ADAA\		ITE		-1147	<i>3</i> L(	<u> </u>						
IVANUE	Clouds Che	vron					OCATI	ON Te	ylors :	Street	& TW	o Not			umble, S	С	
WELLN	° ZDW	<u>( و - م</u>			SAMP	LE ID							DATE	4-	1-14		
					PU	IRGING	IRGING DATA										
WELL		T ptg1	Well Depth (fe	et) 7		WELL S	CREEN	INTER	VAL	7	STATIC	DEPTH	uu.	P	URGE PUM	PTYPE	
	ER (Inches) <b>DLUNE PURG</b>	R: 1 MEE	VALUME - /	•		DEPTH.	<u>55</u>	eet to 7	7 D 16	tec	TAW O	ER (fei	et) ' ' ' <b>~</b>	20	RBAILER	P	
			= (	70		et-	IP REL	IN IQ	WATER) X WELL CAPACIT				enolieg gallong	/foot	. 5	gallons	
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	(°C)	Δ	лН (Su)	۸		NC (S)	۸		) (a/r.)	Λ	TURB IDITY (NTU)	۸	COLOR	ODOR	
1050			22.4	-	66	-	10	4	-	1	9		1000	_	cldy	1	
1100	5.0	5.0	12.6	0.2	7.0	0.4		14	10					194	clu	<del>  \</del>	
	ļ																
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	<del>                                     </del>														<del></del>		
			1		·							<u> </u>					
						<del></del>									<u></u>		
								<del> </del>									
WELL CA	APACITY (Gallo	ins Per Foot)	<b>0.78" =</b> 0.02	. 1* ≈ 0		" = 0.06; APLING	· · · · · ·		3° = 0.31	7, 4°	<b>-</b> 0 65;	8° •	1.02; 6	P = 14	17, 12°°	5.68	
SAMPLE	BY (PRINT)	. 1	1.1	SAMPL	R(S) SIGN	IATURE(S)		17.			PLING				LING TIME.	·	
PUMP OF	Canalo	War	liele		and							14			:00		
DEPTH IN	TE COLLECTE	<u>Б У</u>	N N	TUBING MATERIAL CODE:							FILTE Ion Equ					SIZE.	
							···						,			0.00	
Sample Container Specification					sample preservation						intended Analysis And/or Method			APLINO IPMEN ODE		IMPLE FLOW LATE IVMIN)	
SAMPLE D CODE	CONTAINER S	VOLUME		ED ED	TOTAL \ ADDED IN (mL)	FIELD	FIN P										
	2	CG	40ml	H	V	<u> </u>		-		8	260	3	r.	3	<del> </del>		
												·		-4			
									1								
REMARKS									]								
# 17F-07 (//)	<b>.</b>																
MATERIA	L CODES A	3 º Amber G	igsa <b>CG</b> o C	ilpar Glas	PIR e	Polyethylei	ne .	DD a Ge	y kuckiy	lene:	8 = Sili	cana	T = Teft	36	A a Phone	Ename d a	
	C EQUIPMENT		APP = After F	eristalbe i	eum o	8 = Baller,	Di	= B 50	der Pun	no.	EGP =	Electric	Submers		o Other (	ebern <b>i)</b>	
	<del></del>		RFPP = Reve	rse Flow F	enstable P		M = Str	aw Meti	red (Tu	ong Gr	avity Dra	in),	0 = Of	er (Spi	ecity)		

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dieselved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

PURGING DATA	ITE C	louds Chevi	ron					ITE OCATION	Taylors !	Street & Two	> Note	h Road	i, Coli	umbia, S	c	
WELL CAPACITY (Galians Per Foot). 0.78*=0.02; 1"=0.04, 1.28*=0.05; 2"=0.16, 3"=0.37, 4"=0.65; 6"=1.02, 6"=1.47, 12"=5    WELL CAPACITY (Galians Per Foot). 0.78*=0.02; 1"=0.04, 1.28*=0.05; 2"=0.16, 3"=0.37, 4"=0.65; 6"=1.02, 6"=1.47, 12"=5    CAMPLE OF TURNIC CONTRINER SPECIFICATION   SAMPLER COLLECTED   SAMPLING COLLECTED   SAMPLING COLLECTED   SAMPLING COLLECTED   SAMPLING COLLECTED   SAMPLING COLLECTED   SAMPLE COLLECTED   SA						SAMPI	LE 10					DATE	4-	1-16		
WELL SCREEN INTERVAL DEPTH 65 foet to 70 feet TOWATER (rect) WELL VOLUME PURGE: 1 WELL VOLUME - (TOTAL WELL DEPTH - STATIC DEPTH TOWATER) X VELCEPACITY WELL VOLUME PURGE: 1 WELL VOLUME - (TOTAL WELL DEPTH - STATIC DEPTH TOWATER) X VELCEPACITY WELL VOLUME VOLUME VILL WE TEMP PURGED PURGED (RECT) (Railons)  TIME VOLUME (Railons)						DII	PGING	ATAC :								
TIME VOLUME VITURE TEMP PURGED ("C")	HAMETER					2	WELL SO DEPTH	CPEEN INT	TERVAL to 70 fe	eet   TO WAT	ER (feet		8 PI	JRGE PUM R BAILER	المحادث	
TIME PURGED PURGED (CC)	FELL VOI	LUME PURGE:				dani	-			•			floot	1 -3.86 gallor		
2:03 — 27.5 — 7.0 — /25 — 3,7 — /000 — //. 2:07 5.0 6.0 2.4.4 3.9 7.4 0.4 /23 7	TIME	PURGED	VOLUME PURGED				Α		Α		٨	IDITY	۸	COLOR	0000	
2:/0 4.5   0.5   23.0   1.4   8.2   0.8   124   1   1/8   45   5   5   2   1/9   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   2   1/9   1/9   2   1/9   1/9   2   1/9   1/9   2   1							<u> </u>			3.7			=	clay	N	
SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLEO BY (PRINT)  S		4.5			<del>  ^^ </del>		_			<u> </u>	<del></del>		-	clos	+++	
ELL CAPACITY (Gaillans Per Foot) 0.78" = 0.02; 1" = 0.04, 1.28" = 0.06; 2" = 0.16, 3" = 0.37, 4" = 0.65; 6" = 1.02, 6" = 1.47, 12" = 5  SAMPLING DATA  AMPLED BY (PRINT)  SAMPLER(S) SIGNATURE(S):  SAMPLING DATE  TUBING PTH IN WELL (feet)  FILED-FILTERED Y  MATERIAL CODE  SAMPLE COLLECTED:  Y  RAMPLE CONTAINER SPECIFICATION  BAMPLE PRESERVATION  RATERIAL CODE  RAMPLE CONTAINER SPECIFICATION  BAMPLE PRESERVATION  RATERIAL CODE  RAMPLE CONTAINER SPECIFICATION  PRESERVATIVE  GODE  CONTAINER  MATERIA  L CODE  MATERIAL  L CODE  MATERIAL  TOTAL VOL.  ADDED IN FIELD  FINAL PN  MATERIAL  CODE  RATERIA  CODE  RATERIAL  CODE					1.9		, , ,			<del> </del>		110	195	SICION	++	
SAMPLING DATA  IMPLED BY (PRINT)  SAMPLER(S) SIGNATURE(S):  SAMPLING DATE:  SA	-1/4	4.0	14.0	20.7	0,7	-211	0.1					10_	/(/¥	CIF		
SAMPLING DATA  MPLED BY (PRINT)  MP OR TUBING  MP OR TUBING  MATERIAL CODE.  SAMPLING DATE:  S									1		igg					
SAMPLING DATA  MPLED BY (PRINT)  MP OR TUBING  MP OR TUBING  MATERIAL CODE.  SAMPLING DATE:  S									1		$\square$				F	
SAMPLING DATA  MPLED BY (PRINT)  SAMPLER(S) SIGNATURE(S):  SAMPLING DATE:  SAM									士		口					
SAMPLING DATA  IMPLED BY (PRINT)  SAMPLER(S) SIGNATURE(S):  SAMPLING DATE:  SA		<b></b>	ļ	<b> </b>	$\longmapsto$	<b> </b>		<b> </b>		<del> </del>				<b></b>	╀	
SAMPLING DATA  MPLED BY (PRINT)  SAMPLER(S) SIGNATURE(S):  SAMPLING DATE:  SAM			<del> </del>	<del> </del>	<del>  </del>			<b></b>		<del> </del>	<del>  </del>		-	<del> </del>	-	
SAMPLING DATA  AMPLED BY (PRINT)  JAMP OR TUBING SEPTH IN WELL (reet)  JEPLICATE COLLECTED:  CAMPLE CONTAINER SPECIFICATION  SAMPLE PRESERVATION  SAMPLING DATE:  SAMPLING DAT						[			+	<del> </del>	1-1				<del>                                     </del>	
TOBING MATERIAL CODE.  FIELD-FILTERED Y N FILTER S FIID FILTER S FIELD-FILT S FIELD-FILTER S FIELD-FILT-FILTER S FIELD-FILTER S FIELD-FILTER S FIELD-FILTER S FIELD-FILTER S FIELD-FILTER S FIELD-FILTER S FIELD-FILTER S FIELD-FILTER	MPLEO		- b)a	- 1.'c/e	SAMPI		NATURE(S)	):	4	SAMPLING	DATE:	14	SAME	LINGTIME	1:	
CODE CONTAINER SPECIFICATION  BAMPLE PRESERVATION  BAMPLE PRESERVATION  BAMPLE PRESERVATION  BAMPLE PRESERVATION  BAMPLE PRESERVATION  BAMPLING EQUIPMENT OCDE  CODE CONTAINER LCODE  BAMPLING EQUIPMENT OCDE  CODE CONTAINER LCODE  CODE CODE CONTAINER LCODE  CODE CODE CONTAINER LCODE  CODE CODE CODE CODE CODE CODE CODE CODE	PTHIN	TUBING I WELL (feet)						-		FIELD-FILTE	RED	YN		FILTER	BIZE	
SAMPLE CONTAINER SPECIFICATION BAMPLE PRESERVATION AND/OR METHOD CODE RIGHT CODE CONTAINER LCODE VOLUME PRESERVATIVE USED FINAL OR OR OR OR OR OR OR OR OR OR OR OR OR	PLICA.	IE GUSSEUTE.	D. ,	<u>"</u>				<del></del>			I GA			AMPL PUMP		
CODE CONTAINER L CODE VOLUME USED ADDED IN FIELD PR	GAME	PLE CONTAIN	er specific		BAMPL				AND/O	BOL	UIP MEI	NT	FLOW RATE mimin			
2 CG 40mL HCL 8260B B	MPLE CODE	8	LCODE				ADDED IN	FIELD					يناد دون			
		7	CG	40ml	L	166	<u> </u>		-	8260	B		3			
								_								
					<u> </u>									士		
EMARIS																
	MARK	s	<del></del>													

SITE	Clouds Che	vron					SITE LOCATION Taylors Street & Two Notch Road, Columbia, SC										
WELL N		-			SAMP		Dw:					DATE		217			
										······································	*******						
WELL		Total	Vell Depth (fe	01:	PU	RGING			N. A.I.				-1-				
DIAMETE	R (inches)	_				DEPTH	50	eet to S	S te	STATIC	TER (fe	<sup>を1)</sup> ユイ, ロ	0 0	JRGE PUM R BAILER	PTYPE		
MELLY	OLUME PURO		OLUMB : (T	5 <u>0</u>		- STAT	IC DEP	TH TO		) × WELL	Capag	ITY	/foot		gallons		
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	TEMP (°C)	۸	ρH (su)	Α	CO ()	ND S)	٨	DO (mg/L)	١	TURB IDITY (NTU)	۸	COLOR	ODOR		
1420			25.1	_	6.2	-	20	1	-	3.5	4000 -	-	clus	N			
143	5.0	5.0	24.8	0.3	7.2	1,0	14		60			173	827	Side	N		
1440	3.5	8.5	24.6	0.2	75	رين ا		9	b			48	as	CIN	M		
1506	14.8	12.5	24.6	0.0				0	15		4	122	26	CIC	N		
1506	4.0	16.5	24.6	0.0	7.5	arv	12		Η.	<b> </b>	<del> </del>	13	9	C/C	N,		
1313	12.2	21.0	24.7	0.1	7,5	0.0	12	0	/_		+	8,9	41.	CIC	N		
	1	<del>                                     </del>	<del>                                     </del>			<del>                                     </del>					+	-					
											1						
	<del>                                     </del>																
	L	<u>.                                    </u>	<u> </u>	<u> </u>				<u> </u>	<u> </u>	L							
WELL CA	PACITY (Gallo	ons Per Foot).	<b>9.78" =</b> 0 02	); ¶" =	0.04; 1.21	5" = 0 06,	2" = 0	.16; \$	r = 0.3	7, 4" = 0.65	. 6" ·	1.02;	5" = 14	17, 12" =	5 88		
											, ,			***,-,			
SAMPLE	BY (PRINT)			SAMPI	SAI BR(S)SIGI	MPLIN		<u>TA</u>		SAMPLING	DATE		SAMO	LING TIME			
_	ver S	Irck								1111011	L		15				
PUMP OF	PUMP OR TUBING DEPTH IN WELL (feet):  MATERIAL CODE:									FIELD-FILTE Filtration Eq	RED	V N		FILTER	SIZE'		
	TE COLLECTE	D: Y	AN)	1445.43.004	1720002.					File about Edi	upmen	Typs:		<del>Vetering</del>			
		<del></del>							<del></del>	NTEND	ED.	1			MPLE		
SAM	ple contain	er specific	ATION		BAMPI	.e PRE <b>S</b> E	RVATIC	N		ANALY	R	EOU	MPLINI IPMEN IODE	r   1	LOW		
		T T				TOTAL	METH					<u> </u>	OUE		RATE nimin)		
SAMPLE O CODE	CONTAINER S	MATERIA L CODE	<b>AOFRINE</b>		ervatne ISEO	ADDED IN	FIELD	F)A	ial H	}		1					
	1,	CG	40ml	L	CV				-	8261	M	1 7	3				
											4/-	1 4		_			
									1								
		<b> </b>															
							-		1		·	<del> </del>	·				
REMARK	<u> </u>	<u> </u>	<del></del>											L_			
									1								
MATERIA	L CODES A	<b>0</b> • Amber Gla	988, CO = (	lear Gla	49; <b>PE</b> 2	Polyethyli	ine,	PP = Pi	alyarany	dene, 8 a Si	ilcone,	T = Tef	រាភា;	O e Omer (	Specify)		

BAMPLING EQUIPMENT CODES:

BBP = Electric Submersible Punp.

O = Other (Specify)

APP - After Peristalitic Pump, B - Baller, BP - Bladder Pump, B6P = Elect RFPP = Reverse Flow Penstallic Pump, 6M = Straw Method (Tubing Grawlly Drain),

SITE	Clouds Chev	/ron	·				SITE LOCATION	Taylors	Street & Tw	o Note	h Rose	l Col	umbia S	<u> </u>	
WELLNO	,				SAMP		LILAT ILIN		J., 701 Q 111	V 14031	DATE		univia, S		
L						W.S. (1)	_	<del>-                                    </del>							
					PU	IRGIN	3 DATA	\							
WELL	R (In: hes)	Total \	Mell Depth (fe	** 55	5		CREEN IN		STATIC				ipge pum	PTYPE	
WELLVO	LUME PURGE	WELL V		OTAL WE	L DEPTH	FATE -	HTABO DI	TOWATER	et TOWAT	-1	10	RBAILER			
	<del>,</del>		a (	<u>59</u>	fet	?t-		feel	) ×		gations	/foot	0	enolleg	
TIME	VÖLUME PURGED	AUTHWE COMME	TEMP	,	рН		COND	1	חק		TURB				
	(gallens)	PURGED (gallons)	(°¢)		(Su)		(گیر)	"	(mg/L)	^	(UTV)	Λ.	COLOR	ODGR	
			<del> </del>												
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			<del> </del>		<del></del>	<u> </u>	<b></b>		<del> </del>						
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			ļ												
			-	$\vdash$											
			1			<u> </u>			<u></u>						
WELL CA	PACITY (Galio	ns Per Foot).	0.75" = 0.02	; 1° = 0	104; 1.26	3" = 0.06;	2" = 0.16;	<b>3" = 0</b> .3	7, 4" = 0.65;	<b>6</b> " ≈	1.02;	r = 1,4	7, 12" =	6 88	
SAMPLET	BY (PRINT)	····		QAMBI I	SAF ER(S) SIGN	MPLIN	G DATA	<u> </u>	Leatening			ELLIE.		<del>~~~</del>	
30 1110	(* ******)			SHITE	=r(a) 31G1	eni o reja	<b>.</b>		Sampling !	JAIE.		Samp	LING TIME:		
PUMP OF	TUBING WELL (feat):			TUBING	ALCODE.			<del> </del>	FIELD-FILTE	RED	Y N	N FILTERS			
	TE COLLECTE	D: Y	N	MAIER	ALCOUE,				Filtration Equ	pmert	туре.				
		***************************************			<del>****</del>		<del> </del>		NTENDE	T			MPLE		
SAMP	PLE CONTAINS	ir specific	ATION		SAMPL	.e prese	RVATION		ANALYS	19	EQU	aplina IPMEN	r   g	LOW	
									METHO	6	ODE		lATE (min)		
SAMPLE ID CODE	CONTAINER	MATERIA L CODE	VOLUME		RVATIVE SED	ADDED IN	FIELD	FINAL pH							
	s			-		(ml.			<b></b>						
									<del></del>						
								***************************************			<u> </u>		_		
REMARKS									L						
- 18118-8116		Not	Sum	pled	Ab	anda	ord.								
MATERIA	LOODES AC	a Amher Gl		Hear Glas		Polyethyle		e Pálypropy	dene, Bøsil	icane.	T e Tet	en,	<b>0</b> = Other(	Special)	
SAMPLIN	D EQUIPMENT	CODES:	APP = Atterf	Peristaltic	Punp,	B = Bailer	M = Straw	Bisader Pu	mp, <b>ESP =</b> Brog Gravity Dr	Electric	Submer	airie P	m tr	•	

# **GROUNDWATER SAMPLING LOG**

WELL NO	SITE NAME	NAME Clouds Chevron  LOCATION Taylors Street & Two Notch Road, Columbia, SC														
PURGING DATA    PURGING DATA	WELLN	٥				SAM							E			
VOLUME   TOTAL WELL DEPTH   STATIC									-					-11-		
CARTER (INCRPS)	WELL	<del> </del>	7 17 10	al Well Death	aan / =						<del></del>			-		
STATIC DEPTH = STATIC DEPTH = STATIC DEPTH = STATIC DEPTH = NOTIFICATION   TOTAL DATE   TOTAL VICE   TOTAL VIEL DEPTH = STATIC DEPTH = NOTIFICATION   TOTAL VIEL DEPTH = STATIC DEPTH = NOTIFICATION   TOTAL VIEL DEPTH = STATIC DEPTH = NOTIFICATION   TOTAL VIEL DEPTH = STATIC DEPTH = NOTIFICATION   TOTAL VIEL DE	DIAMET		<u>م</u> ر ا		65		DEPTH	60 feet to	33,	eet TO WA	DEPTI FER ite	1,25. c	0 0	urge pum Ir baller	PE	
TIME VOLUME PURSED (*C) (*C)	MELLY	olume purg	e: Twel	· AOLUMB ~ (	TOTAL WEI	L DEPTH	- STAT	IC DEPTH TO	OWATER	R) X WELL	CAPAC	ITY		***************************************	•	
PURGED   P		1/0111146			<del>, 89</del>			5.00		· · · · · · · · · · · · · · · · · · ·	16	<del></del>	3/1001		gallons	
1023   S. 0		PURGED	PURGE	D (°C)	Λ		۸		Λ.		۸	IDITY	1	COLOR	ODOR	
10.9   5.0   10.6   11.6   10.7   1.0   1.3   1.0   1.5   1.0		-	<b> </b> =		1= 1	5.9		73		3.8		42	-	(1.0	Slight	
1036   5. 0   15.0   21.6   6.0   6.0   0.4   3.7   6   15   35   CIT   OHOC					146	<del></del>		47					154	a day		
WELL CAPACITY (Casions Per Foot) 6.78" = 0.02, 1" = 0.04, 128" = 0.05, 2" = 0.16, 5" = 0.37, 4" = 0.55, 5" = 1.02, 6" × 1.47, 12" = 5.98  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLE COLLECTED: V  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER LCOOR  CONTAINER LCOOR  WATERIAL CODE  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SECURITY  FLOW RATE (SINCE SPECIFICATION SECURITY SECURI		6 6				<del></del>					<del> </del>			C/4	משמב	
WELL CAPACITY (GSIONS PET FOOT) 9.75" = 0.02, 1" = 0.04, 12.5" = 0.06, 2" = 0.16, 5" = 0.37, 4" = 0.65, 6" = 1.02, 6" = 1.47, 12" = 6.88  SAMPLING DATA  SAMPLING DATA  SAMPLING DATA  SAMPLING DATE  FILTER SIZE  FUND TOTAL (1021)  DUPLICATE COLLECTED:  BY THE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE PRESERVATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER LODGE  ADJECTION WAITERIAL CODE  TOTAL VOL.  SAMPLE CONTAINER MATERIA  LODGE  CONTAINER LODGE  ADJECTION WAITERIAL CODE  ADJECTION SAMPLE  SAMPLING BRUID MENT CODE  ADJECTION WAITERIAL  CODE  ADJECTION WAITERIAL  SAMPLING BRUID MENT CODE  ADJECTION WAITERIAL  CODE  ADJECTION WAITERIAL  SAMPLING BRUID MENT CODE  SAMPLE  SAMPLING BRUID MENT CODE  ADJECTION WAITERIAL  CODE  ADJECTION SAMPLE  SAMPLING BRUID MENT CODE  SAMPLING		5.0				<u> </u>					<del> </del>			CIC	nine	
SAMPLING DATA  SAMPLED BY (PRINT)  COLOR SLACK  PUMP OR TILIENG  DUPLICATE COLLECTED:  TUBING  MATERIAL CODE:  SAMPLE PRESERVATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE PRESERVATION  SAMPLE CONTAINER MATERIA  LOODE  SAMPLE CONTAINER  MATERIAL CODE:  SAMPLE PRESERVATION  SAMPLE CONTAINER  MATERIAL CODE:  PRESERVATION  SAMPLE CONTAINER  MATERIAL CODE:  SAMPLE PRESERVATION  SAMPLE CONTAINER  MATERIAL CODE  PRESERVATIVE  JUSTO  JUSTO  JUSTO  JUSTO  SAMPLING BAMPLING  BAMPLI	<del>                                      </del>	3.10	120.0	41.6	10.0	<b>5</b> ·	0.1	33	+2		┼	10	8	cic	peod	
SAMPLING DATA  SAMPLED BY (PRINT)  COLOR SLACK  PUMP OR TILIENG  DUPLICATE COLLECTED:  TUBING  MATERIAL CODE:  SAMPLE PRESERVATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE PRESERVATION  SAMPLE CONTAINER MATERIA  LOODE  SAMPLE CONTAINER  MATERIAL CODE:  SAMPLE PRESERVATION  SAMPLE CONTAINER  MATERIAL CODE:  PRESERVATION  SAMPLE CONTAINER  MATERIAL CODE:  SAMPLE PRESERVATION  SAMPLE CONTAINER  MATERIAL CODE  PRESERVATIVE  JUSTO  JUSTO  JUSTO  JUSTO  SAMPLING BAMPLING  BAMPLI									+		-					
SAMPLING DATA  SAMPLED BY (PRINT)  COLOR SLACK  PUMP OR TILIENG  DUPLICATE COLLECTED:  TUBING  MATERIAL CODE:  SAMPLE PRESERVATION  SAMPLE CONTAINER SPECIFICATION  SAMPLE PRESERVATION  SAMPLE CONTAINER MATERIA  LOODE  SAMPLE CONTAINER  MATERIAL CODE:  SAMPLE PRESERVATION  SAMPLE CONTAINER  MATERIAL CODE:  PRESERVATION  SAMPLE CONTAINER  MATERIAL CODE:  SAMPLE PRESERVATION  SAMPLE CONTAINER  MATERIAL CODE  PRESERVATIVE  JUSTO  JUSTO  JUSTO  JUSTO  SAMPLING BAMPLING  BAMPLI																
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PUMP OR TURING PUMP OR TURING MATERIAL CODE:  FIELDPRITERD Y N FILTER SIZE Full region Equipment Type:  BAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER MATERIA VOLUME D CODE SUSED  FULL (FIRAL PRESERVATION AND/OR METHOD EQUIPMENT CODE SUSED  FUND FLOW RATE (mi)min)  FREMARKS  MATERIAL CODES AG = Amber Gloss, CO = Clear Glass, PE = Polyethylene, PP = Polypropylene, B = Silicene, T = Tehin, O = Other (Specify)  SAMPLING EQUIPMENT CODES:  APP = After Peristable Pump  B = Ballet  FREMEND  FRESERVATION  FREMARKS  FRE = Polyethylene, PP = Polypropylene, B = Silicene, T = Tehin, O = Other (Specify)				····	SAMPLE					SAMPI ING	TATE		CAMP	(016) 7056		
DUPLICATE COLLECTED:  THE TOTAL YOL  SAMPLE CONTAINER SPECIFICATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE CONTAINER MATERIA CODE  SAMPLE CONTAINER LCODE  SAMPLE CONTAINER LCODE  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PROBLEMANT CODE  SAMPLE CONTAINER LCODE  SAMPLE CONTAINER LCODE  SAMPLE CONTAINER LCODE  SAMPLE CONTAINER LCODE  SAMPLE CONTAINER LCODE  SAMPLE CONTAINER LCODE  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PRESERVATION  SAMPLE PROBLEMANT CODE	Tru	ur Slac	大		1				<b>*</b>			İ			- 1	
BUPLICATE COLLECTED:  (N)  SAMPLE CONTAINER SPECIFICATION  SAMPLE CONTAINER MATERIA LCODE VOLUME PRESERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED IN FIELD FINAL PH PROPERTY OF THE CODE SERVATIVE USED ADDED TO SE	DEPTH IN	WELL (feet).			MATERIA	LCODE:				FIELDFILTE	RED	YN	100		SIZE	
SAMPLE CONTAINER MATERIA CODES APP = After Printing Part Codes:  AMPLE PRESERVATION  ANALYSIS AND/OR METHOD  AND/OR METHOD  ANALYSIS AND/OR METHOD  ANALYSIS AND/OR METHOD  FINAL PRESERVATIVE USED  TOTAL VOL. ADDED IN FIELD FINAL PH  ADDED IN FIEL	DUPLICA	TE COLLECTE	D: Y	(N)						, ne arou Edo	hiusir	тура.				
SAMPLE CONTAINER LCODE VOLUME PRESERVATIVE TOTAL VOLUME USED ADDED IN FIELD FINAL PH PH PRESERVATIVE USED (mL)  CG 40 ML IV(L - SAGGE VOLUME PRESERVATIVE USED FINAL PH PH PRESERVATIVE USED FINAL PH PH PRESERVATIVE USED FINAL PH PH PRESERVATIVE USED FINAL PH PH PRESERVATIVE USED FINAL PH PH PRESERVATIVE (ml/min)  REMARKS  MATERIAL CODES AG = Amber Glass, CG = Clear Glass, PE = Polyemysene, PP = Polyemysene, S = Silicone, T = Tefinn, C = Other (Specify)  BAMPLING GOUIPMENT CODES: APP = After Peristable Punn, B = Roller Peristable										MTENDS	Đ					
SAMPLE CONTAINER LCODE VOLUME PRESERVATIME USED ADDED IN FIELD FINAL PH SAGGE STATE (m/min)  1. CG 40 mL IIIL - SAGGE STATE  REMARKS  MATERIAL CODES AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Relypropylene, S = Silicone, T = Telian, O = Other (Specily)  BAMPLING EQUIPMENT CODES: APP = After Peristable Punp. B = Salter PR = Relypropylene, S = Silicone, T = Telian, O = Other (Specily)	SAM	PLE CONTAINS	er specif	ICATION		BAMPL	.c preser	VATION				EQU	PMEN	TF	LOW	
PRESERVATIVE USED ADDED IN FIELD FINAL PH SAGGE STATE OF PRINTING CONTAINER LCODE: APP = After Peristable Puna. By Saller Programmer. See Sillegene. To Tellion, O = Other (Specify)	6444						TOTAL	(N)				C	ODE			
TOTAL CODES AG - Amber Glass, CG - Clear Glass, PE - Polyethylane, PP - Polypropylane, S - Silicone, T - Tefinn, O - Other (Specify)  BAMPLING EQUIPMENT CODES: APP - After Peristable Punn, B - Baller, PP - Polypropylane, S - Silicone, T - Tefinn, O - Other (Specify)		CONTAINER		AOTAME			ADDEDIN	FIELD 1								
REMARKS  MATERIAL CODES AG = Amber Glacs, CG = Clear Glacs, PE = Polyethylane, PP = Polypropylane, S = Silicene, T = Tellan, O = Other (Specily)  BAMPLING EQUIPMENT CODES: APP = After Peristable Punn, B = Silicene, PP = Planter Pl		1,	6	40 ml	. 131	7.				8260	4		72			
MATERIAL CODES AG - Amber Glacs, CG - Clear Glacs, PE - Palyethylene, PP - Palyethylene, B - Silicane, T - Tellan, O - Other (Specily)																
MATERIAL CODES AG = Amber Glass, CG = Clear Glass, PE = Polyemylene, PP = Polypropylene, S = Sillecone, T = Tefinn, O = Other (Specify)																
MATERIAL CODES AG = Amber Glass, CG = Clear Glass, PE = Polyemylene, PP = Polypropylene, S = Sillecone, T = Tefinn, O = Other (Specify)									1							
MATERIAL CODES AG - Amber Glacs, CG - Clear Glacs, PE - Palyethylene, PP - Palyethylene, B - Silicane, T - Tellan, O - Other (Specily)																
MATERIAL CODES AG - Amber Glacs, CG - Clear Glacs, PE - Palyethylene, PP - Palyethylene, B - Silicane, T - Tellan, O - Other (Specily)	REMARKS	<u> </u>														
BAMPLING EQUIPMENT CODES: APP = After Peristable Punn B a Balter PD a Discholar Dumb. T = Tennn, O = Other (Specify)																
BAMPLING EQUIPMENT CODES: APP = After Peristable Punn B a Baller Bo a Blooder Burn For				31304, CG = (	lear Glass,	<b>₽8</b> ≈	Polyethylen	in, <b>PP</b> of	a Relypropy	iene, 8 s Sili	enne.	T = Tefti	3D. 1	a Other (6	odiseni	
	SAMPLIN	BEQUIPMENT	CODES:	APP = After F	eristatic Pu	an p,	B = Baller,	PO m Die	eleine D.						deposit 1	

## **GROUNDWATER SAMPLING LOG**

ELLNÖ	Sw-	. 1					The second second							
		4			SAMP	LE ID	1-Wc					93110ns/foot =  TURB (DITY A C (NTU)	3/14	
					PU	RGING	DATA							
ell Ameter	? (inches)	j	ell Depth (fe			WELL SC DEPTH	REEN INTE	te					JRGE PUM R BAILER	P TYPE
ell voi	LUME PURGE	1 WELL VO	)LUN担 <sup>®</sup> a (1) = (	DYAL WE	ELL DEPTH fee		DEPTH TO	WATER feet		APACI		/loot	2	gallon
IME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallona)	TPMP ( <sup>QC</sup> )	۸	рн (su)	۸	COND (µS)	٨	ნტ ( <b>ოg/</b> L)	۸		۸	COLOR	೦೦೦
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	BY (PRINT)	<b>\_</b> =		SAME	SAI LENS)SIG	MPLING NATURE(S)	DATA		Sampling  4/2/14	DATE:			LING TIME	l:
JMP OR	TURING WELL (feet):			TOBIN	RALCODE				FIELD-FILT				FILTER	SIZE
	TE COLLECTE	D: Y		Lincia							, , , , , , , , , , , , , , , , , ,			
SAM	PLE CONTAIN	er specific	ATION		Samp	Le preser			INTEND ANALY AND/C METHO	SIB DR	EQI	UIPME	NT T	AMPLE PUMP FLOW RATE mimin
CODE	CONTAINER S	MATERIA L CÓDE	AOTAME		Bervative USED	TOTAL \ ADDED IN (mL)	FIELD	FINAL pH						
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STABILIZATION CRITERIA

pH: ± 0.2 units Temperature; ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

# **APPENDIX D**

Laboratory Reports
And
Chain-of-Custody Documentation





#### ANALYTICAL REPORT

#### **CLIENT**

Crawford Environmental Services 15 Church Ave, SW Roanoke VA 24011

**ATTENTION**Charles Crawford

**PROJECT ID**Clouds Chevron et. al.

#### LABORATORY REPORT NUMBER 1404588

**DATE** April 16, 2014

Primary Data Review By

Secondary Data Review By

CAKanhav

Ashley Amick

Chantelle Kanhai
Project Manager, AES

Project Manager, Access Analytical aamick@axs-inc.com

#### PLEASE NOTE:

- Unless otherwise noted, all analysis on this report performed at Analytical Environmental Services Inc. (AES Inc), 3080 Presidential Drive, Atlanta, GA 30340.
- AES is SCDHEC certified laboratory # 98016, NCDENR certified lab # 562, GA certified lab # FL-E87582, NELAP certified laboratory # E87582
- Local support services for this project are provided by Access Analytical, Inc. Access Analytical is a
  representative of AES serving client in the SC/NC/GA areas. All questions regarding this report should be directed
  to your local Access Analytical representative at 803.781.4243 or toll fee at 883.315.4243

LAB USE ONLY ACCESS	Analytica	al - Chain of Cus	tody Record	Project Work Order # 『YO4 らまき
Sales Order # PO #		Access Quote	#	Laboratory ID:
Company Name: Cranford Egy	Preservative: (*see codes)	1		ACCESS
Report To: Charles Crawford	Container Type: (*see codes)	G		Analytical, Inc.
Address: 15 Church Ave SW	-  -	<del>}                                    </del>		7478 Carlisle Street Phone: (803) 781-4243
City: Roanoke State: Va Zip: 24011	LYSIS			Irmo, SC 29063 Fax: 781-4303 www.axs-inc.com
540,343,6256 540,343,6259	3 ANA		*Pr 0 = 6 =	eservative Codes (place corresponding # in block above analysis field); None, 1 = HCL, 2 = HNO <sub>3</sub> , 3 = HsO <sub>4</sub> , 4 = NaOH, 5 = NasSo <sub>5</sub> , Method 5035 set w/ NaHSO <sub>4</sub> & CH <sub>2</sub> OH, 7 = NaOH/ZnOAC, 8 = HsPO <sub>4</sub>
Email: Ccrawfund coronfordenvironmental, co	REQUESTED LAB ANALYSIS.	244 444 444 444	GV SL	atrix Codes (place corresponding code in matrix column):  = ground water, WW = waste water, DW = drinking water, S = soil, = sludge, A = air, IW = industrial waste, WO = waste oil, OT = other
Project ID: Clouds Chavron et al,	Muestra (	1 1 1 1 1	*Pr	ecify in comments section) ogram Area Codes: CWA = Clean Water Act (for wastewaters), SDWA = 0 o Drinking Water Act (for drinking waters), SHW = Solid and Hazardous stos (for soils, ground waters and waste samples)
Sampled By: Trever Slovek Sample ID/Description   Date   Time   Type:   Matrix: Prog	H REC	S) W (2) W (3) W (4) W (	0.830	ontainer Type: G = Glass, P = Plastic
Collected: Collected: (grab or composite) (see codes) At (see codes)	ram TOTAL Ca containers			NOTES / COMMENTS (if sumple is a composite places use space below to note start/finish times & dates)
MW-1 101111111111111111111111111111111111		NA Samprul - Dr	<b>y</b>	$\rightarrow$
MW-2 9114 1247 6 GW	80-4	2		2
MW-3 41211- 1013 G GW	- Y	2		3
MW-4 4/2/14/1809 G GW	2	2		
Mw-5	official and the state of the s	Not Sampled	- Dny -	<u> </u>
MW-6. \$1314 0849 G GW	7	2   '	// c	-\
MW-7 4/3/19/1131 G GW	7 Section	2		-1
MW-8 413141209 G GW		2	C	-1
MW-9 4/2/4 1500 G GW	2 7	2		21
Mm-10 H1114131766W	2 Salar	2		Time   Samples Rec'd   Sample Temp, Upon
Project Location:	quished By:	Received By:	Date (mm-dd-yy)	(24HR) on Ice Receipt (°C):
Standard SC		Timul	-413/14	
*Date Required:NC	Marl'	Feder	4-5-14 1	(°C) (N/A)
emailed/faxed by end of business day on date required)	······································	W	4/4/14 1	/:5-0 (°C) (N/A)
(specify)				YN (°C) (N/A)

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LAB USE ON	LY	Access	Analytica	I - Ch	ain of	Cust	ody [	Reco	rd Projec	ct Work Or	der #	(પુગ્લક
Sales Order #		PO #			Acces	s Quote	#		Labor	atory ID:	250\$2.608.4±0	
Company Name:	food Env		Preservative: (*see codes)							٦	ACCESS	
Report To:	rawford		Container Type: (*see codes)	5							Analytica	AL, INC.
Address:	Ave SW			+					7478 Carlis	sle Street	Phone: (803	3) 781-4243
City: Roanoka	tate: Va Zip: 2	4011	LYSIS	W					Irmo, SC 2	9063 www.a:	Fax ks-inc.com	c: 781-4303
Phone: 540,343,625	6 540,343	,6259	ANA	1.A					*Preservative Co 0 = None, 1 = HC 6 = Method 5035	odes (place corresp CL, 2 = HNO <sub>3</sub> , 3 = H set w/ NaHSO <sub>4</sub> & 0	conding # in block about 500, 4 = NaOH, 5 = CHaOH, 7 = NaOH/Zn	ove analysis field) Na:S:O:, DAC, 8 = H:PO:
ccrawford@craw	Sordenvironmo	1 1	N DIAR						*Matrix Codes (r	olace corresponding	code in matrix colum ater, DW = drinking w waste, WO = waste o	in)·
Project ID: Clouds	Chevron e	of al	REQUESTED LAB ANALYSIS: 4	7   1					(specify in comm	ents soction)	an Water Act (for was waters), SHW = Soli	
Sampled By:	south.			3	.				Wastes (for soils, *Container Type	ground waters and	waste samples)	a and mazardosa
	Collected: Collected:	Type: Matrix: Prog grab or (see codes) At composite) (see c	odes) Contamina	0							COMMENT oce below to note start/fit	
MW-11.	414/14 1520	G Gw	1 2	2					02			
MW-12	414111549	G GW	**   \$ 8 \$	2				٥	CZ			
MW-13	4/1/14/1527	G GW	C Company	2				,	<u>c\</u>			
MW-15 :				Not Sa	moled	- Free	Produ	1				ightarrow
Mw-16		G GW	C-w-wa	2					C2			
Mw-17	1/2/14 1450	G Gw	J 200 200	2					CZ			
MW-18	4/2/14/1349	G GW	Office of the contribution	2					C2			····
Mw-19	4/3/14 1435	G GW	O June 1	2					Cl			
MW-20	4/3/14 1315	G GW	3-   2-   2-   2-   2-   3-   3-   3-	2					CI			<del></del>
MW-22 Turnaround Time:	H/3/11/1244	G GW	guished By:		Received	By:		Date	Time (24HR)	Samples Rec'o	Sample T	emp. Upon
	Project Location:			$+ \subset$	this		4/3	n-dd-yy)	,	on Ice	Recei	ipt (°C):
Standard RUSH* *Date Required:	∑SC NC	1/1 h	Mitc		Zado	were	1/2 U-1	2-111	1635	Y1	(°C)	(N/
(For rush work, results emailed/faxed by end of busi-	Other	HI	444		M	Ψ	Ulr	) 14 //c	11:50	Y!	3.5° (°C)	(N
ness day on date required)	(specify)			-			7/7/	(7	11.3	YI	/ (°C)	(N/

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LAB USE ONLY	l l	Access	Analytic	al - Cha	ain of Custo	ody Record	Project Work O	rder #	1404588
Sales Order #	angsa ang Politika ang sa	PO #			Access Quote #	***************************************	Laboratory ID:		25.0
Company Name:	d Env.		Preservative: (*see codes)	1			P	Access	
Report To: Charles Cr	awford		Container Type: (*see codes)	G				Analytica	IL, INC.
City: State	Va 2	4011	TYSIS: 1	4N +				axs-inc.com	c: 781-4303
Phone: 540.343.6251 Email: CCranforde Cranfor Project ID:	Fax: 540.	\ \	S C C C C C C C C C C C C C C C C C C C	76×+M 44+7 134		6   1   G   Si	reservative Codes (place corre:  None, 1 = HCL, 2 = HNOs, 3 =  Method 5035 set w/ NaHSO-3  latrix Codes (place correspondi W = ground water, WW = waste u= sludge, A = air, IW = industrix pocify in comments socilon)	cH <sub>2</sub> OH, 7 = NaOH/ZnC ing code in matrix columi water, DW = drinking wa	DAC, 8 = H <sub>0</sub> PO <sub>4</sub> in):  ater. S = soil.
Sampled By:  Sample ID/Description Da	Slack te Time Tillected: Collected:	ype:  Matrix: Progr mb or (see codes)   Arc mposite)   (see codes)	am TOTAL →	832608 (3)		*F Si W	rogram Area Codes: CWA = C ale Drinking Water Act (for drinking astes (for soils, ground waters at container Type: G = Glass	ng waters), SHW = Solid nd waste samples) s. P = Plastic COMMENTS	and Hazardous
	13/14 1435 (	G GW	) 1	2				,	
MW-25 4	11/14/09/12	G GW	1:13	2			7		
MW-26 41	13/14/155	G GW	T sometimes of the state of the	2			21		
MW-27 4/	1/14/0908	3 GW	Contribution of the contri	2			2/		
MW-28 4	111+2403	GGW	T constron	2			21		
MW-29 H	11/140943	G GW	occasions consistence to per 1	2			21		
MW-30 H	1114 1007	G GW	J. Salar	2			2 [		
MW-31 4	1414 1356	G GW	12 113	2			C2		
MW-32 H	14/1015	G GW	T Seminar	2			<u></u>		
MV-33 4,	11/4/1024	G GW	2	2		(	21		
Turnaround Time:	Project Location:	Relino	luished By:	101	Received By:	Date (mm-dd-yy)	Time Samples Rec (24HR) on Ice		emp. Upon pt (°C):
Standard RUSH*	X.sc -	1/1/2/		CA	Mart	4/3/14)	635 -Y-	(-0)	(N/A)
*Date Required:	Y	an	ait-		Feder	4-3-14	170 -	_N(°C)	(N/A)
(For rush work, results emailed/faxed by end of busi-	Other	-			M	4/4/14	(185) -Y-	_N <u>3.5′ (°C)</u>	(N/A)
ness day on date required)	specify)						Y	_N (%C)	/NI/A)

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LAB USE ONL	,	Access	Analytical	- Chain of Cust	ody Record	Project Work Or	der#	140 4588
Sales Order #		PO #		Access Quote #	¥	Laboratory ID:	<u> </u>	Maria and American
Company Name: Craw S	ord Envy		Preservative: (*see codes)  Container Type:				Access Analytica	I. INC
Address: L5 Church Cirvin Str	7:	bW_	(*see codes) (*	+		7478 Carlisle Street Irmo, SC 29063	Phone: (803)	,
City: Roanoke St. Phone: Phone: St. 540.343.621 Email: C. 2	Va 2 56 540.	4011 343.625	180000000000000000000000000000000000000	+ TAME	**************************************	www.a: reservative Codes (place corresp = None, 1 = HCL, 2 = HNO., 3 = H = Method 5035 set w/ NaHSO. 8. (	xs-inc.com bonding # in block abov ISO4, 4 = NaOH, 5 = N CHOH, 7 = NaOH/ZnO	e analysis field): a:S:O:, AC, 8 = H:PO:
Project ID: Clouds C	Levron et	ropment	SQUESTEDIAN  B BTCX		(S)	atrix Codes (place corresponding M = ground water, WW = waste w. _ sludge, A = air, IW = industrial pecify in comments section) rogram Area Codes: CWA = Clit dip Drinking Water Act (for drinking sates (for soils, ground waters and	an Water Act (for weste	eweters) SDWA -
Sample ID/Description I	soncetta. Concetta.	4 -	am TOTAL 3 oceanines			(if sample is a composite please use sp	COMMENTS	
MW-34 1	11114 1030	G GW		2		2 (		
MW-36 MW-37	11114 1019	G GW	Commence of the commence of th	2		1		
MW-38	1/1/14/135	G GW	T C C C C C C C C C C C C C C C C C C C			= = = = = = = = = = = = = = = = = = = =		
MW-40 MW-41	1/1/14/12/18	G GW	C C C C C C C C C C C C C C C C C C C	2		:		
MW-42 MW-43	11114 1156	GGW	of the second se			21		
Turnaround Time:	Project Location:	Relino	uished By:	Received By:	Date (mm-dd-yy)	Time Samples Rec'd on Ice	Sample Te Receip	mp. Upon f (°C):
Standard RUSH* *Date Required:	SCNe	Jan Z	yart-	Flding,	11	635 - Y-1 700 - Y-1	(°C)	(N/A)
(For rush work, results emailed/faxed by end of busi- ness day on date required)	Other			W/	7/	// 5 - Y 1	<i>3,</i> 2(°C)	(N/A)

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las use on	NLY		Acc	ess	Ana	lytic	al ·	- Cr	nain	of	Cust	tod	y Reco	rd Pro	ject	Work Or	der#	74	04588
Sales Order #		Cherry L	PC	O #					_ A	ccess	Quote	#		Lai	oorat	ory ID:		100000	
Company Name: Crawl	Card F	=nV;			Preserv (*see c		1								1	9	Acces	SS	CHARLES THE CONTRACT OF THE CO
Report To: Charles		ford			Contai (*see c	ner Type: odes)	G								9	_	Analy	/TICAL	, INC.
Koanoke	State: Vű		~ 1401			LYSIS: 1	+ 14							7478 C Irmo, S	C 290	63 www.a	xs-inc.com	Fax:	781-4243 781-4303
Email: Ccrawford	200awf	540 ordeni	1000	7	1	REQUESTED LAB ANALYSIS: 4	× '	17 + 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								s (piace corres, 2 = HNO <sub>3</sub> , 3 = F w/ NaHSO <sub>4</sub> & e correspondin WW = waste w IW = industrial			analysis field); sS <sub>2</sub> O <sub>3</sub> , C; 8 = H <sub>2</sub> PO <sub>4</sub> r, S = soll,
Project ID: Clouds ( Sampled By:	hevro	n et	al			UESTE	6 9	TBA						*Program A Safe Drinkin	omment: res Cod a Water	s section) es: CWA = Cli Act (for drinking	ean Water Act	(for waster	vaters) SDWA
Sampled By: Trever Sample ID/Description	Slock Date Collected:	Time Collected:	Type: M	atrix: Pro	ren of	† REC	3360(							*Container	Type: N	ound waters and G = Glass. OTES /	P = Plastic	ENTS	
NW-44	4/1/14	1420	100	ive W	codes) contrainer	* of collected collected per								(if simple	is a comp	osite please use sp	uce below to no	te start/finish	times & dates)
WW-45	4/1/14	1422	GG	We	2	container collected per	2							CI					
mr-46	4/1/14	1430	G (	WE	2	of containers	101							CI					
MW-48	112114	1433	G (	We	2	collection of the party of the	2							C2					
WW-49	4					5 1 2		ب ا ب	not	- ac	وخت	~\$	of Luc	kad =					>
MW-50	1					7 100	P.C.	oul (	lne	t a cu	CC55	-6	ate Lo	red-					<u> </u>
MW-5/	41414	1525	6	ME	2	scontinue collected	2							CJ					
MW-53	4/3/14	0851		W.	2	o district	2							C2		-	,		
MW-54	4/11/14	1545	6	7/10	2	oontring doubled	12							<u>C1</u>			<del></del>		
MW-55	413/14	1019	6	SW.	5	contribute collected	12	A DESTRUCTION OF THE PARTY	071.000 <u>-</u> 07.000				and the second	CT	acamter.		) - I	711010700 <del>-</del> 311	and an analysis of an area
Turnaround Time:		Location:	~	Relir	nquished l	sy:		$\bigcap$	Hec.	eived By	/: <del>//-</del>	-	Date (mm-dd-yy)	Time (24HR)		on Ice	s Se	mple Ten Receipt	ip. Upon (°C):
Standard RUSH*	χ.	_SC	1	m/		1		H	1	M	1-	-   [	113/14 <del>1-3-</del> 14	163		Y	N	_(°C)	(N/
*Date Required: (For rush work, results emailed/faxed by end of busi	i	N&			W			5	<u>XX</u> M	1/1			4/4/4	1(25	-	Y	N 3,5	(°C)	(N/
ness day on date required)	(specify)								/	<del>/</del>			71047	1/1-5	-	Y	<i>مرز ل</i> ها N	(°C)	(N/

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LAB USE ONLY ACCESS	Analytic	al - Chain of Custo	dy Record	Project Work Orde	er# <u>/V</u> 04588
Sales Order # PO #		Access Quote #		Laboratory ID:	
Company Name:	Preservative: (*see codes)	1		9 A	ACCESS
Report To: Charles Crawford	Container Type: (*see codes)	G			Analytical, Inc.
Address: 15 Church Ave. SW	-			478 Carlisle Street	Phone: (803) 781-4243
City: Roan oke State: Va Zip: 24011  Phone: Fax:	XSIS	<b>*</b>		rmo, SC 29063 www.axs-i	Fax: 781-4303
Phone: 540, 343, 6256 540, 343, 6259	ANA	+M1+N+ + <del>                                     </del>	*Pre	servative Codes (place correspondent) None, 1 = HCL, 2 = HNOs, 3 = H:SC	ding # in block above analysis field):  0. 4 = NaOH, 5 = Na-S-Os,  OH, 7 = NaOH/ZnOAC, 8 = HsPO4
Email: CCranforde cranforderi. romantal:	(com	***		trix Codes (place corresponding co = ground water, WW = waste water sludge, A = air, IW = industrial water	
Project ID: Clouds Chevron et a	SSTEE	18 × 18 × 18 × 18 × 18 × 18 × 18 × 18 ×	(spe	cify in comments section)	
Sampled By: Traver Slaut	S REQUESTED LAB ANALYSIS: 4			Drinking Water Act (for drinking waters (for soils, ground waters and waters and waters are Type: G = Glass, P =	Water Act (for wastewaters), SDWA = atters), SHW = Solid and Hazardous aste samples)
Sample ID/Description Date Time Type: Matrix: Progression Collected: Collecte	ram TOTAL	\$7 POB		NOTES / CO (if sumple is a composite plasse use space)	OMMENTS
MW-56 413/14 0941 G GW	2 Paris	2	C	2	
MW-58 1585 A	oun alli	ed -		1	
MW-59 HANH 1555 G GW	Description of the party of the	2		22	
MW-60	Partie Partie	-Not Located			>
MW-62 4/1/14 1338 G GW	2 問題	2		I	
MW-63 4/2/14 1327 G GW	り調理	2		.2	),
MW-65		Not Located -			<b>—</b>
MW-67 4/1/4 1242 G GW	a alle	2	C		
MW-70 4/2/14/130/ G GW	12 開発	2		2	
MW-5ar 4/1/14/0930 G GW	2	2		-1	
Turnaround Time: Project Location: Relin	quished By:	Received By:	Date (mm-dd-yy)	Time Samples Rec'd (24HR) on ice	Sample Temp, Upon Receipt (°C):
Standard RUSH*	16 MM	Mark	4/3/14 1	35 -Y-N	(°C)(N/A)
*Date Required:NSNFNSN	at-	Figeles	4-3-14 1	2e) - y - N	(°C)(N/A)
emailed/faxed by end of busi-  Other		WY .	4/4/19 11		3,5_(°C)(N/A)
(specify)		1 //		YN	(90)

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LAB USE ONL	Y	Access	Analytica	I - Cha	ain of C	usto	dy Recoi	d Projec	t Work Ord	der# <u>//</u>	104588
Sales Order #		PO #			Access Qu	uote#_		Labor	atory ID:		
Company Name:	Soul Engl		Preservative: (*see codes)	1					,©	Access	
Report To:	rowhord		Container Type: (*see codes)	2						Analytic	al, Inc.
Address 5 Church	Arc SW		_	>				7478 Carlis	do Street	Phono: (80)	3) 781-4243
	tate: Zip: 2	4011	AALYSIS: ↓	12				Irmo, SC 25	9063		x: 781-4303
Phone: 540.343.6254	Fax: 540.34.		ANA					*Preservative Co 0 = None, 1 = HO 6 = Method 5035	des (place corresp L, 2 = HNO <sub>3</sub> , 3 = H set w/ NaHSO <sub>4</sub> & C	onding # in block abo SO4, 4 = NaOH, 5 = CH:OH, 7 = NaOH/Zn	ove analysis field): Na:SrOs, nOAC 8 = HIPOs
Email: Cornerford cornerfu	denvironment	nl.com	DLABA	5 +				"Matrix Codes //	ilace corresponding	code in matrix colun ater, DW = drinking w waste, WO = waste o	nn)-
Project ID: Clouds	chevron ex	a l		13 X				*Program Area C	ents section) Codes: CWA = Cle	an Water Act /for wa	ctawaters) SDWA -
Sampled By:	Slage			745				Safe Drinking Wa Wastes (for soils, *Container Type		waters), SHW = Soli waste samples) P = Plastic	d and Hazardous
Sample ID/Description	Date Time Collected: Collected:	Type: Matrix: Prog (gmb or (see codes) Ai composite) (see c	ram TOTAL   S	Ö						COMMENT ice below to note seirt/fü	
PW-IR	4/3/14 1.335	6 Gw	T se de la constitución de la co	2				Ci			
DW-1	4/2/14 1420	GGW	2 Popularia	2				C2			
Dw-2	4/2/14 1501	G GW	2	2				CI			
Dw-3	4/3/14/1601	G GW	2	2				C(			
DW-4	413/14 1409	GGW	2 開発:	2				Ct			
Dw-5	4/1/14 1100	6 6w	2 調明:	2				Cl			
DW-6	4/1/41218	G 6W	ع المالية المالية المالية المالية المالية المالية المالية المالية المالية المالية المالية المالية المالية الما	2				Cl	***		
DW-7	4/3/14 1517	6 GW	8.8-**	2				CI			
DW9	41214 1055	6 GM	2	2				C2			
	4/2/14: 1158	G 6m				152527118622453453 <b>4</b> 710	OSPONIA PROPERTY CASE CASE CASE CASE CASE CASE CASE CASE	C2	Samples Rec'd		- Andrew State of the Commence
Turnaround Time:	Project Location:	Rein	quished By:		Received By:	A.	Date (mm-dd-yy)	(24HR)	on loe		Temp, Upon hipt (°C):
Standard RUSH*	Xsc ·	fpm.		1	MYUL	$\mathcal{U}$	4/3/14	16351	YN	(°C)	(N/A)
*Date Required: (For rush work, results	Ng	L CLY	rait-	<u> </u>	-edely		4-5-14	1700	Y N	(°C)	(N/A)
emailed/faxed by end of busi- ness day on date required)					W'		4/4/14	115		(°C)	(N/A)
	(specify)				/				YN	V (00)	(NI/A)

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Original Copy - Returned w/Report Yellow Copy - Access File Copy Pink Copy - Client Copy

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LAB USE ONL	Y		Ac	cess	Anal	ytic	al	- CI	hair	n of	Cus	stod	iy R	ecoi	'd Proje	ect Work O	rder #_		1404588
Sales Order #		iliyi (dalat)		PO #					_ A	ccess	Quote	e#			Labo	ratory ID:			es si sarana.
Company Name:	and E	ΛV			Preserva:		i									9	Acc	ESS	
Report To: Charles Cx	rawfor	nd En	· V		Containe (*sec coo	er Type: des)	6									3	Ana	LYTICA	L, INC.
Address: 15 Church	Ave	. S <sub>V</sub>				1.1	>									isle Street	Pho		781-4243
Mounette	rate: VE		40	((		LYSIS	+M+	<del>+</del> <del> </del> <del> </del> <del> </del>							Irmo, SC	www.a	ixs-inc.co	om	: 781-4303
Phone: 540.343, 629	S6 S	540-3	13	6259		3 AN/		É							"Preservative of the None, 1 = 1 6 = Method 503	Codes (place corres ICL, 2 = HNOs, 3 = 5 set w/ NaHSOs &	sponding # i H-SO-, 4 = i CH-OH, 7 =	in block abou NaOH, 5 = 1 = NaOH/ZnC	ve analysis field): lasSrOs, AC, 8 = HsPOs
Email:  Crawforde cran  Project ID:	forde	N KOC	my	fol 1 C	om	+ REQUESTED LAB ANALYSIS: 1	BTEX	64							"Matrix Codes GW = ground w SL = sludge, A (specify in com	(place correspondir ater, WW = waste v = air, IW = industria	ng code in n vater, DW = I waste, WC	natrix columi drinking wa D = waste oil	n): ter, S = soil, , OT = other
Clouds	Chev	mn 6	7.	<u>વા </u>		UEST		£ #	-						*Program Area Safe Drinking V	Codes: CWA = C	lean Water)	Act (for wast SHW = Solid	ewaters), SDWA = and Hazardous
Sampled By:			<b>~</b> 52050	v · ln		t REQ	हा जेहर	5							*Container Typ	s, ground waters ar e: G ≈ Glass	d waste sar , P = Plastic	mples)	
Sample ID/Description	Date Collected: (	Time Collected:	1 ype: (grab or composite)	Matrix: Prog (see codes) Art (see co	ram TOTAL ea of containers		68	+'							(if sample is :	NOTES / composite please use s			
Tro Blank 1						collected collected pre t	V								CI				
Thio Blank 2	*processors					container collected pre-	1								C2				
FBI	4/3/14	1001	G	GW	2	continues collected collected malpib	2	-							C2				
FB2	41214	1414	6	6w	2	ochteinen collected ↓ per ↓	2								c2				
FB3	4/1/14	1149	6	GW	2	containers collected collected per	2								02				
DVOA	4/2/14	1015	6	6w	2	containers collected collected analysis	2												
Dro B	112/14	1251	G	GW	2	containers collected collected pre-	2												
DUPC	4/3/14	1320	6	Gw	2	contained collected analysis	2												
DipD	413/14	1340	G	GV	2	occupies collected pre-	2			:									
						ochemical property of the prop													
Turnaround Time:	Project	Location:		Relin	quished By	r			Rec	eived E	y:		Dat (mm-dc	e  -yy)	Time (24HR)	Samples Rec on Ice	'd	Sample Te Receip	emp. Upon et (°C):
Standard RUSH*	X	_sc	2	m,	Z./1	11			4	YG	2#	, ,	4/3/	14	1635	Y	N	(°C)	(N/A)
*Date Required: (For rush work, results		_Ng//		U/	yai	<u>t-</u>		F	- le	de	0	/	4-3	14	170	Y	N	(°C)	(N/A)
emailed/faxed by end of busi-	_	_Other		•	,					W			4/4/1	7	11:5	Y	N 3	<u>(°C)</u>	(N/A)
ness day on date required)	(specify)		-							/			,			Y	N	(°C)	(N/A)

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Client: Crawford Environmental Services

Project: Clouds Chevron et. al. Case Narrative

16-Apr-14

Date:

Lab ID: 1404588

Volatile Organic Compounds Analysis by Method 8260B:

Sample 1404588-060A as received did not meet method specified preservation requirements of pH <2. The laboratory proceeded with analysis

Due to sample matrix, samples 1404588-003A, -009A, -010A, -016A, -017A, -018A, -019A, -020A, -021A, -030A, -032A, -060A, -061A, -064A, -076A, -078A and -079A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Client: Crawford Environmental Services Client Sample ID: MW-2

Project Name: Clouds Chevron et. al.

Collection Date: 4/2/2014 12:47:00 PM

Lab ID: 1404588-002 Matrix: Groundwater

16-Apr-14

Date:

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	(SW503	0B)			
Benzene	170		0.39	1.0	ug/L	189485	1	04/10/2014 20:38	NP
Ethylbenzene	200		0.40	1.0	ug/L	189485	1	04/10/2014 20:38	NP
Methyl tert-butyl ether	320		4.2	10	ug/L	189485	10	04/10/2014 21:04	NP
Naphthalene	150		2.0	50	ug/L	189485	10	04/10/2014 21:04	NP
Toluene	41		0.38	1.0	ug/L	189485	1	04/10/2014 20:38	NP
Xylenes, Total	960		8.3	10	ug/L	189485	10	04/10/2014 21:04	NP
Surr: 4-Bromofluorobenzene	87.1		0	66.2-120	%REC	189485	10	04/10/2014 21:04	NP
Surr: 4-Bromofluorobenzene	96.1		0	66.2-120	%REC	189485	1	04/10/2014 20:38	NP
Surr: Dibromofluoromethane	91		0	79.5-121	%REC	189485	1	04/10/2014 20:38	NP
Surr: Dibromofluoromethane	92		0	79.5-121	%REC	189485	10	04/10/2014 21:04	NP
Surr: Toluene-d8	88.2		0	77-117	%REC	189485	10	04/10/2014 21:04	NP
Surr: Toluene-d8	91		0	77-117	%REC	189485	1	04/10/2014 20:38	NP
Oxygenates (AES SOP OA-11010) SW8	260B			(	(SW503	0B)			
tert-Amyl alcohol	230		9.5	100	ug/L	189485	1	04/10/2014 20:38	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189485	1	04/10/2014 20:38	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189485	1	04/10/2014 20:38	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Lab ID:

1404588-003

Date:

16-Apr-14

Client Sample ID: MW-3

Collection Date:

MW-3 4/2/2014 10:13:00 AM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В			SW503	0B)			
Benzene	6900		19	50	ug/L	189485	50	04/10/2014 16:03	NP
Ethylbenzene	1200		20	50	ug/L	189485	50	04/10/2014 16:03	NP
Methyl tert-butyl ether	1800		21	50	ug/L	189485	50	04/10/2014 16:03	NP
Naphthalene	600		10	250	ug/L	189485	50	04/10/2014 16:03	NP
Toluene	18000		190	500	ug/L	189485	500	04/10/2014 21:29	NP
Xylenes, Total	16000		41	50	ug/L	189485	50	04/10/2014 16:03	NP
Surr: 4-Bromofluorobenzene	87.8		0	66.2-120	%REC	189485	500	04/10/2014 21:29	NP
Surr: 4-Bromofluorobenzene	90.4		0	66.2-120	%REC	189485	50	04/10/2014 16:03	NP
Surr: Dibromofluoromethane	94		0	79.5-121	%REC	189485	50	04/10/2014 16:03	NP
Surr: Dibromofluoromethane	96.4		0	79.5-121	%REC	189485	500	04/10/2014 21:29	NP
Surr: Toluene-d8	88		0	77-117	%REC	189485	50	04/10/2014 16:03	NP
Surr: Toluene-d8	88.2		0	77-117	%REC	189485	500	04/10/2014 21:29	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	0B)			
tert-Amyl alcohol	980	J	480	5000	ug/L	189485	50	04/10/2014 16:03	NP
tert-Amyl methyl ether	560		50	500	ug/L	189485	50	04/10/2014 16:03	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189485	50	04/10/2014 16:03	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-004

**Date:** 16-Apr-14

Client Sample ID: MW-4

**Collection Date:** 4/2/2014 6:09:00 PM

Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	189485	1	04/09/2014 17:50	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189485	1	04/09/2014 17:50	NP
Methyl tert-butyl ether	3.5		0.42	1.0	ug/L	189485	1	04/09/2014 17:50	NP
Naphthalene	BRL		0.20	5.0	ug/L	189485	1	04/09/2014 17:50	NP
Toluene	BRL		0.38	1.0	ug/L	189485	1	04/09/2014 17:50	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189485	1	04/09/2014 17:50	NP
Surr: 4-Bromofluorobenzene	97.3		0	66.2-120	%REC	189485	1	04/09/2014 17:50	NP
Surr: Dibromofluoromethane	99.1		0	79.5-121	%REC	189485	1	04/09/2014 17:50	NP
Surr: Toluene-d8	97.9		0	77-117	%REC	189485	1	04/09/2014 17:50	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189485	1	04/09/2014 17:50	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189485	1	04/09/2014 17:50	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189485	1	04/09/2014 17:50	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-6

Project Name: Clouds Chevron et. al.

Collection Date: 4/3/2014 8:49:00 AM

Lab ID: 1404588-006 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	2.6		0.39	1.0	ug/L	189485	1	04/10/2014 20:14	NP
Ethylbenzene	2.4		0.40	1.0	ug/L	189485	1	04/10/2014 20:14	NP
Methyl tert-butyl ether	2.5		0.42	1.0	ug/L	189485	1	04/10/2014 20:14	NP
Naphthalene	4.2	J	0.20	5.0	ug/L	189485	1	04/10/2014 20:14	NP
Toluene	BRL		0.38	1.0	ug/L	189485	1	04/10/2014 20:14	NP
Xylenes, Total	10		0.83	1.0	ug/L	189485	1	04/10/2014 20:14	NP
Surr: 4-Bromofluorobenzene	95.1		0	66.2-120	%REC	189485	1	04/10/2014 20:14	NP
Surr: Dibromofluoromethane	92.7		0	79.5-121	%REC	189485	1	04/10/2014 20:14	NP
Surr: Toluene-d8	92.7		0	77-117	%REC	189485	1	04/10/2014 20:14	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189485	1	04/10/2014 20:14	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189485	1	04/10/2014 20:14	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189485	1	04/10/2014 20:14	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Page 14 of 94

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Lab ID:

1404588-007

Date:

16-Apr-14

Client Sample ID: MW-7

Collection Date:

4/3/2014 11:31:00 AM

Matrix:

Groundwater

				Danauti					
Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	189485	1	04/09/2014 18:18	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189485	1	04/09/2014 18:18	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189485	1	04/09/2014 18:18	NP
Naphthalene	BRL		0.20	5.0	ug/L	189485	1	04/09/2014 18:18	NP
Toluene	BRL		0.38	1.0	ug/L	189485	1	04/09/2014 18:18	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189485	1	04/09/2014 18:18	NP
Surr: 4-Bromofluorobenzene	93.6		0	66.2-120	%REC	189485	1	04/09/2014 18:18	NP
Surr: Dibromofluoromethane	96.4		0	79.5-121	%REC	189485	1	04/09/2014 18:18	NP
Surr: Toluene-d8	96.8		0	77-117	%REC	189485	1	04/09/2014 18:18	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189485	1	04/09/2014 18:18	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189485	1	04/09/2014 18:18	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189485	1	04/09/2014 18:18	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services

Client Sample ID: MW-8 Project Name: Clouds Chevron et. al. **Collection Date:** 4/3/2014 12:09:00 PM

Lab ID: 1404588-008 Matrix: Groundwater

Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
SW8260	В		(	SW5030	)B)			
BRL		0.39	1.0	ug/L	189485	1	04/09/2014 18:46	NP
BRL		0.40	1.0	ug/L	189485	1	04/09/2014 18:46	NP
BRL		0.42	1.0	ug/L	189485	1	04/09/2014 18:46	NP
BRL		0.20	5.0	ug/L	189485	1	04/09/2014 18:46	NP
BRL		0.38	1.0	ug/L	189485	1	04/09/2014 18:46	NP
BRL		0.83	1.0	ug/L	189485	1	04/09/2014 18:46	NP
92.5		0	66.2-120	%REC	189485	1	04/09/2014 18:46	NP
98.1		0	79.5-121	%REC	189485	1	04/09/2014 18:46	NP
96		0	77-117	%REC	189485	1	04/09/2014 18:46	NP
60B			(	SW5030	)B)			
BRL		9.5	100	ug/L	189485	1	04/09/2014 18:46	NP
BRL		1.0	10	ug/L	189485	1	04/09/2014 18:46	NP
BRL		6.8	100	ug/L	189485	1	04/09/2014 18:46	NP
	SW8260  BRL  BRL  BRL  BRL  92.5  98.1  96  60B  BRL  BRL  BRL	SW8260B  BRL  BRL  BRL  BRL  BRL  92.5  98.1  96  60B  BRL  BRL  BRL	SW8260B  BRL 0.39  BRL 0.40  BRL 0.42  BRL 0.20  BRL 0.38  BRL 0.83  92.5 0  98.1 0  96 0  60B  BRL 9.5  BRL 9.5  BRL 1.0	Result Qual MDL         Limit           SW8260B         (           BRL         0.39         1.0           BRL         0.40         1.0           BRL         0.42         1.0           BRL         0.20         5.0           BRL         0.38         1.0           92.5         0         66.2-120           98.1         0         79.5-121           96         0         77-117           60B         (           BRL         9.5         100           BRL         1.0         10	Result Qual MDL         Limit         Units           SW8260B         (SW5036)           BRL         0.39         1.0         ug/L           BRL         0.40         1.0         ug/L           BRL         0.42         1.0         ug/L           BRL         0.20         5.0         ug/L           BRL         0.83         1.0         ug/L           92.5         0         66.2-120         %REC           98.1         0         79.5-121         %REC           96         0         77-117         %REC           60B         (SW5036)           BRL         9.5         100         ug/L           BRL         1.0         10         ug/L	Result Qual MDL Limit         Units BatchID           SW8260B         (SW5030B)           BRL         0.39         1.0         ug/L         189485           BRL         0.40         1.0         ug/L         189485           BRL         0.42         1.0         ug/L         189485           BRL         0.20         5.0         ug/L         189485           BRL         0.38         1.0         ug/L         189485           BRL         0.83         1.0         ug/L         189485           92.5         0         66.2-120         %REC         189485           98.1         0         79.5-121         %REC         189485           96         0         77-117         %REC         189485           60B         (SW5030B)         BRL         9.5         100         ug/L         189485           BRL         1.0         10         ug/L         189485	Result Qual MDL         Limit         Units BatchID DF           SW8260B         (SW5030B)           BRL         0.39         1.0         ug/L         189485         1           BRL         0.40         1.0         ug/L         189485         1           BRL         0.42         1.0         ug/L         189485         1           BRL         0.20         5.0         ug/L         189485         1           BRL         0.38         1.0         ug/L         189485         1           92.5         0         66.2-120         %REC         189485         1           98.1         0         79.5-121         %REC         189485         1           96         0         77-117         %REC         189485         1           60B         (SW5030B)           BRL         9.5         100         ug/L         189485         1           BRL         1.0         10         ug/L         189485         1	Result Qual MDL         Limit         Units BatchID DF Date Analyzed           SW8260B           (SW5030B)           BRL         0.39         1.0         ug/L         189485         1         04/09/2014 18:46           BRL         0.40         1.0         ug/L         189485         1         04/09/2014 18:46           BRL         0.42         1.0         ug/L         189485         1         04/09/2014 18:46           BRL         0.20         5.0         ug/L         189485         1         04/09/2014 18:46           BRL         0.38         1.0         ug/L         189485         1         04/09/2014 18:46           BRL         0.83         1.0         ug/L         189485         1         04/09/2014 18:46           98.1         0         79.5-121         %REC         189485         1         04/09/2014 18:46           98.1         0         77-117         %REC         189485         1         04/09/2014 18:46           60B         (SW5030B)           BRL         9.5         100         ug/L         189485         1         04/09/2014 18:46           BRL         9.5

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

Date:

16-Apr-14

Greater than Result value

Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-009 Date:

16-Apr-14

Client Sample ID:

**Collection Date:** 

MW-9

Matrix:

4/2/2014 3:00:00 PM Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	830		19	50	ug/L	189485	50	04/10/2014 22:19	NP
Ethylbenzene	1700		20	50	ug/L	189485	50	04/10/2014 22:19	NP
Methyl tert-butyl ether	BRL		21	50	ug/L	189485	50	04/10/2014 22:19	NP
Naphthalene	590		10	250	ug/L	189485	50	04/10/2014 22:19	NP
Toluene	7500		19	50	ug/L	189485	50	04/10/2014 22:19	NP
Xylenes, Total	14000		41	50	ug/L	189485	50	04/10/2014 22:19	NP
Surr: 4-Bromofluorobenzene	86.9		0	66.2-120	%REC	189485	50	04/10/2014 22:19	NP
Surr: Dibromofluoromethane	93.5		0	79.5-121	%REC	189485	50	04/10/2014 22:19	NP
Surr: Toluene-d8	88.6		0	77-117	%REC	189485	50	04/10/2014 22:19	NP
Oxygenates (AES SOP OA-11010) SW820	60B			(	SW5030	)B)			
tert-Amyl alcohol	1700	J	480	5000	ug/L	189485	50	04/10/2014 22:19	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	189485	50	04/10/2014 22:19	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189485	50	04/10/2014 22:19	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

Estimated value above quantitation range

Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

Greater than Result value

Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Lab ID:

1404588-010

Date:

16-Apr-14

Client Sample ID: MW-10

Collection Date:

4/1/2014 1:17:00 PM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	1800		19	50	ug/L	189485	50	04/09/2014 16:43	NP
Ethylbenzene	350		20	50	ug/L	189485	50	04/09/2014 16:43	NP
Methyl tert-butyl ether	BRL		21	50	ug/L	189485	50	04/09/2014 16:43	NP
Naphthalene	690		10	250	ug/L	189485	50	04/09/2014 16:43	NP
Toluene	5700		19	50	ug/L	189485	50	04/09/2014 16:43	NP
Xylenes, Total	8500		41	50	ug/L	189485	50	04/09/2014 16:43	NP
Surr: 4-Bromofluorobenzene	90.4		0	66.2-120	%REC	189485	50	04/09/2014 16:43	NP
Surr: Dibromofluoromethane	101		0	79.5-121	%REC	189485	50	04/09/2014 16:43	NP
Surr: Toluene-d8	92.1		0	77-117	%REC	189485	50	04/09/2014 16:43	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		480	5000	ug/L	189485	50	04/09/2014 16:43	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	189485	50	04/09/2014 16:43	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189485	50	04/09/2014 16:43	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services

**Client Sample ID:** MW-11 Project Name: Clouds Chevron et. al. **Collection Date:** 4/2/2014 3:20:00 PM

1404588-011 Lab ID: Matrix: Groundwater

Result			Danautina					
Kesuit	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analys
SW8260	В		(	SW503	0B)			
2.3		0.39	1.0	ug/L	189485	1	04/11/2014 11:51	NP
11		0.40	1.0	ug/L	189485	1	04/11/2014 11:51	NP
BRL		0.42	1.0	ug/L	189485	1	04/11/2014 11:51	NP
4.4	J	0.20	5.0	ug/L	189485	1	04/11/2014 11:51	NP
1.1		0.38	1.0	ug/L	189485	1	04/11/2014 11:51	NP
4.1		0.83	1.0	ug/L	189485	1	04/11/2014 11:51	NP
87.6		0	66.2-120	%REC	189485	1	04/11/2014 11:51	NP
104		0	79.5-121	%REC	189485	1	04/11/2014 11:51	NP
95.5		0	77-117	%REC	189485	1	04/11/2014 11:51	NP
60B			(	SW5030	0B)			
120		9.5	100	ug/L	189485	1	04/11/2014 11:51	NP
BRL		1.0	10	ug/L	189485	1	04/11/2014 11:51	NP
BRL		6.8	100	ug/L	189485	1	04/11/2014 11:51	NP
	2.3 11 BRL 4.4 1.1 4.1 87.6 104 95.5	SW8260B  2.3 11 BRL 4.4 1.1 4.1 87.6 104 95.5 60B  120 BRL	SW8260B  2.3  11  0.40  BRL  0.42  4.4  J  0.20  1.1  0.38  4.1  0.83  87.6  0  104  0  95.5  0  60B  120  9.5  BRL  1.0	SW8260B  2.3  11  0.40  1.0  BRL  0.42  1.0  4.4  J  0.20  5.0  1.1  0.38  1.0  4.1  0.83  1.0  87.6  0  66.2-120  104  0  79.5-121  95.5  0  77-117  60B  (60B)  120  9.5  100  BRL  1.0  10	SW8260B  2.3 0.39 1.0 ug/L 11 0.40 1.0 ug/L 4.4 J 0.20 5.0 ug/L 1.1 0.38 1.0 ug/L 4.1 0.83 1.0 ug/L 4.1 0.83 1.0 ug/L 66.2-120 %REC 104 0 79.5-121 %REC 95.5 0 77-117 %REC  (SW5036 120 9.5 100 ug/L 1.0 ug/L 1.1 0.83 1.0 ug/L 0.83 1.0 ug/L 0.83 0.30 0.39 0.39 0.39 0.39 0.39 0.39 0.3	SW8260B  2.3  0.39  1.0  ug/L  189485  BRL  0.42  1.0  ug/L  189485  4.4  J  0.20  5.0  ug/L  189485  1.1  0.38  1.0  ug/L  189485  4.1  0.83  1.0  ug/L  189485  4.1  0.83  1.0  ug/L  189485  60.0  66.2-120  %REC  189485  104  0  79.5-121  %REC  189485  95.5  0  77-117  %REC  189485  (SW5030B)  120  9.5  100  ug/L  189485  BRL  1.0  10  ug/L  189485	SW8260B  2.3  0.39  1.0  ug/L  189485  1  11  0.40  1.0  ug/L  189485  1  BRL  0.42  1.0  ug/L  189485  1  4.4  J  0.20  5.0  ug/L  189485  1  1.1  0.38  1.0  ug/L  189485  1  4.1  0.83  1.0  ug/L  189485  1  4.1  0.83  1.0  ug/L  189485  1  87.6  0  66.2-120  %REC  189485  1  104  0  79.5-121  %REC  189485  1  60B  (SW5030B)  120  9.5  100  ug/L  189485  1  6SW5030B)	SW8260B  (SW5030B)  2.3 0.39 1.0 ug/L 189485 1 04/11/2014 11:51 11 0.40 1.0 ug/L 189485 1 04/11/2014 11:51 BRL 0.42 1.0 ug/L 189485 1 04/11/2014 11:51 4.4 J 0.20 5.0 ug/L 189485 1 04/11/2014 11:51 1.1 0.38 1.0 ug/L 189485 1 04/11/2014 11:51 4.1 0.83 1.0 ug/L 189485 1 04/11/2014 11:51 87.6 0 66.2-120 %REC 189485 1 04/11/2014 11:51 104 0 79.5-121 %REC 189485 1 04/11/2014 11:51 95.5 0 77-117 %REC 189485 1 04/11/2014 11:51 (SW5030B)  (SW5030B)  120 9.5 100 ug/L 189485 1 04/11/2014 11:51 BRL 1.0 10 ug/L 189485 1 04/11/2014 11:51

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

Greater than Result value

Less than Result value Narr See case narrative

Client: Crawford Environmental Services Client Sample ID: MW-12

Project Name: Clouds Chevron et. al.

Collection Date: 4/2/2014 3:49:00 PM

Lab ID:1404588-012Matrix:Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	2.9		0.39	1.0	ug/L	189485	1	04/10/2014 18:34	NP
Ethylbenzene	1.6		0.40	1.0	ug/L	189485	1	04/10/2014 18:34	NP
Methyl tert-butyl ether	18		0.42	1.0	ug/L	189485	1	04/10/2014 18:34	NP
Naphthalene	4.7	J	0.20	5.0	ug/L	189485	1	04/10/2014 18:34	NP
Toluene	0.67	J	0.38	1.0	ug/L	189485	1	04/10/2014 18:34	NP
Xylenes, Total	0.91	J	0.83	1.0	ug/L	189485	1	04/10/2014 18:34	NP
Surr: 4-Bromofluorobenzene	87		0	66.2-120	%REC	189485	1	04/10/2014 18:34	NP
Surr: Dibromofluoromethane	95.6		0	79.5-121	%REC	189485	1	04/10/2014 18:34	NP
Surr: Toluene-d8	92.3		0	77-117	%REC	189485	1	04/10/2014 18:34	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	630		9.5	100	ug/L	189485	1	04/09/2014 19:15	NP
tert-Amyl methyl ether	9.3	J	1.0	10	ug/L	189485	1	04/09/2014 19:15	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189485	1	04/09/2014 19:15	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-013

16-Apr-14

Client Sample ID: MW-13

Collection Date:

4/1/2014 3:27:00 PM

Matrix:

Groundwater

Date:

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	0.62	J	0.39	1.0	ug/L	189485	1	04/09/2014 19:43	NP
Ethylbenzene	4.5		0.40	1.0	ug/L	189485	1	04/09/2014 19:43	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189485	1	04/09/2014 19:43	NP
Naphthalene	31		0.20	5.0	ug/L	189485	1	04/09/2014 19:43	NP
Toluene	8.8		0.38	1.0	ug/L	189485	1	04/09/2014 19:43	NP
Xylenes, Total	86		0.83	1.0	ug/L	189485	1	04/09/2014 19:43	NP
Surr: 4-Bromofluorobenzene	104		0	66.2-120	%REC	189485	1	04/09/2014 19:43	NP
Surr: Dibromofluoromethane	98.4		0	79.5-121	%REC	189485	1	04/09/2014 19:43	NP
Surr: Toluene-d8	97.9		0	77-117	%REC	189485	1	04/09/2014 19:43	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	10	J	9.5	100	ug/L	189485	1	04/10/2014 18:59	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189485	1	04/10/2014 18:59	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189485	1	04/10/2014 18:59	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-015

Date: 16

16-Apr-14

Client Sample ID: MW-16

**Collection Date:** 

4/2/2014 2:47:00 PM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	189485	1	04/09/2014 20:11	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189485	1	04/09/2014 20:11	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189485	1	04/09/2014 20:11	NP
Naphthalene	3.4	J	0.20	5.0	ug/L	189485	1	04/09/2014 20:11	NP
Toluene	BRL		0.38	1.0	ug/L	189485	1	04/09/2014 20:11	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189485	1	04/09/2014 20:11	NP
Surr: 4-Bromofluorobenzene	97.8		0	66.2-120	%REC	189485	1	04/09/2014 20:11	NP
Surr: Dibromofluoromethane	97.3		0	79.5-121	%REC	189485	1	04/09/2014 20:11	NP
Surr: Toluene-d8	98.8		0	77-117	%REC	189485	1	04/09/2014 20:11	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189485	1	04/09/2014 20:11	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189485	1	04/09/2014 20:11	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189485	1	04/09/2014 20:11	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-17

 Project Name:
 Clouds Chevron et. al.
 Collection Date:
 4/2/2014 2:50:00 PM

 Lab ID:
 1404588-016
 Matrix:
 Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	280		19	50	ug/L	189485	50	04/10/2014 23:08	NP
Ethylbenzene	450		20	50	ug/L	189485	50	04/10/2014 23:08	NP
Methyl tert-butyl ether	BRL		21	50	ug/L	189485	50	04/10/2014 23:08	NP
Naphthalene	850		10	250	ug/L	189485	50	04/10/2014 23:08	NP
Toluene	5100		19	50	ug/L	189485	50	04/10/2014 23:08	NP
Xylenes, Total	13000		41	50	ug/L	189485	50	04/10/2014 23:08	NP
Surr: 4-Bromofluorobenzene	88.9		0	66.2-120	%REC	189485	50	04/10/2014 23:08	NP
Surr: Dibromofluoromethane	96.4		0	79.5-121	%REC	189485	50	04/10/2014 23:08	NP
Surr: Toluene-d8	90.6		0	77-117	%REC	189485	50	04/10/2014 23:08	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	0B)			
tert-Amyl alcohol	2200	J	480	5000	ug/L	189485	50	04/10/2014 23:08	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	189485	50	04/10/2014 23:08	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189485	50	04/10/2014 23:08	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Date:

16-Apr-14

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-017

Client Sample ID: MW-18

**Collection Date:** 4/2/2014 1:49:00 PM

Matrix:

Groundwater

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting	Units	BatchID	DF	Date Analyzed	Analyst
	resuit	Quai	MIDL	Limit	Cilits	Datelli	Dr	Date Allalyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	1900		19	50	ug/L	189485	50	04/10/2014 23:33	NP
Ethylbenzene	630		20	50	ug/L	189485	50	04/10/2014 23:33	NP
Methyl tert-butyl ether	340		21	50	ug/L	189485	50	04/10/2014 23:33	NP
Naphthalene	370		10	250	ug/L	189485	50	04/10/2014 23:33	NP
Toluene	7200		19	50	ug/L	189485	50	04/10/2014 23:33	NP
Xylenes, Total	8300		41	50	ug/L	189485	50	04/10/2014 23:33	NP
Surr: 4-Bromofluorobenzene	89.8		0	66.2-120	%REC	189485	50	04/10/2014 23:33	NP
Surr: Dibromofluoromethane	95.8		0	79.5-121	%REC	189485	50	04/10/2014 23:33	NP
Surr: Toluene-d8	90.2		0	77-117	%REC	189485	50	04/10/2014 23:33	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	4900	J	480	5000	ug/L	189485	50	04/10/2014 23:33	NP
tert-Amyl methyl ether	70	J	50	500	ug/L	189485	50	04/10/2014 23:33	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189485	50	04/10/2014 23:33	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services

**Project Name:** Clouds Chevron et. al.

**Lab ID:** 1404588-018

Date: 10

16-Apr-14

Client Sample ID: MW-19

**Collection Date:** 

4/3/2014 2:35:00 PM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	300		19	50	ug/L	189485	50	04/10/2014 21:54	NP
Ethylbenzene	490		20	50	ug/L	189485	50	04/10/2014 21:54	NP
Methyl tert-butyl ether	BRL		21	50	ug/L	189485	50	04/10/2014 21:54	NP
Naphthalene	900		10	250	ug/L	189485	50	04/10/2014 21:54	NP
Toluene	1800		19	50	ug/L	189485	50	04/10/2014 21:54	NP
Xylenes, Total	12000		41	50	ug/L	189485	50	04/10/2014 21:54	NP
Surr: 4-Bromofluorobenzene	88.1		0	66.2-120	%REC	189485	50	04/10/2014 21:54	NP
Surr: Dibromofluoromethane	92.3		0	79.5-121	%REC	189485	50	04/10/2014 21:54	NP
Surr: Toluene-d8	87.5		0	77-117	%REC	189485	50	04/10/2014 21:54	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	610	J	480	5000	ug/L	189485	50	04/10/2014 21:54	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	189485	50	04/10/2014 21:54	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189485	50	04/10/2014 21:54	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-019

Surr: Toluene-d8

Surr: Toluene-d8

Date: 16-Apr-14

Client Sample ID: MW-20

Collection Date: 4/3/201

Matrix:

4/3/2014 1:15:00 PM Groundwater

Reporting Qual MDL Analyses Result Units BatchID DF Date Analyzed Analyst Limit Volatile Organic Compounds by GC/MS SW8260B (SW5030B) Benzene 1800 19 50 ug/L 189485 50 04/11/2014 18:37 NP 460 20 50 ug/L 189485 04/11/2014 18:37 NP Ethylbenzene 50 21 Methyl tert-butyl ether 50 ug/L 189485 04/11/2014 18:37 50 NP 960 10 250 ug/L Naphthalene 189485 50 04/11/2014 18:37 NP Toluene 11000 190 500 ug/L 189485 500 04/11/2014 15:35 NP Xylenes, Total 11000 41 50 ug/L 189485 50 04/11/2014 18:37 NP Surr: 4-Bromofluorobenzene 86.1 0 66.2-120 %REC 189485 04/11/2014 15:35 NP %REC 0 66.2-120 Surr: 4-Bromofluorobenzene 90 189485 50 04/11/2014 18:37 NP Surr: Dibromofluoromethane 94 79.5-121 %REC 189485 50 04/11/2014 18:37 NP %REC Surr: Dibromofluoromethane 97 0 79.5-121 189485 500 04/11/2014 15:35 NP

Oxygenates	(AES SOP O	A-11010)	SW8260B

tert-Amyl alcohol	3100	J	480	5000	ug/L	189485	50	04/11/2014 18:37	NP
tert-Amyl methyl ether	65	J	50	500	ug/L	189485	50	04/11/2014 18:37	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189485	50	04/11/2014 18:37	NP

0

87.2

90.2

77-117

77-117

%REC

%REC

(SW5030B)

189485

189485

50

500 04/11/2014 15:35

04/11/2014 18:37

NP

NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Seater than Result value

< Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-020

Date: 16

16-Apr-14

Client Sample ID: MW-22

**Collection Date:** 

4/3/2014 12:44:00 PM

Matrix:

Groundwater

Result	Qual	MDL	Reporting	Units	BatchID	DF	Date Analyzed	Analys
SW82601	В			SW5030	)B)			
5700		19	50	ug/L	189485	50	04/11/2014 00:23	NP
880		20	50	ug/L	189485	50	04/11/2014 00:23	NP
BRL		21	50	ug/L	189485	50	04/11/2014 00:23	NP
990		10	250	ug/L	189485	50	04/11/2014 00:23	NP
12000		190	500	ug/L	189485	500	04/11/2014 14:45	NP
23000		410	500	ug/L	189485	500	04/11/2014 14:45	NP
88.9		0	66.2-120	%REC	189485	500	04/11/2014 14:45	NP
90.7		0	66.2-120	%REC	189485	50	04/11/2014 00:23	NP
94.2		0	79.5-121	%REC	189485	50	04/11/2014 00:23	NP
94.6		0	79.5-121	%REC	189485	500	04/11/2014 14:45	NP
88.2		0	77-117	%REC	189485	500	04/11/2014 14:45	NP
89.8		0	77-117	%REC	189485	50	04/11/2014 00:23	NP
260B			(	SW5030	)B)			
3600	J	480	5000	ug/L	189485	50	04/11/2014 00:23	NP
BRL		50	500	ug/L	189485	50	04/11/2014 00:23	NP
BRL		340	5000	ug/L	189485	50	04/11/2014 00:23	NP
	5700 880 BRL 990 12000 23000 88.9 90.7 94.2 94.6 88.2 89.8 260B	SW8260B  5700  880  BRL  990  12000  23000  88.9  90.7  94.2  94.6  88.2  89.8  260B  3600  J  BRL	SW8260B  5700 19  880 20  BRL 21  990 10  12000 190  23000 410  88.9 0  90.7 0  94.2 0  94.6 0  88.2 0  89.8 0  260B  3600 J 480  BRL 50	Result Qual MDL Limit           SW8260B         (           5700         19         50           880         20         50           BRL         21         50           990         10         250           12000         190         500           23000         410         500           88.9         0         66.2-120           90.7         0         66.2-120           94.2         0         79.5-121           94.6         0         79.5-121           88.2         0         77-117           89.8         0         77-117           260B         (         3600         J         480         5000           BRL         50         500         500	Result Qual MDL Limit         Units           SW8260B         (SW5036)           5700         19         50         ug/L           880         20         50         ug/L           BRL         21         50         ug/L           990         10         250         ug/L           12000         190         500         ug/L           23000         410         500         ug/L           88.9         0         66.2-120         %REC           90.7         0         66.2-120         %REC           94.2         0         79.5-121         %REC           94.6         0         79.5-121         %REC           88.2         0         77-117         %REC           89.8         0         77-117         %REC           89.8         0         77-117         %REC           260B         (SW5030         ug/L           BRL         500         500         ug/L	Result Qual MDL         Limit         Units BatchID           SW8260B         (SW5030B)           5700         19         50         ug/L         189485           880         20         50         ug/L         189485           BRL         21         50         ug/L         189485           990         10         250         ug/L         189485           12000         190         500         ug/L         189485           23000         410         500         ug/L         189485           88.9         0         66.2-120         %REC         189485           90.7         0         66.2-120         %REC         189485           94.2         0         79.5-121         %REC         189485           94.6         0         79.5-121         %REC         189485           88.2         0         77-117         %REC         189485           89.8         0         77-117         %REC         189485           260B         (SW5030B)         189485         189485           BRL         50         500         ug/L         189485	Result Qual MDL         Limit         Units         Batch1D DF           SW8260B         (SW5030B)           5700         19         50         ug/L         189485         50           880         20         50         ug/L         189485         50           BRL         21         50         ug/L         189485         50           990         10         250         ug/L         189485         50           12000         190         500         ug/L         189485         50           23000         410         500         ug/L         189485         500           88.9         0         66.2-120         %REC         189485         50           90.7         0         66.2-120         %REC         189485         50           94.2         0         79.5-121         %REC         189485         50           94.6         0         79.5-121         %REC         189485         50           88.2         0         77-117         %REC         189485         50           89.8         0         77-117         %REC         189485 <t< td=""><td>Result Qual MDL         Limit         Units         Batch10         DF Date Analyzed           SW8260B           (SW5030B)           5700         19         50         ug/L         189485         50         04/11/2014 00:23           880         20         50         ug/L         189485         50         04/11/2014 00:23           BRL         21         50         ug/L         189485         50         04/11/2014 00:23           990         10         250         ug/L         189485         50         04/11/2014 00:23           12000         190         500         ug/L         189485         500         04/11/2014 14:45           23000         410         500         ug/L         189485         500         04/11/2014 14:45           88.9         0         66.2-120         %REC         189485         50         04/11/2014 14:45           90.7         0         66.2-120         %REC         189485         50         04/11/2014 00:23           94.6         0         79.5-121         %REC         189485         50         04/11/2014</td></t<>	Result Qual MDL         Limit         Units         Batch10         DF Date Analyzed           SW8260B           (SW5030B)           5700         19         50         ug/L         189485         50         04/11/2014 00:23           880         20         50         ug/L         189485         50         04/11/2014 00:23           BRL         21         50         ug/L         189485         50         04/11/2014 00:23           990         10         250         ug/L         189485         50         04/11/2014 00:23           12000         190         500         ug/L         189485         500         04/11/2014 14:45           23000         410         500         ug/L         189485         500         04/11/2014 14:45           88.9         0         66.2-120         %REC         189485         50         04/11/2014 14:45           90.7         0         66.2-120         %REC         189485         50         04/11/2014 00:23           94.6         0         79.5-121         %REC         189485         50         04/11/2014

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-23

Project Name:Clouds Chevron et. al.Collection Date:4/3/2014 2:35:00 PMLab ID:1404588-021Matrix:Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(SW5030B)					
Benzene	4200		19	50	ug/L	189488	50	04/09/2014 15:03	NP
Ethylbenzene	880		20	50	ug/L	189488	50	04/09/2014 15:03	NP
Methyl tert-butyl ether	120		21	50	ug/L	189488	50	04/09/2014 15:03	NP
Naphthalene	1100		10	250	ug/L	189488	50	04/09/2014 15:03	NP
Toluene	16000		190	500	ug/L	189488	500	04/09/2014 16:18	NP
Xylenes, Total	19000		41	50	ug/L	189488	50	04/09/2014 15:03	NP
Surr: 4-Bromofluorobenzene	91.6		0	66.2-120	%REC	189488	500	04/09/2014 16:18	NP
Surr: 4-Bromofluorobenzene	93.1		0	66.2-120	%REC	189488	50	04/09/2014 15:03	NP
Surr: Dibromofluoromethane	101		0	79.5-121	%REC	189488	500	04/09/2014 16:18	NP
Surr: Dibromofluoromethane	102		0	79.5-121	%REC	189488	50	04/09/2014 15:03	NP
Surr: Toluene-d8	90.6		0	77-117	%REC	189488	500	04/09/2014 16:18	NP
Surr: Toluene-d8	93.6		0	77-117	%REC	189488	50	04/09/2014 15:03	NP
Oxygenates (AES SOP OA-11010) SW82	260B			(	SW5030	)B)			
tert-Amyl alcohol	5900		480	5000	ug/L	189488	50	04/09/2014 15:03	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	189488	50	04/09/2014 15:03	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189488	50	04/09/2014 15:03	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-022

Date:

16-Apr-14

Client Sample ID: MW-25

**Collection Date:** 

4/1/2014 9:12:00 AM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	Organic Compounds by G€/MS SW8260B			(	SW5030	0B)			
Benzene	5.5		0.39	1.0	ug/L	189488	1	04/11/2014 13:31	NP
Ethylbenzene	320		20	50	ug/L	189488	50	04/11/2014 00:47	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/11/2014 13:31	NP
Naphthalene	1300		10	250	ug/L	189488	50	04/11/2014 00:47	NP
Toluene	200		19	50	ug/L	189488	50	04/11/2014 00:47	NP
Xylenes, Total	4400		41	50	ug/L	189488	50	04/11/2014 00:47	NP
Surr: 4-Bromofluorobenzene	91.4		0	66.2-120	%REC	189488	50	04/11/2014 00:47	NP
Surr: 4-Bromofluorobenzene	97.2		0	66.2-120	%REC	189488	1	04/11/2014 13:31	NP
Surr: Dibromofluoromethane	100		0	79.5-121	%REC	189488	50	04/11/2014 00:47	NP
Surr: Dibromofluoromethane	90.5		0	79.5-121	%REC	189488	1	04/11/2014 13:31	NP
Surr: Toluene-d8	90.4		0	77-117	%REC	189488	50	04/11/2014 00:47	NP
Surr: Toluene-d8	89		0	77-117	%REC	189488	1	04/11/2014 13:31	NP
Oxygenates (AES SOP OA-11010) SW82	260B			(	SW5030	)B)			
tert-Amyl alcohol	170		9.5	100	ug/L	189488	1	04/11/2014 13:31	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/11/2014 13:31	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/11/2014 13:31	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-26

Project Name: Clouds Chevron et. al. **Collection Date:** 4/3/2014 11:55:00 AM 1404588-023 Lab ID: Matrix:

Reporting Analyses Result Qual **MDL** Units BatchID DF Date Analyzed Analyst Limit Volatile Organic Compounds by GC/MS SW8260B (SW5030B) Benzene BRL 0.39 1.0 ug/L 189488 04/09/2014 20:39 NP BRL 0.40 Ethylbenzene 1.0 ug/L 189488 04/09/2014 20:39 NP 0.42 Methyl tert-butyl ether **BRL** 1.0 ug/L 189488 1 04/09/2014 20:39 NP Naphthalene BRL 0.20 5.0 ug/L 189488 1 04/09/2014 20:39 NP Toluene BRL 0.38 1.0 ug/L 189488 1 04/09/2014 20:39 NP Xylenes, Total BRL 0.83 1.0 ug/L 189488 04/09/2014 20:39 NP Surr: 4-Bromofluorobenzene 96.4 66.2-120 %REC 0 189488 04/09/2014 20:39 NP Surr: Dibromofluoromethane 98.2 0 79.5-121 %REC 189488 04/09/2014 20:39 NP Surr: Toluene-d8 96.7 0 %REC 77-117 189488 04/09/2014 20:39 NP Oxygenates (AES SOP OA-11010) SW8260B (SW5030B) tert-Amyl alcohol BRL 9.5 100 ug/L 189488 04/09/2014 20:39 NP tert-Amyl methyl ether **BRL** 1.0 10 ug/L 189488 1 04/09/2014 20:39 NP BRL tert-Butyl Alcohol 6.8 100 ug/L 189488 04/09/2014 20:39 NP

Qualifiers:

Value exceeds maximum contaminant level

BRL Not detected at MDL

Holding times for preparation or analysis exceeded

Analyte not NELAC certified

В Analyte detected in the associated method blank

Not confirmed

Estimated value above quantitation range

Date:

Groundwater

16-Apr-14

Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

Greater than Result value

Less than Result value

See case narrative

Client: Crawford Environmental Services Client Sample ID: MW-27

Project Name:Clouds Chevron et. al.Collection Date:4/1/2014 9:08:00 AMLab ID:1404588-024Matrix:Groundwater

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В			SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/09/2014 21:07	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/09/2014 21:07	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/09/2014 21:07	NP
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/09/2014 21:07	NP
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/09/2014 21:07	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/09/2014 21:07	NP
Surr: 4-Bromofluorobenzene	96.9		0	66.2-120	%REC	189488	1	04/09/2014 21:07	NP
Surr: Dibromofluoromethane	98.5		0	79.5-121	%REC	189488	1	04/09/2014 21:07	NP
Surr: Toluene-d8	95.7		0	77-117	%REC	189488	1	04/09/2014 21:07	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	0 <b>B</b> )			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/09/2014 21:07	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/09/2014 21:07	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/09/2014 21:07	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-28

Project Name:Clouds Chevron et. al.Collection Date:4/1/2014 9:03:00 AMLab ID:1404588-025Matrix:Groundwater

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	)B)			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/09/2014 21:35	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/09/2014 21:35	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/09/2014 21:35	NP
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/09/2014 21:35	NP
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/09/2014 21:35	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/09/2014 21:35	NP
Surr: 4-Bromofluorobenzene	95.3		0	66.2-120	%REC	189488	1	04/09/2014 21:35	NP
Surr: Dibromofluoromethane	99.6		0	79.5-121	%REC	189488	1	04/09/2014 21:35	NP
Surr: Toluene-d8	98.1		0	77-117	%REC	189488	1	04/09/2014 21:35	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/09/2014 21:35	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/09/2014 21:35	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/09/2014 21:35	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

Less than Result value

Client: Crawford Environmental Services

Client Sample ID: MW-29 Project Name: Clouds Chevron et. al. 4/1/2014 9:43:00 AM **Collection Date:** 

Lab ID: 1404588-026 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/09/2014 22:03	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/09/2014 22:03	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/09/2014 22:03	NP
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/09/2014 22:03	NP
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/09/2014 22:03	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/09/2014 22:03	NP
Surr: 4-Bromofluorobenzene	93.4		0	66.2-120	%REC	189488	1	04/09/2014 22:03	NP
Surr: Dibromofluoromethane	100		0	79.5-121	%REC	189488	1	04/09/2014 22:03	NP
Surr: Toluene-d8	97.5		0	77-117	%REC	189488	1	04/09/2014 22:03	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/09/2014 22:03	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/09/2014 22:03	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/09/2014 22:03	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

Greater than Result value

Less than Result value Narr See case narrative

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-027

Date: 16

16-Apr-14

Client Sample ID: MW-30

**Collection Date:** 

4/1/2014 10:07:00 AM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/09/2014 22:32	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/09/2014 22:32	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/09/2014 22:32	NP
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/09/2014 22:32	NP
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/09/2014 22:32	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/09/2014 22:32	NP
Surr: 4-Bromofluorobenzene	91.8		0	66.2-120	%REC	189488	1	04/09/2014 22:32	NP
Surr: Dibromofluoromethane	102		0	79.5-121	%REC	189488	1	04/09/2014 22:32	NP
Surr: Toluene-d8	100		0	77-117	%REC	189488	1	04/09/2014 22:32	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/09/2014 22:32	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/09/2014 22:32	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/09/2014 22:32	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-31

Project Name: Clouds Chevron et. al.

Collection Date: 4/2/2014 1:56:00 PM

Lab ID: 1404588-028 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	0.90	J	0.39	1.0	ug/L	189488	1	04/09/2014 23:00	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/09/2014 23:00	NP
Methyl tert-butyl ether	2.7		0.42	1.0	ug/L	189488	1	04/09/2014 23:00	NP
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/09/2014 23:00	NP
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/09/2014 23:00	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/09/2014 23:00	NP
Surr: 4-Bromofluorobenzene	94.1		0	66.2-120	%REC	189488	1	04/09/2014 23:00	NP
Surr: Dibromofluoromethane	99.9		0	79.5-121	%REC	189488	1	04/09/2014 23:00	NP
Surr: Toluene-d8	99.6		0	77-117	%REC	189488	1	04/09/2014 23:00	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	59	J	9.5	100	ug/L	189488	1	04/09/2014 23:00	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/09/2014 23:00	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/09/2014 23:00	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Date:

16-Apr-14

> Greater than Result value

< Less than Result value

Narr See case narrative

Client: Crawford Environmental Services Client Sample ID: MW-32

Project Name:Clouds Chevron et. al.Collection Date:4/2/2014 10:15:00 AMLab ID:1404588-029Matrix:Groundwater

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	0.94	J	0.39	1.0	ug/L	189488	1	04/10/2014 19:24	NP
Ethylbenzene	1.9		0.40	1.0	ug/L	189488	1	04/10/2014 19:24	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/10/2014 19:24	NP
Naphthalene	6.6		0.20	5.0	ug/L	189488	1	04/10/2014 19:24	NP
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/10/2014 19:24	NP
Xylenes, Total	2.4		0.83	1.0	ug/L	189488	1	04/10/2014 19:24	NP
Surr: 4-Bromofluorobenzene	89.9		0	66.2-120	%REC	189488	1	04/10/2014 19:24	NP
Surr: Dibromofluoromethane	90.7		0	79.5-121	%REC	189488	1	04/10/2014 19:24	NP
Surr: Toluene-d8	90.8		0	77-117	%REC	189488	1	04/10/2014 19:24	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	170		9.5	100	ug/L	189488	1	04/09/2014 23:28	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/09/2014 23:28	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/09/2014 23:28	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-33

Project Name:Clouds Chevron et. al.Collection Date:4/1/2014 10:24:00 AMLab ID:1404588-030Matrix:Groundwater

16-Apr-14

Date:

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0 <b>B</b> )			
Benzene	560		19	50	ug/L	189488	50	04/11/2014 19:02	NP
Ethylbenzene	2500		20	50	ug/L	189488	50	04/11/2014 19:02	NP
Methyl tert-butyl ether	BRL		21	50	ug/L	189488	50	04/11/2014 19:02	NP
Naphthalene	670		10	250	ug/L	189488	50	04/11/2014 19:02	NP
Toluene	5200		19	50	ug/L	189488	50	04/11/2014 19:02	NP
Xylenes, Total	6900		41	50	ug/L	189488	50	04/11/2014 19:02	NP
Surr: 4-Bromofluorobenzene	89.3		0	66.2-120	%REC	189488	50	04/11/2014 19:02	NP
Surr: Dibromofluoromethane	94.6		0	79.5-121	%REC	189488	50	04/11/2014 19:02	NP
Surr: Toluene-d8	88.1		0	77-117	%REC	189488	50	04/11/2014 19:02	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	4100	J	480	5000	ug/L	189488	50	04/11/2014 19:02	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	189488	50	04/11/2014 19:02	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189488	50	04/11/2014 19:02	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID:

MW-34 Project Name: Clouds Chevron et. al. **Collection Date:** 4/1/2014 10:30:00 AM

1404588-031 Lab ID: Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/09/2014 23:56	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/09/2014 23:56	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/09/2014 23:56	NP
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/09/2014 23:56	NP
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/09/2014 23:56	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/09/2014 23:56	NP
Surr: 4-Bromofluorobenzene	95.8		0	66.2-120	%REC	189488	1	04/09/2014 23:56	NP
Surr: Dibromofluoromethane	100		0	79.5-121	%REC	189488	1	04/09/2014 23:56	NP
Surr: Toluene-d8	98.4		0	77-117	%REC	189488	1	04/09/2014 23:56	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	39	J	9.5	100	ug/L	189488	1	04/09/2014 23:56	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/09/2014 23:56	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/09/2014 23:56	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

Greater than Result value

Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-032

Date: 16-Apr-14

Client Sample ID: MW-35

**Collection Date:** 

4/1/2014 10:55:00 AM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B) -			
Benzene	3700		19	50	ug/L	189488	50	04/11/2014 01:37	NP
Ethylbenzene	2000		20	50	ug/L	189488	50	04/11/2014 01:37	NP
Methyl tert-butyl ether	160		21	50	ug/L	189488	50	04/11/2014 01:37	NP
Naphthalene	550		10	250	ug/L	189488	50	04/11/2014 01:37	NP
Toluene	4300		19	50	ug/L	189488	50	04/11/2014 01:37	NP
Xylenes, Total	6200		41	50	ug/L	189488	50	04/11/2014 01:37	NP
Surr: 4-Bromofluorobenzene	88.2		0	66.2-120	%REC	189488	50	04/11/2014 01:37	NP
Surr: Dibromofluoromethane	95.5		0	79.5-121	%REC	189488	50	04/11/2014 01:37	NP
Surr: Toluene-d8	89.1		0	77-117	%REC	189488	50	04/11/2014 01:37	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	5600		480	5000	ug/L	189488	50	04/11/2014 01:37	NP
tert-Amyl methyl ether	54	J	50	500	ug/L	189488	50	04/11/2014 01:37	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189488	50	04/11/2014 01:37	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Page 39 of 94

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-033

Date:

16-Apr-14

Client Sample ID: MW-36

**Collection Date:** 

4/1/2014 10:19:00 AM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	5.1		0.39	1.0	ug/L	189488	1	04/10/2014 00:24	NP
Ethylbenzene	38		0.40	1.0	ug/L	189488	1	04/10/2014 00:24	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/10/2014 00:24	NP
Naphthalene	55		0.20	5.0	ug/L	189488	1	04/10/2014 00:24	NP
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/10/2014 00:24	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/10/2014 00:24	NP
Surr: 4-Bromofluorobenzene	99.8		0	66.2-120	%REC	189488	1	04/10/2014 00:24	NP
Surr: Dibromofluoromethane	98.2		0	79.5-121	%REC	189488	1	04/10/2014 00:24	NP
Surr: Toluene-d8	101		0	77-117	%REC	189488	1	04/10/2014 00:24	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	96	J	9.5	100	ug/L	189488	1	04/10/2014 00:24	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/10/2014 00:24	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/10/2014 00:24	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-37

Project Name:Clouds Chevron et. al.Collection Date:4/1/2014 11:25:00 AMLab ID:1404588-034Matrix:Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/10/2014 00:52	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/10/2014 00:52	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/10/2014 00:52	NP
Naphthalene	3.7	J	0.20	5.0	ug/L	189488	1	04/10/2014 00:52	NP
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/10/2014 00:52	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/10/2014 00:52	NP
Surr: 4-Bromofluorobenzene	96.5		0	66.2-120	%REC	189488	1	04/10/2014 00:52	NP
Surr: Dibromofluoromethane	99.7		0	79.5-121	%REC	189488	1	04/10/2014 00:52	NP
Surr: Toluene-d8	97.7		0	77-117	%REC	189488	1	04/10/2014 00:52	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	0 <b>B</b> )			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/10/2014 00:52	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/10/2014 00:52	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/10/2014 00:52	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Date:

16-Apr-14

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-38

Project Name: Clouds Chevron et. al. Collection Date: 4/1/2014 11:35:00 AM

Lab ID: 1404588-035 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/10/2014 09:55	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/10/2014 09:55	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/10/2014 09:55	SB
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/10/2014 09:55	SB
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/10/2014 09:55	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/10/2014 09:55	SB
Surr: 4-Bromofluorobenzene	92.2		0	66.2-120	%REC	189488	1	04/10/2014 09:55	SB
Surr: Dibromofluoromethane	96.9		0	79.5-121	%REC	189488	1	04/10/2014 09:55	SB
Surr: Toluene-d8	96		0	77-117	%REC	189488	1	04/10/2014 09:55	SB
Oxygenates (AES SOP OA-11010) SW82	60B			, (	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/10/2014 09:55	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/10/2014 09:55	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/10/2014 09:55	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Date:

16-Apr-14

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-39

Project Name:Clouds Chevron et. al.Collection Date:4/2/2014 12:13:00 PMLab ID:1404588-036Matrix:Groundwater

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/10/2014 10:24	SB
Ethylbenzene	2.2		0.40	1.0	ug/L	189488	1	04/10/2014 10:24	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/10/2014 10:24	SB
Naphthalene	3.3	J	0.20	5.0	ug/L	189488	1	04/10/2014 10:24	SB
Toluene	3.2		0.38	1.0	ug/L	189488	1	04/10/2014 10:24	SB
Xylenes, Total	14		0.83	1.0	ug/L	189488	1	04/10/2014 10:24	SB
Surr: 4-Bromofluorobenzene	100		0	66.2-120	%REC	189488	1	04/10/2014 10:24	SB
Surr: Dibromofluoromethane	104		0	79.5-121	%REC	189488	1	04/10/2014 10:24	SB
Surr: Toluene-d8	98.5		0	77-117	%REC	189488	1	04/10/2014 10:24	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/10/2014 10:24	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/10/2014 10:24	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/10/2014 10:24	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Narr See case narrative

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

**Lab ID:** 1404588-037

Date:

16-Apr-14

Client Sample ID: MW-40

Collection Date:

4/2/2014 12:18:00 PM

Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	<b>OB</b> )			
Benzene	5.8		0.39	1.0	ug/L	189488	1	04/10/2014 10:52	SB
Ethylbenzene	2.0		0.40	1.0	ug/L	189488	1	04/10/2014 10:52	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/10/2014 10:52	SB
Naphthalene	24		0.20	5.0	ug/L	189488	1	04/10/2014 10:52	SB
Toluene	14		0.38	1.0	ug/L	189488	1	04/10/2014 10:52	SB
Xylenes, Total	580		8.3	10	ug/L	189488	10	04/10/2014 18:52	SB
Surr: 4-Bromofluorobenzene	103		0	66.2-120	%REC	189488	10	04/10/2014 18:52	SB
Surr: 4-Bromofluorobenzene	109		0	66.2-120	%REC	189488	1	04/10/2014 10:52	SB
Surr: Dibromofluoromethane	96		0	79.5-121	%REC	189488	1	04/10/2014 10:52	SB
Surr: Dibromofluoromethane	99.9		0	79.5-121	%REC	189488	10	04/10/2014 18:52	SB
Surr: Toluene-d8	99.3		0	<b>77</b> -117	%REC	189488	1	04/10/2014 10:52	SB
Surr: Toluene-d8	98.8		0	77-117	%REC	189488	10	04/10/2014 18:52	SB
Oxygenates (AES SOP OA-11010) SW82	260B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/10/2014 10:52	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/10/2014 10:52	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/10/2014 10:52	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

Less than Result value
 Narr See case narrative

Client: Crawford Environmental Services Client Sample ID: MW-41

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-038

Collection Date: 4/1/2014 12:27:00 PM

Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analys
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	DB)			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/10/2014 12:45	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/10/2014 12:45	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/10/2014 12:45	SB
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/10/2014 12:45	SB
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/10/2014 12:45	SB
Xylenes, Total	BRL		0.83	1.0	u <b>g/</b> L	189488	1	04/10/2014 12:45	SB
Surr: 4-Bromofluorobenzene	95.1		0	66.2-120	%REC	189488	1	04/10/2014 12:45	SB
Surr: Dibromofluoromethane	99.3		0	79.5-121	%REC	189488	1	04/10/2014 12:45	SB
Surr: Toluene-d8	96.5		0	<b>77-</b> 117	%REC	189488	1	04/10/2014 12:45	SB
Oxygenates (AES SOP OA-11010) SW82	60B	•		(	SW5036	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/10/2014 12:45	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/10/2014 12:45	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/10/2014 12:45	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-039

Date: 1

16-Apr-14

Client Sample ID: MW-42

Collection Date:

4/1/2014 11:56:00 AM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В			SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189488	I	04/10/2014 11:48	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/10/2014 11:48	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/10/2014 11:48	SB
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/10/2014 11:48	SB
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/10/2014 11:48	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/10/2014 11:48	SB
Surr: 4-Bromofluorobenzene	95.1		0	66.2-120	%REC	189488	1	04/10/2014 11:48	SB
Surr: Dibromofluoromethane	97.3		0	79.5-121	%REC	189488	1	04/10/2014 11:48	SB
Surr: Toluene-d8	94.8		0	77-117	%REC	189488	1	04/10/2014 11:48	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	(SW503	0 <b>B</b> )			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/10/2014 11:48	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/10/2014 11:48	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/10/2014 11:48	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services
Project Name: Clouds Chevron et. al.

Lab ID:

1404588-040

Date: 1

16-Apr-14

Client Sample ID: MW-43

**Collection Date:** 

4/2/2014 2:28:00 PM

Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0 <b>B</b> )			
Benzene	BRL		0.39	1.0	ug/L	189488	1	04/10/2014 12:17	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189488	1	04/10/2014 12:17	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189488	1	04/10/2014 12:17	SB
Naphthalene	BRL		0.20	5.0	ug/L	189488	1	04/10/2014 12:17	SB
Toluene	BRL		0.38	1.0	ug/L	189488	1	04/10/2014 12:17	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189488	1	04/10/2014 12:17	SB
Surr: 4-Bromofluorobenzene	93.8		0	66.2-120	%REC	189488	1	04/10/2014 12:17	SB
Surr: Dibromofluoromethane	97		0	79.5-121	%REC	189488	1	04/10/2014 12:17	SB
Surr: Toluene-d8	96.7		0	77-117	%REC	189488	1	04/10/2014 12:17	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189488	1	04/10/2014 12:17	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189488	1	04/10/2014 12:17	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189488	1	04/10/2014 12:17	SB

Qualifiers:

Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-44

Project Name: Clouds Chevron et. al.

Lab ID: Collection Date: 4/1/2014 2:20:00 PM

Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 13:13	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 13:13	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/10/2014 13:13	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/10/2014 13:13	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 13:13	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 13:13	SB
Surr: 4-Bromofluorobenzene	93		0	66.2-120	%REC	189490	1	04/10/2014 13:13	SB
Surr: Dibromofluoromethane	96.6		0	79.5-121	%REC	189490	1	04/10/2014 13:13	SB
Surr: Toluene-d8	95.4		0	<b>77-</b> 11 <b>7</b>	%REC	189490	1	04/10/2014 13:13	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	i	04/10/2014 13:13	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 13:13	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 13:13	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services **Client Sample ID:** MW-45 Project Name: Clouds Chevron et. al. 4/1/2014 2:22:00 PM **Collection Date:** 

Lab ID: 1404588-042 Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0 <b>B</b> )			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 13:41	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 13:41	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/10/2014 13:41	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/10/2014 13:41	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 13:41	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 13:41	SB
Surr: 4-Bromofluorobenzene	96		0	66.2-120	%REC	189490	1	04/10/2014 13:41	SB
Surr: Dibromofluoromethane	101		0	79.5-121	%REC	189490	1	04/10/2014 13:41	SB
Surr: Toluene-d8	97.6		0	<b>77-</b> 11 <b>7</b>	%REC	189490	1	04/10/2014 13:41	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/10/2014 13:41	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 13:41	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 13:41	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Greater than Result value

Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-46
Project Name: Clouds Chevron et. al. Collection Date: 4/1/2014 2:30:00 PM

Lab ID: 1404588-043 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting	Units	BatchID	DF	Date Analyzed	Analysi
				Limit					<u>_</u>
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	DB)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 14:09	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 14:09	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/10/2014 14:09	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/10/2014 14:09	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 14:09	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 14:09	SB
Surr: 4-Bromofluorobenzene	90.3		0	66.2-120	%REC	189490	1	04/10/2014 14:09	SB
Surr: Dibromofluoromethane	96.8		0	79.5-121	%REC	189490	1	04/10/2014 14:09	SB
Surr: Toluene-d8	97.4		0	77-117	%REC	189490	1	04/10/2014 14:09	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/10/2014 14:09	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 14:09	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 14:09	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

Less than Result value
 Narr See case narrative

.....

Client: Crawford Environmental Services Client Sample ID: MW-48

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-044

Collection Date: 4/2/2014 2:38:00 PM
Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	OB)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 14:37	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 14:37	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/10/2014 f4:37	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/10/2014 14:37	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 14:37	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 14:37	SB
Surr: 4-Bromofluorobenzene	94.8		0	66.2-120	%REC	189490	1	04/10/2014 14:37	SB
Surr: Dibromofluoromethane	101		0	79.5-121	%REC	189490	1	04/10/2014 14:37	SB
Surr: Toluene-d8	97.4		0	77-117	%REC	189490	1	04/10/2014 14:37	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	OB)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/10/2014 14:37	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 14:37	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 14:37	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-51
Project Name: Clouds Chevron et. al. Collection Date: 4/2/2014 3:25:00 PM
Lab ID: 1404588-047 Matrix: Groundwater

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 15:06	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 15:06	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/10/2014 15:06	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/10/2014 15:06	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 15:06	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 15:06	SB
Surr: 4-Bromofluorobenzene	93.8		0	66.2-120	%REC	189490	1	04/10/2014 15:06	SB
Surr: Dibromofluoromethane	102		0	79.5-121	%REC	189490	1	04/10/2014 15:06	SB
Surr: Toluene-d8	98.2		0	77-117	%REC	189490	1	04/10/2014 15:06	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	(SW503	OB)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/10/2014 15:06	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 15:06	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 15:06	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client:Crawford Environmental ServicesClient Sample ID:MW-53Project Name:Clouds Chevron et. al.Collection Date:4/3/2014

Project Name:Clouds Chevron et. al.Collection Date:4/3/2014 8:51:00 AMLab ID:1404588-048Matrix:Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analysi
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 19:49	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 19:49	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/10/2014 19:49	NP
Naphthalene	4.1	J	0.20	5.0	ug/L	189490	1	04/10/2014 19:49	NP
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 19:49	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 19:49	NP
Surr: 4-Bromofluorobenzene	86.2		0	66.2-120	%REC	189490	1	04/10/2014 19:49	NP
Surr: Dibromofluoromethane	97		0	79.5-121	%REC	189490	1	04/10/2014 19:49	NP
Surr: Toluene-d8	88.3		0	77-117	%REC	189490	1	04/10/2014 19:49	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/10/2014 15:34	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 15:34	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 15:34	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Date:

16-Apr-14

> Greater than Result value

Less than Result value
 Narr See case narrative

Client: Crawford Environmental Services Client Sample ID: MW-54

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-049 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	DB)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 16:02	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 16:02	SB
Methyl tert-butyl ether	9.6		0.42	1.0	ug/L	189490	1	04/10/2014 16:02	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/10/2014 16:02	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 16:02	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 16:02	SB
Surr: 4-Bromofluorobenzene	90.6		0	66.2-120	%REC	189490	1	04/10/2014 16:02	SB
Surr: Dibromofluoromethane	105		0	79.5-121	%REC	189490	1	04/10/2014 16:02	SB
Surr: Toluene-d8	97.8		0	77-117	%REC	189490	1	04/10/2014 16:02	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/10/2014 16:02	SB
tert-Amyl methyl ether	6.7	J	1.0	10	ug/L	189490	1	04/10/2014 16:02	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 16:02	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

16-Apr-14

Date:

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-55

Project Name: Clouds Chevron et. al. Collection Date: 4/3/2014 10:19:00 AM

Lab ID: 1404588-050 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analys
Volatile Organic Compounds by GC/MS	SW8260	В	· • • • • • • • • • • • • • • • • • • •	(	SW503	0B)			
Benzene	10		0.39	1.0	ug/L	189490	1	04/10/2014 21:42	SB
Ethylbenzene	3.5		0.40	1.0	ug/L	189490	1	04/10/2014 21:42	SB
Methyl tert-butyl ether	24		0.42	1.0	ug/L	189490	1	04/10/2014 21:42	SB
Naphthalene	3.9	J	0.20	5.0	ug/L	189490	1	04/10/2014 21:42	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 21:42	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 21:42	SB
Surr: 4-Bromofluorobenzene	93.4		0	66.2-120	%REC	189490	1	04/10/2014 21:42	SB
Surr: Dibromofluoromethane	99.2		0	79.5-121	%REC	189490	1	04/10/2014 21:42	SB
Surr: Toluene-d8	98		0	77-117	%REC	189490	1	04/10/2014 21:42	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	98	J	9.5	100	ug/L	189490	1	04/10/2014 21:42	SB
tert-Amyl methyl ether	6.4	J	1.0	10	ug/L	189490	1	04/10/2014 21:42	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 21:42	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-56
Project Name: Clouds Chevron et. al. Collection Date: 4/3/2014 9:41:00 AM
Lab ID: 1404588-051 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		. (	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 22:10	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 22:10	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/10/2014 22:10	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/10/2014 22:10	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 22:10	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 22:10	SB
Surr: 4-Bromofluorobenzene	92.6		0	66.2-120	%REC	189490	1	04/10/2014 22:10	SB
Surr: Dibromofluoromethane	102		0	79.5-121	%REC	189490	1	04/10/2014 22:10	SB
Surr: Toluene-d8	97.9		0	77-117	%REC	189490	1	04/10/2014 22:10	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	OB)			
tert-Amyl alcohol	50	J	9.5	100	ug/L	189490	1	04/10/2014 22:10	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 22:10	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 22:10	SB

Qualifiers:

Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-59 Project Name: Clouds Chevron et. al. **Collection Date:** 4/2/2014 3:55:00 PM

Lab ID: 1404588-053 Matrix:

Groundwater

Analyses .	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analys
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	28		0.39	1.0	ug/L	189490	1	04/09/2014 17:33	NP
Ethylbenzene	300		4.0	10	ug/L	189490	10	04/10/2014 13:08	NP
Methyl tert-butyl ether	130		0.42	1.0	ug/L	189490	1	04/09/2014 17:33	NP
Naphthalene	45		0.20	5.0	ug/L	189490	1	04/09/2014 17:33	NP
Toluene	2.8		0.38	1.0	ug/L	189490	1	04/09/2014 17:33	NP
Xylenes, Total	6.4		0.83	1.0	ug/L	189490	1	04/09/2014 17:33	NP
Surr: 4-Bromofluorobenzene	88		0	66.2-120	%REC	189490	10	04/10/2014 13:08	NP
Surr: 4-Bromofluorobenzene	93.7		0	66.2-120	%REC	189490	1	04/09/2014 17:33	NP
Surr: Dibromofluoromethane	93.6		0	79.5-121	%REC	189490	10	04/10/2014 13:08	NP
Surr: Dibromofluoromethane	96.8		0	79.5-121	%REC	189490	1	04/09/2014 17:33	NP
Surr: Toluene-d8	89		0	77-117	%REC	189490	10	04/10/2014 13:08	NP
Surr: Toluene-d8	95.4		0	<b>77</b> -117	%REC	189490	1	04/09/2014 17:33	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	<b>0B</b> )			
tert-Amyl alcohol	2600		95	1000	ug/L	189490	10	04/10/2014 13:08	NP
tert-Amyl methyl ether	42		1.0	10	ug/L	189490	1	04/09/2014 17:33	NP
tert-Butyl Alcohol	160		6.8	100	ug/L	189490	1	04/09/2014 17:33	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-62

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-055 Collection Date: 4/1/2014 1:38:00 PM

Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	0.86	J	0.39	1.0	ug/L	189490	i	04/10/2014 22:39	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 22:39	SB
Methyl tert-butyl ether	3.0		0.42	1.0	ug/L	189490	1	04/10/2014 22:39	SB
Naphthalene	3.3	J	0.20	5.0	ug/L	189490	1	04/10/2014 22:39	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 22:39	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 22:39	SB
Surr: 4-Bromofluorobenzene	93.4		0	66.2-120	%REC	189490	1	04/10/2014 22:39	SB
Surr: Dibromofluoromethane	102		0	79.5-121	%REC	189490	1	04/10/2014 22:39	SB
Surr: Toluene-d8	98.5		0	77-117	%REC	189490	1	04/10/2014 22:39	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	260		9.5	100	ug/L	189490	1	04/10/2014 22:39	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 22:39	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 22:39	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

16-Apr-14

Date:

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-63

Project Name: Clouds Chevron et. al.

Collection Date: 4/2/2014 1:27:00 PM

Lab ID: 1404588-056 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 23:07	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 23:07	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/10/2014 23:07	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/10/2014 23:07	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 23:07	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 23:07	SB
Surr: 4-Bromofluorobenzene	93.6		0	66.2-120	%REC	189490	1	04/10/2014 23:07	SB
Surr: Dibromofluoromethane	99		0	79.5-121	%REC	189490	1	04/10/2014 23:07	SB
Surr: Toluene-d8	97.4		0	<b>77</b> -117	%REC	189490	1	04/10/2014 23:07	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	120		9.5	100	ug/L	189490	1	04/10/2014 23:07	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 23:07	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 23:07	SB

Qualifiers:

Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-67

Project Name: Clouds Chayron et al. (2014)

Project Name: Clouds Chevron et. al.

Lab ID: Collection Date: 4/1/2014 12:42:00 PM

Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/10/2014 23:35	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/10/2014 23:35	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/10/2014 23:35	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/10/2014 23:35	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/10/2014 23:35	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/10/2014 23:35	SB
Surr: 4-Bromofluorobenzene	91.5		0	66.2-120	%REC	189490	1	04/10/2014 23:35	SB
Surr: Dibromofluoromethane	100		0	79.5-121	%REC	189490	1	04/10/2014 23:35	SB
Surr: Toluene-d8	97.8		0	77-117	%REC	189490	1	04/10/2014 23:35	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5036	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/10/2014 23:35	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/10/2014 23:35	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/10/2014 23:35	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: **Crawford Environmental Services** Client Sample ID:

MW-70 Project Name: Clouds Chevron et. al. Collection Date: 4/2/2014 1:01:00 PM Lab ID: 1404588-059 Matrix: Groundwater

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analys
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5036	0B)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/11/2014 00:03	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/11/2014 00:03	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/11/2014 00:03	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/11/2014 00:03	SB
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/11/2014 00:03	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/11/2014 00:03	SB
Surr: 4-Bromofluorobenzene	92.7		0	66.2-120	%REC	189490	1	04/11/2014 00:03	SB
Surr: Dibromofluoromethane	104		0	79.5-121	%REC	189490	1	04/11/2014 00:03	SB
Surr: Toluene-d8	98.8		0	77-117	%REC	189490	1	04/11/2014 00:03	SB
Oxygenates (AES SOP OA-11010) SW82	60B			C	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/11/2014 00:03	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/11/2014 00:03	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/11/2014 00:03	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

Esumated value detected below Reporting Limit

Greater than Result value

Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW-5ar

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-060 Collection Date: 4/1/2014 9:30:00 AM

Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	12000		190	500	ug/L	189490	500	04/11/2014 13:55	NP
Ethylbenzene	2400		20	50	ug/L	189490	50	04/11/2014 02:02	NP
Methyl tert-butyl ether	<b>7</b> 0		21	50	ug/L	189490	50	04/11/2014 02:02	NP
Naphthalene	1000		10	250	ug/L	189490	50	04/11/2014 02:02	NP
Toluene	13000		190	500	ug/L	189490	500	04/11/2014 13:55	NP
Xylenes, Total	13000		41	50	ug/L	189490	50	04/11/2014 02:02	NP
Surr: 4-Bromofluorobenzene	88.1		0	66.2-120	%REC	189490	500	04/11/2014 13:55	NP
Surr: 4-Bromofluorobenzene	88.2		0	66.2-120	%REC	189490	50	04/11/2014 02:02	NP
Surr: Dibromofluoromethane	93.4		0	79.5-121	%REC	189490	500	04/11/2014 13:55	NP
Surr: Dibromofluoromethane	93.6		0	79.5-121	%REC	189490	50	04/11/2014 02:02	NP
Surr: Toluene-d8	87.1		0	<b>77-</b> 117	%REC	189490	500	04/11/2014 13:55	NP
Surr: Toluene-d8	89.7		0	<b>77-</b> 117	%REC	189490	50	04/11/2014 02:02	NP
Oxygenates (AES SOP OA-11010) SW82	260B			(	SW5030	0B)			
tert-Amyl alcohol	BRL		480	5000	ug/L	189490	50	04/11/2014 02:02	NP
tert-Amyl methyl ether	160	J	50	500	ug/L	189490	50	04/11/2014 02:02	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189490	50	04/11/2014 02:02	NP

Qualifiers:

Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: PW-1R

Project Name:Clouds Chevron et. al.Collection Date:4/3/2014 1:35:00 PMLab ID:1404588-061Matrix:Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0 <b>B</b> )			
Benzene	460		19	50	ug/L	189490	50	04/11/2014 02:27	NP
Ethylbenzene	320		20	50	ug/L	189490	50	04/11/2014 02:27	NP
Methyl tert-butyl ether	BRL		21	50	ug/L	189490	50	04/11/2014 02:27	NP
Naphthalene	510		10	250	ug/L	189490	50	04/11/2014 02:27	NP
Toluene	3400		19	50	ug/L	189490	50	04/11/2014 02:27	NP
Xylenes, Total	9200		41	50	ug/L	189490	50	04/11/2014 02:27	NP
Surr: 4-Bromofluorobenzene	86.6		0	66.2-120	%REC	189490	50	04/11/2014 02:27	NP
Surr: Dibromofluoromethane	94.4		0	79.5-121	%REC	189490	50	04/11/2014 02:27	NP
Surr: Toluene-d8	88.4		0	<b>77-</b> 11 <b>7</b>	%REC	189490	50	04/11/2014 02:27	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	OB)			
tert-Amyl alcohol	710	J	480	5000	ug/L	189490	50	04/11/2014 02:27	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	189490	50	04/11/2014 02:27	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189490	50	04/11/2014 02:27	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Date:

16-Apr-14

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW-1

Project Name: Clouds Chevron et. al. Collection Date: 4/2/2014 2:20:00 PM

Lab ID: 1404588-062 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analys
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	0.45	J	0.39	1.0	ug/L	189490	1	04/11/2014 00:31	SB
Ethylbenzene	1.7		0.40	1.0	ug/L	189490	1	04/11/2014 00:31	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/11/2014 00:31	SB
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/11/2014 00:31	SB
Toluene	1.2		0.38	1.0	ug/L	189490	1	04/11/2014 00:31	SB
Xylenes, Total	7.2		0.83	1.0	ug/L	189490	1	04/11/2014 00:31	SB
Surr: 4-Bromofluorobenzene	96.1		0	66.2-120	%REC	189490	1	04/11/2014 00:31	SB
Surr: Dibromofluoromethane	102		0	79.5-121	%REC	189490	1	04/11/2014 00:31	SB
Surr: Toluene-d8	95.1		0	<b>77-</b> 117	%REC	189490	1	04/11/2014 00:31	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	) <b>B</b> )			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/11/2014 00:31	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/11/2014 00:31	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/11/2014 00:31	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW-2

Project Name: Clouds Chevron et. al. Collection Date: 4/2/2014 3:01:00 PM

Lab ID: 1404588-063 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analysi
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	OB)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/11/2014 16:50	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/11/2014 16:50	NP
Methyl tert-butyl ether	7.1		0.42	1.0	ug/L	189490	1	04/11/2014 16:50	NP
Naphthalene	4.1	J	0.20	5.0	ug/L	189490	1	04/11/2014 16:50	NP
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/11/2014 16:50	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/11/2014 16:50	NP
Surr: 4-Bromofluorobenzene	83.6		0	66.2-120	%REC	189490	1	04/11/2014 16:50	NP
Surr: Dibromofluoromethane	100		0	79.5-121	%REC	189490	1	04/11/2014 16:50	NP
Surr: Toluene-d8	93		0	77-117	%REC	189490	1	04/11/2014 16:50	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/11/2014 00:59	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/11/2014 00:59	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/11/2014 00:59	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: DW-3 Crawford Environmental Services Client Sample ID:

Project Name: Clouds Chevron et. al. **Collection Date:** 4/3/2014 4:01:00 PM

Lab ID: 1404588-064 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analysi
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	9800		190	500	ug/L	189490	500	04/11/2014 16:00	NP
Ethylbenzene	3700		20	50	ug/L	189490	50	04/11/2014 19:27	NP
Methyl tert-butyl ether	990		21	50	ug/L	189490	50	04/11/2014 19:27	NP
Naphthalene	780		10	250	ug/L	189490	50	04/11/2014 19:27	NP
Toluene	22000		190	500	ug/L	189490	500	04/11/2014 16:00	NP
Xylenes, Total	17000		41	50	ug/L	189490	50	04/11/2014 19:27	NP
Surr: 4-Bromofluorobenzene	84.6		0	66.2-120	%REC	189490	500	04/11/2014 16:00	NP
Surr: 4-Bromofluorobenzene	88		0	66.2-120	%REC	189490	50	04/11/2014 19:27	NP
Surr: Dibromofluoromethane	95.7		0	79.5-121	%REC	189490	50	04/11/2014 19:27	NP
Surr: Dibromofluoromethane	97.6		0	79.5-121	%REC	189490	500	04/11/2014 16:00	NP
Surr: Toluene-d8	87.7		0	<i>77</i> -117	%REC	189490	500	04/11/2014 16:00	NP
Surr: Toluene-d8	88.5		0	<b>77-</b> 117	%REC	189490	50	04/11/2014 19:27	NP
Oxygenates (AES SOP OA-11010) SW82	260B			(	SW503	0B)			
tert-Amyl alcohol	10000		480	5000	ug/L	189490	50	04/11/2014 19:27	NP
tert-Amyl methyl ether	190	J	50	500	ug/L	189490	50	04/11/2014 19:27	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189490	50	04/11/2014 19:27	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Greater than Result value

Less than Result value Narr See case narrative

Client: Crawford Environmental Services Client Sample ID: DW-4

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-065 Collection Date: 4/3/2014 2:09:00 PM

Matrix: Groundwater

Date:

16-Apr-14

				Reporting					
Analyses	Result	Qual	MDL	Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	DB)			
Benzene	BRL		0.39	1.0	ug/L	189490	1	04/11/2014 11:27	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189490	1	04/11/2014 11:27	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189490	1	04/11/2014 11:27	NP
Naphthalene	BRL		0.20	5.0	ug/L	189490	1	04/11/2014 11:27	NP
Toluene	BRL		0.38	1.0	ug/L	189490	1	04/11/2014 11:27	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	189490	1	04/11/2014 11:27	NP
Surr: 4-Bromofluorobenzene	82.8		0	66.2-120	%REC	189490	1	04/11/2014 11:27	NP
Surr: Dibromofluoromethane	107		0	79.5-121	%REC	189490	1	04/11/2014 11:27	NP
Surr: Toluene-d8	91.7		0	77-117	%REC	189490	1	04/11/2014 11:27	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	OB)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189490	1	04/11/2014 11:27	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189490	1	04/11/2014 11:27	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189490	1	04/11/2014 11:27	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services DW-5 Client Sample ID:

Project Name: Clouds Chevron et. al.

4/1/2014 11:00:00 AM **Collection Date:** Lab ID: 1404588-066 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В			(SW503	0B)			
Benzene	3300		19	50	ug/L	189491	50	04/09/2014 17:08	NP
Ethylbenzene	37		0.40	1.0	ug/L	189491	1	04/09/2014 15:53	NP
Methyl tert-butyl ether	940		21	50	ug/L	189491	50	04/09/2014 17:08	NP
Naphthalene	81		0.20	5.0	ug/L	189491	1	04/09/2014 15:53	NP
Toluene	68		0.38	1.0	ug/L	189491	1	04/09/2014 15:53	NP
Xylenes, Total	1000		41	50	ug/L	189491	50	04/09/2014 17:08	NP
Surr: 4-Bromofluorobenzene	90.5		0	66.2-120	%REC	189491	50	04/09/2014 17:08	NP
Surr: 4-Bromofluorobenzene	93.3		0	66.2-120	%REC	189491	1	04/09/2014 15:53	NP
Surr: Dibromofluoromethane	99.9		0	<b>7</b> 9.5-121	%REC	189491	50	04/09/2014 17:08	NP
Surr: Dibromofluoromethane	96.4		0	<b>7</b> 9.5-121	%REC	189491	1	04/09/2014 15:53	NP
Surr: Toluene-d8	90.3		0	<b>7</b> 7-117	%REC	189491	50	04/09/2014 17:08	NP
Surr: Toluene-d8	94		0	77-117	%REC	189491	1	04/09/2014 15:53	NP
Oxygenates (AES SOP OA-11010) SW8	260B			(	SW503	0B)			
tert-Amyl alcohol	4300		95	1000	ug/L	189491	10	04/10/2014 14:23	NP
tert-Amyl methyl ether	83		1.0	10	ug/L	189491	1	04/09/2014 15:53	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/09/2014 15:53	NP
Surr: 4-Bromofluorobenzene	89.3		0	66.2-120	%REC	189491	10	04/10/2014 14:23	NP
Surr: Dibromofluoromethane	92.7		0	79.5-121	%REC	189491	10	04/10/2014 14:23	NP
Surr: Toluene-d8	90.3		0	<i>77-</i> 117	%REC	189491	10	04/10/2014 14:23	NP

Qualifiers:

Date:

16-Apr-14

<sup>\*</sup> Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Greater than Result value

Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW-6

Project Name: Clouds Chevron et. al.

Collection Date: 4/1/2014 12:18:00 PM

Lab ID: 1404588-067 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analysi
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	8.5		0.39	1.0	ug/L	189491	1	04/11/2014 01:28	SB
Ethylbenzene	1.6		0.40	1.0	ug/L	189491	1	04/11/2014 01:28	SB
Methyl tert-butyl ether	3.0		0.42	1.0	ug/L	189491	1	04/11/2014 01:28	SB
Naphthalene	BRL		0.20	5.0	ug/L	189491	1	04/11/2014 01:28	SB
Toluene	1.2		0.38	1.0	ug/L	189491	1	04/11/2014 01:28	SB
Xylenes, Total	7.2		0.83	1.0	ug/L	189491	1	04/11/2014 01:28	SB
Surr: 4-Bromofluorobenzene	92.2		0	66.2-120	%REC	189491	1	04/11/2014 01:28	SB
Surr: Dibromofluoromethane	102		0	79.5-121	%REC	189491	1	04/11/2014 01:28	SB
Surr: Toluene-d8	96.4		0	77-117	%REC	189491	1	04/11/2014 01:28	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189491	1	04/11/2014 01:28	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189491	1	04/11/2014 01:28	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/11/2014 01:28	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services **Client Sample ID:** 

DW-7 Project Name: Clouds Chevron et. al. **Collection Date:** 4/3/2014 3:17:00 PM

1404588-068 Matrix: Lab ID: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	0.52	J	0.39	1.0	ug/L	189491	1	04/11/2014 11:02	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	189491	1	04/11/2014 11:02	NP
Methyl tert-butyl ether	2.6		0.42	1.0	ug/L	189491	1	04/11/2014 11:02	NP
Naphthalene	4.2	J	0.20	5.0	ug/L	189491	1	04/11/2014 11:02	NP
Toluene	0.46	J	0.38	1.0	ug/L	189491	1	04/11/2014 11:02	NP
Xylenes, Total	1.4		0.83	1.0	ug/L	189491	1	04/11/2014 11:02	NP
Surr: 4-Bromofluorobenzene	83.4		0	66.2-120	%REC	189491	1	04/11/2014 11:02	NP
Surr: Dibromofluoromethane	104		0	79.5-121	%REC	189491	1	04/11/2014 11:02	NP
Surr: Toluene-d8	90		0	77-117	%REC	189491	1	04/11/2014 11:02	NP
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189491	1	04/11/2014 11:02	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189491	1	04/11/2014 11:02	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/11/2014 11:02	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

Date:

16-Apr-14

S Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

> Greater than Result value

Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW-9

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-069 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В			SW5036	0B)			
Benzene	BRL		0.39	1.0	ug/L	189491	1	04/11/2014 02:24	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189491	1	04/11/2014 02:24	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189491	1	04/11/2014 02:24	SB
Naphthalene	BRL		0.20	5.0	ug/L	189491	1	04/11/2014 02:24	SB
Toluene	BRL		0.38	1.0	ug/L	189491	1	04/11/2014 02:24	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189491	1	04/11/2014 02:24	SB
Surr: 4-Bromofluorobenzene	93.8		0	66.2-120	%REC	189491	1	04/11/2014 02:24	SB
Surr: Dibromofluoromethane	102		0	79.5-121	%REC	189491	1	04/11/2014 02:24	SB
Surr: Toluene-d8	97.1		0	<b>77</b> -117	%REC	189491	1	04/11/2014 02:24	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0 <b>B</b> )			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189491	1	04/11/2014 02:24	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189491	1	04/11/2014 02:24	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/11/2014 02:24	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

16-Apr-14

Date:

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

1404588-070 Lab ID:

Date:

16-Apr-14

Client Sample ID:

SW-1

Collection Date:

4/2/2014 11:58:00 AM

Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	180		0.39	1.0	ug/L	189491	1	04/11/2014 02:52	SB
Ethylbenzene	30		0.40	1.0	ug/L	189491	1	04/11/2014 02:52	SB
Methyl tert-butyl ether	42		0.42	1.0	ug/L	189491	1	04/11/2014 02:52	SB
Naphthalene	6.5		0.20	5.0	ug/L	189491	1	04/11/2014 02:52	SB
Toluene	8.4		0.38	1.0	ug/L	189491	1	04/11/2014 02:52	SB
Xylenes, Total	53		0.83	1.0	ug/L	189491	1	04/11/2014 02:52	SB
Surr: 4-Bromofluorobenzene	98		0	66.2-120	%REC	189491	1	04/11/2014 02:52	SB
Surr: Dibromofluoromethane	97.9		0	79.5-121	%REC	189491	1	04/11/2014 02:52	SB
Surr: Toluene-d8	96.1		0	77-117	%REC	189491	1	04/11/2014 02:52	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	350		9.5	100	ug/L	189491	1	04/11/2014 02:52	SB
tert-Amyl methyl ether	9.5	J	1.0	10	ug/L	189491	1	04/11/2014 02:52	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/11/2014 02:52	SB

Qualifiers:

Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

> Greater than Result value

Less than Result value

Client: Crawford Environmental Services Client Sample ID: TRIP BLANK 1

Project Name: Clouds Chevron et. al. Collection Date: 4/4/2014

Lab ID: 1404588-071 Matrix: Aqueous

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analysi
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189491	1	04/10/2014 20:46	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189491	1	04/10/2014 20:46	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189491	1	04/10/2014 20:46	SB
Naphthalene	BRL		0.20	5.0	ug/L	189491	1	04/10/2014 20:46	SB
Toluene	BRL		0.38	1.0	ug/L	189491	1	04/10/2014 20:46	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189491	1	04/10/2014 20:46	SB
Surr: 4-Bromofluorobenzene	94.4		0	66.2-120	%REC	189491	1	04/10/2014 20:46	SB
Surr: Dibromofluoromethane	99.3		0	79.5-121	%REC	189491	1	04/10/2014 20:46	SB
Surr: Toluene-d8	96.7		0	<b>77-</b> 11 <b>7</b>	%REC	189491	1	04/10/2014 20:46	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189491	1	04/10/2014 20:46	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189491	1	04/10/2014 20:46	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/10/2014 20:46	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: TRIP BLANK 2

Project Name: Clouds Chevron et. al. Collection Date: 4/4/2014

Lab ID: 1404588-072 Matrix: Aqueous

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analysi
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0 <b>B</b> )			
Benzene	BRL		0.39	1.0	ug/L	189491	1	04/10/2014 21:14	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189491	1	04/10/2014 21:14	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189491	1	04/10/2014 21:14	SB
Naphthalene	BRL		0.20	5.0	ug/L	189491	1	04/10/2014 21:14	SB
Toluene	BRL		0.38	1.0	ug/L	189491	1	04/10/2014 21:14	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189491	1	04/10/2014 21:14	SB
Surr: 4-Bromofluorobenzene	94.3		0	66.2-120	%REC	189491	1	04/10/2014 21:14	SB
Surr: Dibromofluoromethane	99.3		0	79.5-121	%REC	189491	1	04/10/2014 21:14	SB
Surr: Toluene-d8	96.2	*	0	77-117	%REC	189491	1	04/10/2014 21:14	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189491	1	04/10/2014 21:14	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189491	1	04/10/2014 21:14	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/10/2014 21:14	SB

Qualifiers:

Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: FB 1

Project Name: Clouds Chevron et. al.

Lab ID: Collection Date: 4/3/2014 10:01:00 AM

Matrix: Groundwater

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analys
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	OB)			
Benzene	BRL		0.39	1.0	ug/L	189491	1	04/10/2014 19:21	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189491	1	04/10/2014 19:21	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189491	1	04/10/2014 19:21	SB
Naphthalene	BRL		0.20	5.0	ug/L	189491	1	04/10/2014 19:21	SB
Toluene	BRL		0.38	1.0	ug/L	189491	1	04/10/2014 19:21	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189491	1	04/10/2014 19:21	SB
Surr: 4-Bromofluorobenzene	93.7		0	66.2-120	%REC	189491	1	04/10/2014 19:21	SB
Surr: Dibromofluoromethane	101		0	79.5-121	%REC	189491	1	04/10/2014 19:21	SB
Surr: Toluene-d8	96.3		0	<b>7</b> 7-117	%REC	189491	1	04/10/2014 19:21	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189491	1	04/10/2014 19:21	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189491	1	04/10/2014 19:21	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/10/2014 19:21	SB

Qualifiers:

Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: FB 2

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-074

Collection Date: 4/2/2014 2:14:00 PM
Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189491	1	04/10/2014 19:49	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189491	1	04/10/2014 19:49	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189491	1	04/10/2014 19:49	SB
Naphthalene	BRL		0.20	5.0	ug/L	189491	1	04/10/2014 19:49	SB
Toluene	BRL		0.38	1.0	ug/L	189491	1	04/10/2014 19:49	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189491	1	04/10/2014 19:49	SB
Surr: 4-Bromofluorobenzene	96.6		0	66.2-120	%REC	189491	1	04/10/2014 19:49	SB
Surr: Dibromofluoromethane	105		0	79.5-121	%REC	189491	1	04/10/2014 19:49	SB
Surr: Toluene-d8	99.1		0	77-117	%REC	189491	1	04/10/2014 19:49	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189491	1	04/10/2014 19:49	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189491	1	04/10/2014 19:49	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/10/2014 19:49	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

16-Apr-14

Date:

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

< Less than Result value

Client: Crawford Environmental Services Client Sample ID: FB 3

Project Name: Clouds Chevron et. al.

Lab ID: Collection Date: 4/1/2014 11:49:00 AM

Matrix: Groundwater

Date:

16-Apr-14

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	189491	1	04/10/2014 20:17	SB
Ethylbenzene	BRL		0.40	1.0	ug/L	189491	1	04/10/2014 20:17	SB
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	189491	1	04/10/2014 20:17	SB
Naphthalene	BRL		0.20	5.0	ug/L	189491	1	04/10/2014 20:17	SB
Toluene	BRL		0.38	1.0	ug/L	189491	1	04/10/2014 20:17	SB
Xylenes, Total	BRL		0.83	1.0	ug/L	189491	1	04/10/2014 20:17	SB
Surr: 4-Bromofluorobenzene	90.9		0	66.2-120	%REC	189491	1	04/10/2014 20:17	SB
Surr: Dibromofluoromethane	99.4		0	79.5-121	%REC	189491	1	04/10/2014 20:17	SB
Surr: Toluene-d8	98.6		0	77-117	%REC	189491	1	04/10/2014 20:17	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	189491	1	04/10/2014 20:17	SB
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189491	1	04/10/2014 20:17	SB
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/10/2014 20:17	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

Less than Result value
 Narr, See case narrative

Client: Crawford Environmental Services Client Sample ID:

DUP A Project Name: Clouds Chevron et. al. Collection Date: 4/2/2014 10:15:00 AM

Lab ID: 1404588-076 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW82601	В		(	SW5030	)B)			
Benzene	8300		19	50	ug/L	189491	50	04/11/2014 03:41	NP
Ethylbenzene	1500		20	50	ug/L	189491	50	04/11/2014 03:41	NP
Methyl tert-butyl ether	2200		21	50	ug/L	189491	50	04/11/2014 03:41	NP
Naphthalene	650		10	250	ug/L	189491	50	04/11/2014 03:41	NP
Toluene	18000		190	500	ug/L	189491	500	04/11/2014 14:21	NP
Xylenes, Total	20000		41	50	ug/L	189491	50	04/11/2014 03:41	NP
Surr: 4-Bromofluorobenzene	87.3		0	66.2-120	%REC	189491	500	04/11/2014 14:21	NP
Surr: 4-Bromofluorobenzene	90.5		0	66.2-120	%REC	189491	50	04/11/2014 03:41	NP
Surr: Dibromofluoromethane	93.4		0	79.5-121	%REC	189491	500	04/11/2014 14:21	NP
Surr: Dibromofluoromethane	95.8		0	79.5-121	%REC	189491	50	04/11/2014 03:41	NP
Surr: Toluene-d8	86.1		0	<b>77-</b> 117	%REC	189491	500	04/11/2014 14:21	NP
Surr: Toluene-d8	88.7		0	<b>77-</b> 117	%REC	189491	50	04/11/2014 03:41	NP
Oxygenates (AES SOP OA-11010) SW82	260B			(	SW5030	)B)			
tert-Amyl alcohol	860	J	480	5000	ug/L	189491	50	04/11/2014 03:41	NP
tert-Amyl methyl ether	660		50	500	ug/L	189491	50	04/11/2014 03:41	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189491	50	04/11/2014 03:41	NP

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

16-Apr-14

Date:

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-077 Date: 16-Apr-14

Client Sample ID: DUP B

**Collection Date:** 

Matrix:

4/2/2014 12:51:00 PM

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5036	<b>)B</b> )			
Benzene	150		0.39	1.0	ug/L	189491	I	04/11/2014 12:41	NP
Ethylbenzene	180		0.40	1.0	ug/L	189491	1	04/11/2014 12:41	NP
Methyl tert-butyl ether	510		4.2	10	ug/L	189491	10	04/11/2014 13:06	NP
Naphthalene	140		0.20	5.0	ug/L	189491	1	04/11/2014 12:41	NP
Toluene	39		0.38	1.0	ug/L	189491	1	04/11/2014 12:41	NP
Xylenes, Total	1500		8.3	10	ug/L	189491	10	04/11/2014 13:06	NP
Surr: 4-Bromofluorobenzene	86.1		0	66.2-120	%REC	189491	10	04/11/2014 13:06	NP
Surr: 4-Bromofluorobenzene	98.5		0	66.2-120	%REC	189491	1	04/11/2014 12:41	NP
Surr: Dibromofluoromethane	96.4		0	79.5-121	%REC	189491	1	04/11/2014 12:41	NP
Surr: Dibromofluoromethane	98.5		0	79.5-121	%REC	189491	10	04/11/2014 13:06	NP
Surr: Toluene-d8	89		0	77-117	%REC	189491	10	04/11/2014 13:06	NP
Surr: Toluene-d8	94		0	<b>77-</b> 117	%REC	189491	1	04/11/2014 12:41	NP
Oxygenates (AES SOP OA-11010) SW82	260B			(	SW5030	OB)			
tert-Amyl alcohol	200		9.5	100	ug/L	189491	1	04/11/2014 12:41	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	189491	1	04/11/2014 12:41	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	189491	1	04/11/2014 12:41	NP

Qualifiers:

BRL Not detected at MDL

<sup>\*</sup> Value exceeds maximum contaminant level

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

Estimated value detected below Reporting Limit

Greater than Result value

Less than Result value

Client: Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Lab ID: 1404588-078

Date:

16-Apr-14

Client Sample ID: DUP C

Collection Date:

4/3/2014 1:20:00 PM

Matrix:

Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	DB)			
Benzene	2300		19	50	ug/L	189491	50	04/11/2014 19:52	NP
Ethylbenzene	580		20	50	ug/L	189491	50	04/11/2014 19:52	NP
Methyl tert-butyl ether	60		21	50	ug/L	189491	50	04/11/2014 19:52	NP
Naphthalene	1100		10	250	ug/L	189491	50	04/11/2014 19:52	NP
Toluene	11000		190	500	ug/L	189491	500	04/11/2014 15:10	NP
Xylenes, Total	14000		41	50	ug/L	189491	50	04/11/2014 19:52	NP
Surr: 4-Bromofluorobenzene	87.4		0	66.2-120	%REC	189491	500	04/11/2014 15:10	NP
Surr: 4-Bromofluorobenzene	88.9		0	66.2-120	%REC	189491	50	04/11/2014 19:52	NP
Surr: Dibromofluoromethane	94.2		0	79.5-121	%REC	189491	50	04/11/2014 19:52	NP
Surr: Dibromofluoromethane	94.3		0	79.5-121	%REC	189491	500	04/11/2014 15:10	NP
Surr: Toluene-d8	86.7		0	<b>77-</b> 11 <b>7</b>	%REC	189491	500	04/11/2014 15:10	NP
Surr: Toluene-d8	90.1		0	<b>77</b> -11 <b>7</b>	%REC	189491	50	04/11/2014 19:52	NP
Oxygenates (AES SOP OA-11010) SW82	260B			(	SW5030	<b>OB</b> )			
tert-Amyl alcohol	3900	J	480	5000	ug/L	189491	50	04/11/2014 19:52	NP
tert-Amyl methyl ether	80	J	50	500	ug/L	189491	50	04/11/2014 19:52	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	189491	50	04/11/2014 19:52	NP

Qualifiers:

Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value

Less than Result value
 Narr
 See case narrative

Client: Crawford Environmental Services Client Sample ID: DUP D

Project Name:Clouds Chevron et. al.Collection Date:4/3/2014 1:40:00 PMLab ID:1404588-079Matrix:Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0 <b>B</b> )			
Benzene	420		19	50	ug/L	189491	50	04/11/2014 03:20	SB
Ethylbenzene	260		20	50	ug/L	189491	50	04/11/2014 03:20	SB
Methyl tert-butyl ether	BRL		21	50	ug/L	189491	50	04/11/2014 03:20	SB
Naphthalene	370		10	250	ug/L	189491	50	04/11/2014 03:20	SB
Toluene	3300		19	50	ug/L	189491	50	04/11/2014 03:20	SB
Xylenes, Total	6800		41	50	ug/L	189491	50	04/11/2014 03:20	SB
Surr: 4-Bromofluorobenzene	104		0	66.2-120	%REC	189491	50	04/11/2014 03:20	SB
Surr: Dibromofluoromethane	105		0	<b>7</b> 9.5-121	%REC	189491	50	04/11/2014 03:20	SB
Surr: Toluene-d8	98.1		0	77-117	%REC	189491	50	04/11/2014 03:20	SB
Oxygenates (AES SOP OA-11010) SW82	60B			(	SW5036	OB)			
tert-Amyl alcohol	5300		480	5000	ug/L	189491	50	04/11/2014 03:20	SB
tert-Amyl methyl ether	BRL		50	500	ug/L	189491	50	04/11/2014 03:20	SB
tert-Butyl Alcohol	BRL		340	5000	ug/L	189491	50	04/11/2014 03:20	SB

Qualifiers:

\* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

16-Apr-14

Date:

> Greater than Result value

< Less than Result value

# Sample/Cooler Receipt Checklist

ClientACUS		Work Order Number
Checklist completed by Signature Date	4/4/14	
Carrier name: FedEx UPS _ Courier _ Client _ US	S Mail Othe	r
Shipping container/cooler in good condition?	Yes _	No Not Present
Custody seals intact on shipping container/cooler?	Yes	No Not Present
Custody seals intact on sample bottles?	Yes _	No _ Not Present _
Container/Temp Blank temperature in compliance? (4°C±2)*	Yes _	No
Cooler #1 3.5 Cooler #2 Cooler #3	_ Cooler #4	Cooler#5 Cooler #6
Chain of custody present?	Yes _	No
Chain of custody signed when relinquished and received?	·Yes _	No
Chain of custody agrees with sample labels?	Yes _	No
Samples in proper container/bottle?	Yes _	No
Sample containers intact?	Yes _	No
Sufficient sample volume for indicated test?	Yes _	No
All samples received within holding time?	Yes _	No
Was TAT marked on the COC?	Yes /	No
Proceed with Standard TAT as per project history?	Yes _	No Not Applicable
Water - VOA vials have zero headspace? No VOA vials st	ıbmitted	
Water - pH acceptable upon receipt?	Yes	No Not Applicable
Adjusted?	Che	cked by
Sample Condition: Good Other(Explain)		
(For diffusive samples or AIHA lead) Is a known blank include	ded? Yes	_ No _

See Case Narrative for resolution of the Non-Conformance.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample\_Cooler\_Receipt\_Checklists

<sup>\*</sup> Samples do not have to comply with the given range for certain parameters.

Date: 16-Apr-14

CI	ien	t:		
-				

Crawford Environmental Services

Clouds Chevron et. al. Project Name:

Workorder: 1404588

ANALYTICAL QC SUMMARY REPORT

BatchID: 189485

Sample ID: MB-189485 SampleType: MBLK	Client ID: TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B		its: <b>ug/L</b> tchID: <b>189485</b>	Prep Dat Analysis	e: 04/ Date: 04/	/09/2014 /09/2014	Run No: : Seq No: :	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit R	PD Ref Val	I %RPD	RPD 1	Limit Qu
Benzene	BRL	1.0	<u> </u>								
Ethylbenzene	BRL	1.0									
Methyl tert-butyl ether	BRL	1.0									
Naphthalene	BRL	5.0									
Toluene	BRL	1.0									
Kylenes, Total	BRL	1.0									
Surr: 4-Bromofluorobenzene	44.91	0	50.00		89.8	70	130				
Surr: Dibromofluoromethane	50.91	0	50.00		102	70	130				
Surr: Toluene-d8	46.05	0	50.00		92.1	70	130				
Sample ID: MB-189485 SampleType: MBLK	Client ID: TestCode:	Oxygenates (AES SOP O	A-11010) SW8	260B	Un Ba	its: ug/L tchID: 189485	Prep Dat Analysis	e: 04/ Date: 04/	09/2014 09/2014	Run No: 2 Seq No: 2	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit RI	PD Ref Val	%RPD	RPD 1	Limit Qua
Analyte ert-Amyl alcohol	Result BRL	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit RI	PD Ref Val	%RPD	RPD 1	Limit Qua
ert-Amyl alcohol			SPK value	SPK Ref Val	%REC	Low Limit	High Limit RI	PD Ref Val	%RPD	RPD 1	Limit Qua
•	BRL	100	SPK value	SPK Ref Val	%REC	Low Limit	High Limit RI	PD Ref Val	%RPD	RPD 1	Limit Qua
ert-Amyl alcohol ert-Amyl methyl ether	BRL BRL BRL Client ID:	100 10 100		SPK Ref Val	%REC	-	High Limit RI			RPD	
ert-Amyl alcohol ert-Butyl Alcohol Sample ID: LCS-189485	BRL BRL BRL Client ID:	100 10		SPK Ref Val	Un	-	Prep Dat		09/2014		265148
ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol	BRL BRL BRL Client ID:	100 10 100			Un	its: <b>ug/L</b> cchID: <b>189485</b>	Prep Dat Analysis	e: <b>04</b> /	09/2014 09/2014	Run No: 2 Seq No: 4	265148
ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189485 SampleType: LCS	BRL BRL BRL Client ID: TestCode:	100 10 100 Wolatile Organic Compos	ands by GC/MS	SW8260B	Un Bat	its: <b>ug/L</b> cchID: <b>189485</b>	Prep Dat Analysis	e: 04/	09/2014 09/2014	Run No: 2 Seq No: 4	265148 5585188
ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189485 SampleType: LCS Analyte	BRL BRL BRL Client ID: TestCode:	100 10 100 Volatile Organic Compos RPT Limit	ands by GC/MS SPK value	SW8260B	Un Bai %REC	its: ug/L tchID: 189485 Low Limit	Prep Dat Analysis High Limit RI	e: 04/	09/2014 09/2014	Run No: 2 Seq No: 4	265148 5585188
ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189485 SampleType: LCS Analyte senzene thylbenzene	BRL BRL Client ID: TestCode: Result 41.62	100 10 100 Volatile Organic Compose  RPT Limit 1.0	ands by GC/MS SPK value 50.00	SW8260B	Un Bat %REC 83.2	its: ug/L lichID: 189485 Low Limit	Prep Dat Analysis High Limit RI	e: 04/	09/2014 09/2014	Run No: 2 Seq No: 4	265148 5585188
ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189485 SampleType: LCS Analyte Benzene Ethylbenzene Saphthalene	BRL BRL Client ID: TestCode: Result 41.62 53.21	100 10 100 Volatile Organic Compos RPT Limit 1.0 1.0	SPK value 50.00 50.00	SW8260B	Un Bai %REC 83.2 106	its: ug/L chID: 189485 Low Limit 70 70	Prep Dat Analysis High Limit RI	e: 04/	09/2014 09/2014	Run No: 2 Seq No: 4	265148 5585188
ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189485 SampleType: LCS Analyte	BRL BRL Client ID: TestCode:  Result 41.62 53.21 45.29	100 10 100 Volatile Organic Compos RPT Limit 1.0 1.0 5.0	spK value 50.00 50.00 50.00	SW8260B	Un Bai %REC 83.2 106 90.6	its: ug/L chID: 189485 Low Limit 70 70 70	Prep Dat Analysis High Limit RI 130 130 130	e: 04/	09/2014 09/2014	Run No: 2 Seq No: 4	265148 5585188

BRL Below reporting limit

Rpt Lim Reporting Limit

- E Estimated (value above quantitation range)
- N Analyte not NELAC certified
- S Spike Recovery outside limits due to matrix
- H Holding times for preparation or analysis exceeded R RPD outside limits due to matrix

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Estimated value detected below Reporting Limit

Date: 16-Apr-14

Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Workorder: 1404588

ANALYTICAL QC SUMMARY REPORT

BatchID: 189485

1101500								ь	atchid:	1037			
Sample ID: LCS-189485	Client ID:				Un	its: ug/L	Pre	p Date:	04/09/20	14	Run No:	26514	8
SampleType: LCS	TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Bat	tchID: 189485	Ana	alysis Date:	04/09/20	14	Seq No:	558518	88
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	f Val	%RPD	RPD	Limit	Qual
Surr: Dibromofluoromethane	50.05	0	50.00		100	70	130						
Surr: Toluene-d8	48.35	0	50.00		96.7	70	130						
Sample ID: LCS-189485	Client ID:				Un	its: ug/L	Pre	p Date:	04/09/20	14	Run No:	26514	8
SampleType: LCS	TestCode:	Oxygenates (AES SOP O	A-11010) SW82	260B	Bat	tchID: 189485	Ana	alysis Date:	04/09/20	14	Seq No:	558592	26
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	fVal	%RPD	RPD	Limit	Qual
ert-Amyl alcohol	941.3	100	1000		94.1	70	130						
tert-Amyl methyl ether	171.9	10	200.0		85.9	70	130						
ert-Butyl Alcohol	962.7	100	1000		96.3	70	130						
Sample ID: 1404588-010AMS	Client ID:	MW-10			Uni	its: ug/L	Pre	p Date:	04/09/20	14	Run No:	265148	8
SampleType: MS	TestCode:	Volatile Organic Compo	ands by GC/MS	SW8260B	Bat	chID: 189485	Ana	lysis Date:	04/09/20	14	Seq No:	558558	89
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	fVal	%RPD	RPD	Limit	Qua
Benzene	3765	50	2500	1833	77.3	70.2	138						
Ethylbenzene	3380	50	2500	352.0	121	71.9	133						
Naphthalene	3418	250	2500	687.5	109	54.6	130						
Гoluene	6783	50	2500	5651	45.3	70	139						S
Xylenes, Total	15500	50	7500	8516	93.2	70.7	136						
Surr: 4-Bromofluorobenzene	2396	0	2500		95.8	66.2	120						
Surr: Dibromofluoromethane	2362	0	2500		94.5	79.5	121						
Surr: Toluene-d8	2343	0	2500		93.7	77	117						
Sample ID: 1404588-010AMS	Client ID:				Uni	its: ug/L	Prej	Date:	04/09/20	14	Run No:	265148	8
SampleType: MS	TestCode:	Oxygenates (AES SOP O	A-11010) SW82	260B	Bat	chID: 189485	Ana	lysis Date:	04/09/20	14	Seq No:	558612	29

Qualiflers:

- Greater than Result value
- BRL Below reporting limit
- Estimated value detected below Reporting Limit
- Rpt Lim Reporting Limit

- < Less than Result value
- E Estimated (value above quantitation range)
- N Analyte not NELAC certified
- S Spike Recovery outside limits due to matrix
- B Analyte detected in the associated method blank
- H Holding times for preparation or analysis exceeded
- R RPD outside limits due to matrix

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Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Workorder: 1404588 ANALYTICAL QC SUMMARY REPORT

BatchID: 189485

Workbruer: 1404388								В	ateniu: 103	1400	
Sample ID: 1404588-010AMS	Client ID:	MW-10			Un	its: ug/L	Pre	p Date:	04/09/2014	Run No: 2	65148
SampleType: MS	TestCode:	Oxygenates (AES SOP O	A-11010) SW8	260B	Bar	tchID: 189485	Ana	alysis Date:	04/09/2014	Seq No: 5	586129
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	fVal %RI	PD RPD I	imit Qual
tert-Amyl alcohol	59760	5000	50000		120	54.6	145				
tert-Amyl methyl ether	10040	500	10000		100	71.1	129				
tert-Butyl Alcohol	64920	5000	50000		130	50.3	149				
Sample ID: 1404588-010AMSD	Client ID:				Un	its: ug/L	Prej	p Date:	04/09/2014	Run No: 2	65148
SampleType: MSD	TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Ba	tchID: 189485	Ana	alysis Date:	04/09/2014	Seq No: 5	585592
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	fVal %RI	PD RPD I	imit Qual
Benzene	3510	50	2500	1833	67.1	70.2	138	3765	7.0	0 20	S
Ethylbenzene	3044	50	2500	352.0	108	71.9	133	3380	10	.5 20	
Naphthalene	3107	250	2500	687.5	96.8	54.6	130	3418	9.5	5 21.	ļ
Toluene	6307	50	2500	5651	26.2	70	139	6783	7.2	.7 20	S
Xylenes, Total	14120	50	7500	8516	74.7	70.7	136	15500	9.3	4 20	
Surr: 4-Bromofluorobenzene	2376	0	2500		95.0	66.2	120	2396	. 0	0	
Surr: Dibromofluoromethane	2408	0	2500		96.3	79.5	121	2362	: 0	0	
Surr: Toluene-d8	2323	0	2500		92.9	77	117	2343	0	0	
Sample ID: 1404588-010AMSD	Client ID:				Un	its: ug/L	Prej	p Date:	04/09/2014	Run No: 2	65148
SampleType: MSD	TestCode:	Oxygenates (AES SOP O	A-11010) SW82	260B	Bat	tchID: 189485	Ana	alysis Date:	04/09/2014	Seq No: 5	586132
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	fVal %RI	PD RPD L	imit Qual
ert-Amyl alcohol	55040	5000	50000		110	54.6	145	59760	8.2	2 23.	;
ert-Amyl methyl ether	9304	500	10000		93.0	71.1	129	10040	7.5	9 20	
ert-Butyl Alcohol	58470	5000	50000		117	50.3	149	64920	10.	.4 33.:	i

Qualifiers:

Greater than Result value

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Workorder: 1404588

ANALYTICAL QC SUMMARY REPORT

BatchID: 189488

Sample ID: MB-189488 SampleType: MBLK	Client ID: TestCode: Vol	atile Organic Compo	unds by GC/MS	SW8260B	Uni Bat	its: ug/L tchID: 189488		Date: lysis Date:	04/09/2 04/09/2		Run No: Seq No:		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	f Val	%RPD	RPD	Limit	Qua
Benzene	BRL	1.0											
Ethylbenzene	BRL	1.0											
Methyl tert-butyl ether	BRL	1.0											
Naphthalene	BRL	5.0											
Toluene	BRL	1.0											
Xylenes, Total	BRL	1.0											
Surr: 4-Bromofluorobenzene	43.57	0	50.00		87.1	70	130						
Surr: Dibromofluoromethane	51.71	0	50.00		103	70	130						
Surr: Toluene-d8	46.46	0	50.00		92.9	70	130						
Sample ID: MB-189488	Client ID:				Uni	its: ug/L	Prep	Date:	04/09/2	014	Run No:	265148	3
SampleType: MBLK	TestCode: Ox	ygenates (AES SOP O	A-11010) SW82	60B	Bat	tchID: 189488	Ana	lysis Date:	04/09/2	014	Seq No:	558593	4
SampleType: MBLK Analyte	TestCode: Ox	ygenates (AES SOP O	A-11010) SW82 SPK value	SPK Ref Val	Bat %REC		Ana High Limit	llysis Date: RPD Re		014 %RPD	•	558593 Limit	
								•			•		
Analyte ert-Amyl alcohol	Result	RPT Limit						•			•		
Analyte	Result BRL	RPT Limit						•			•		
Analyte ert-Amyl alcohol ert-Amyl methyl ether	Result BRL BRL	RPT Limit 100 10			%REC	Low Limit	High Limit	•		%RPD	•	Limit	Qua
Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol	Result  BRL  BRL  BRL  Client ID:	RPT Limit 100 10	SPK value		%REC	Low Limit	High Limit	RPD Re	f Val 04/09/2	%RPD	RPD	Limit 265148	Qua
Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189488	Result  BRL  BRL  BRL  Client ID:	RPT Limit 100 10 100	SPK value	SPK Ref Val	%REC	Low Limit its: ug/L tchID: 189488	High Limit	RPD Re	04/09/2 04/09/2	%RPD	RPD Run No: Seq No:	Limit 265148	Qua
Analyte cert-Amyl alcohol cert-Butyl Alcohol Sample ID: LCS-189488 SampleType: LCS	Result  BRL  BRL  BRL  Client ID:  TestCode: Vol	RPT Limit  100 10 100 atile Organic Composition	SPK value	SPK Ref Val	%REC	Low Limit its: ug/L tchID: 189488	High Limit	RPD Res	04/09/2 04/09/2	%RPD 014 014	RPD Run No: Seq No:	265148 558519	Qua
Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189488 SampleType: LCS Analyte Senzene	Result  BRL  BRL  BRL  Client ID: TestCode: Vol	RPT Limit  100 10 100 atile Organic Compose  RPT Limit	SPK value	SPK Ref Val	%REC Uni Bat	Low Limit its: ug/L tchID: 189488 Low Limit	High Limit  Prep Ana High Limit	RPD Res	04/09/2 04/09/2	%RPD 014 014	RPD Run No: Seq No:	265148 558519	Qua
Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189488 SampleType: LCS Analyte 3enzene Ethylbenzene	Result  BRL  BRL  BRL  Client ID: TestCode: Vol  Result  42.79	RPT Limit  100 10 100 atile Organic Compose  RPT Limit 1.0	SPK value  SPK value  50.00	SPK Ref Val	%REC Uni Bat %REC 85.6	Low Limit its: ug/L tchID: 189488 Low Limit 70	Prep Ana High Limit	RPD Res	04/09/2 04/09/2	%RPD 014 014	RPD Run No: Seq No:	265148 558519	Qua
Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189488 SampleType: LCS Analyte Benzene Ethylbenzene Naphthalene	Result  BRL  BRL  BRL  Client ID: TestCode: Vol  Result  42.79 52.90	RPT Limit  100 10 100 atile Organic Compose  RPT Limit  1.0 1.0	SPK value  SPK value  50.00 50.00	SPK Ref Val	%REC  Wni Bat  %REC  85.6 106	Low Limit its: ug/L tchID: 189488 Low Limit 70 70	Prep Ana High Limit  130 130	RPD Res	04/09/2 04/09/2	%RPD 014 014	RPD Run No: Seq No:	265148 558519	Qua
Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189488 SampleType: LCS Analyte	Result  BRL  BRL  Client ID: TestCode: Vol  Result  42.79 52.90 51.36	RPT Limit  100 10 100 atile Organic Compose  RPT Limit  1.0 1.0 5.0	SPK value  SPK value  50.00 50.00 50.00	SPK Ref Val	%REC  Uni Bat  %REC  85.6 106 103	Low Limit its: ug/L tchID: 189488 Low Limit 70 70 70	Prep Ana High Limit  130 130 130	RPD Res	04/09/2 04/09/2	%RPD 014 014	RPD Run No: Seq No:	265148 558519	Qua

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

E Estimated (value above quantitation range)

N Analyte not NELAC certified S Spike Recovery outside limits due to matrix H Holding times for preparation or analysis exceeded R RPD outside limits due to matrix

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Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Workorder: 1404588

ANALYTICAL QC SUMMARY REPORT

BatchID: 189488

									acciii).	1007			
Sample ID: LCS-189488	Client ID:				Un	its: ug/L	Prej	p Date:	04/09/20	)14	Run No:	265148	3
SampleType: LCS	TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Bat	tchID: 189488	Ana	alysis Date:	04/09/20	)14	Seq No:	558519	93
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	f Val	%RPD	RPD	Limit	Qual
Surr: Dibromofluoromethane	50.46	0	50.00		101	70	130						
Surr: Toluene-d8	48.87	0	50.00		97.7	70	130						
Sample ID: LCS-189488	Client ID:				Un			p Date:	04/09/20		Run No:		
SampleType: LCS	TestCode:	Oxygenates (AES SOP O	A-11010) SW82	260B	Bat	tchID: 189488	Ana	alysis Date:	04/09/20	)14	Seq No:	558592	27
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	f Val	%RPD	RPD	Limit	Qual
ert-Amyl alcohol	1008	100	1000		101	70	130						
ert-Amyl methyl ether	172.4	10	200.0		86.2	70	130						
ert-Butyl Alcohol	1038	100	1000		104	70	130						
Sample ID: 1404588-021AMS	Client ID:				Un	its: ug/L	Prej	Date:	04/09/20	)14	Run No:	265148	3
SampleType: MS	TestCode:	Volatile Organic Compo	ands by GC/MS	SW8260B	Bat	tchID: 189488	Ana	ılysis Date:	04/09/20	)14	Seq No:	558558	35
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Res	f Val	%RPD	RPD	Limit	Qual
Benzene	27160	500	25000	4170	91.9	70.2	138						
Ethylbenzene	30110	500	25000	680.0	118	71.9	133						
Vaphthalene	25870	2500	25000	2995	91.5	54.6	130						
Toluene	41790	500	25000	15980	103	70	139						
Kylenes, Total	102200	500	75000	15810	115	70.7	136						
Surr: 4-Bromofluorobenzene	23950	0	25000		95.8	66.2	120						
Surr: Dibromofluoromethane	24790	0	25000		99.1	79.5	121						
Surr: Toluene-d8	23760	0	25000		95.0	77	117						
Sample ID: 1404588-021AMS	Client ID:	MW-23			Un	its: ug/L	Prep	Date:	04/09/20	)14	Run No:	265148	3
SampleType: MS	TestCode:	Oxygenates (AES SOP O	A-11010) SW82	260B	Bat	tchID: 189488	Ana	ılysis Date:	04/09/20	14	Seq No:	558612	26
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	f Val	%RPD	RPD	Limit	Oual

Qualiflers: >

> Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Date: 16-Apr-14

Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

ANALYTICAL QC SUMMARY REPORT

Databille 189488

Workorder: 1404588								Batch	iID: 1894	38	
Sample ID: 1404588-021AMS	Client ID:				Uni	ts: ug/L	Prep	Date: 04	/09/2014	Run No: 26514	8
SampleType: MS	TestCode:	Oxygenates (AES SOP O	A-11010) SW8	260B	Bat	hID: 189488	Ana	lysis Date: 04/	/09/2014	Seq No: 55861	26
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Va	l %RPD	RPD Limit	Qual
ert-Amyl alcohol	479400	50000	500000	46630	86.6	54.6	145	•			
ert-Amyl methyl ether	92130	5000	100000		92.1	71.1	129				
ert-Butyl Alcohol	465400	50000	500000		93.1	50.3	149				
Sample ID: 1404588-021AMSD	Client ID:		•		Uni	ts: ug/L	Prep	Date: 04/	/09/2014	Run No: 26514	8
SampleType: MSD	TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Bate	hID: 189488	Ana	lysis Date: 04/	/09/2014	Seq No: 55855	88
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Va	l %RPD	RPD Limit	Qual
Benzene	25920	500	25000	4170	87.0	70.2	138	27160	4.67	20	
Ethylbenzene	29350	500	25000	680.0	115	71.9	133	30110	2.54	20	
Naphthalene	25590	2500	25000	2995	90.4	54.6	130	25870	1.07	21.4	
Toluene	39870	500	25000	15980	95.5	70	139	41790	4.71	20	
Xylenes, Total	98400	500	75000	15810	110	70.7	136	102200	3.82	20	
Surr: 4-Bromofluorobenzene	24050	0	25000		96.2	66.2	120	23950	0	0	
Surr: Dibromofluoromethane	24280	0	25000		97.1	79.5	121	24790	0	0	
Surr: Toluene-d8	23590	0	25000		94.4	77	117	23760	0	0	
Sample ID: 1404588-021AMSD SampleType: MSD	Client ID: TestCode:	MW-23 Oxygenates (AES SOP O	A-11010) SW82	260B	Uni Bate	is: ug/L chID: 189488		Date: 04/	/09/2014 /09/2014	Run No: 26514 Seq No: 55861	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	I %RPD	RPD Limit	Qual
tert-Amyl alcohol	508600	50000	500000	46630	92.4	54.6	145	479400	5.90	23.5	
tert-Amyl methyl ether	86160	5000	100000		86.2	71.1	129	92130	6.70	20	
ert-Butyl Alcohol	520600	50000	500000		104	50.3	149	465400	11.2	33.5	

Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

Date: 16-Apr-14

Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

1404588 Workorder:

ANALYTICAL QC SUMMARY REPORT

BatchID: 189490

Sample ID: MB-189490 SampleType: MBLK	Client ID: TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Un Bat	its: ug/L chID: 189490		p Date: alysis Date:	04/09/2 04/09/2		Run No: Seq No:		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	f Val	%RPD	RPD	Limit (	Qua
Benzene	BRL	1.0											
thylbenzene	BRL	1.0											
Methyl tert-butyl ether	BRL	1.0											
laphthalene	BRL	5.0											
oluene	BRL	1.0											
(ylenes, Total	BRL	1.0											
Surr: 4-Bromofluorobenzene	42.67	0	50.00		85.3	70	130						
Surr: Dibromofluoromethane	52.73	0	50.00		105	70	130						
Surr: Toluene-d8	46.71	0	50.00		93,4	70	130						
Sample ID: MB-189490	Client ID:				Un	its: ug/L	Pre	p Date:	04/09/2	2014	Run No:	265148	
SampleType: MBLK	TestCode:	Oxygenates (AES SOP O	A-11010) SW82	260B	Bat	tchID: 189490	Ana	alysis Date:	04/09/2	2014	Seq No:	5585936	•
SampleType: MBLK Analyte	TestCode:	Oxygenates (AES SOP O	SPK value	SPK Ref Val	Bat %REC		Ana High Limit	alysis Date: RPD Ref		2014 %RPD	•	5585936	
								•			•		
Analyte	Result	RPT Limit						•			•		
Analyte ert-Amyl alcohol	Result BRL	RPT Limit						•			•		
Analyte ert-Amyl alcohol ert-Amyl methyl ether	Result  BRL  BRL  BRL  Client ID:	RPT Limit 100 10	SPK value		%REC	Low Limit	High Limit	•	f Val	%RPD	•	Limit (	Qua
Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189490	Result  BRL  BRL  BRL  Client ID:	RPT Limit 100 10 100	SPK value	SPK Ref Val	%REC	Low Limit its: ug/L tchID: 189490	High Limit	RPD Ref	04/09/2	%RPD	RPD Run No: Seq No:	Limit (	Qua
Analyte ert-Amyl alcohol ert-Butyl Alcohol Sample ID: LCS-189490 SampleType: LCS	Result  BRL  BRL  BRL  Client ID: TestCode:	RPT Limit  100 10 100 Volatile Organic Compo	SPK value	SPK Ref Val	%REC	Low Limit its: ug/L tchID: 189490	High Limit	RPD Ref	04/09/2	%RPD	RPD Run No: Seq No:	Limit (265148 5585194	Qua
Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189490 SampleType: LCS Analyte	Result  BRL  BRL  BRL  Client ID: TestCode: Result	RPT Limit  100 10 100 Volatile Organic Compo	SPK value	SPK Ref Val	%REC Uni Bat	Low Limit its: ug/L chID: 189490 Low Limit	Prej Ana	RPD Ref	04/09/2	%RPD	RPD Run No: Seq No:	Limit (265148 5585194	Qua
Analyte ext-Amyl alcohol ext-Amyl methyl ether ext-Butyl Alcohol Sample ID: LCS-189490 SampleType: LCS Analyte lenzene thylbenzene	Result BRL BRL Client ID: TestCode: Result 45.73	RPT Limit  100 10 100  Volatile Organic Compo	SPK value unds by GC/MS SPK value 50.00	SPK Ref Val	%REC Uni Bat %REC 91.5	Low Limit its: ug/L chID: 189490 Low Limit 70	Prej Ana High Limit	RPD Ref	04/09/2	%RPD	RPD Run No: Seq No:	Limit (265148 5585194	Qua
Analyte ext-Amyl alcohol ext-Amyl methyl ether ext-Butyl Alcohol Sample ID: LCS-189490 SampleType: LCS Analyte lenzene thylbenzene laphthalene	Result BRL BRL Client ID: TestCode: Result 45.73 58.40	RPT Limit  100 10 100  Volatile Organic Compo  RPT Limit  1.0 1.0	SPK value  SPK value  50.00 50.00	SPK Ref Val	%REC  91.5 117	Low Limit its: ug/L chID: 189490 Low Limit 70 70	Prej Ana High Limit  130 130	RPD Ref	04/09/2	%RPD	RPD Run No: Seq No:	Limit (265148 5585194	Qua
Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189490 SampleType: LCS Analyte Senzene	Result BRL BRL Client ID: TestCode: Result 45.73 58.40 49.34	RPT Limit  100 10 100  Volatile Organic Compos  RPT Limit  1.0 1.0 5.0	SPK value  SPK value  50.00 50.00 50.00	SPK Ref Val	%REC  Uni Bat  %REC  91.5 117 98.7	Low Limit its: ug/L chlD: 189490 Low Limit 70 70 70	Prej Ana High Limit  130 130 130	RPD Ref	04/09/2	%RPD	RPD Run No: Seq No:	Limit (265148 5585194	Qua

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

- E Estimated (value above quantitation range)
- N Analyte not NELAC certified
- S Spike Recovery outside limits due to matrix
- H Holding times for preparation or analysis exceeded
- R RPD outside limits due to matrix

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Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Workorder: 1404588 ANALYTICAL QC SUMMARY REPORT

BatchID: 189490

Sample ID: LCS-189490 SampleType: LCS	Client ID: TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Un Bat	its: ug/L :chID: 189490		ep Date: nalysis Date:	04/09/201 04/09/201		Run No: 2 Seq No: 3		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val 9	6RPD	RPD 1	Limit	Qua
Surr: Dibromofluoromethane	50.17	0	50.00		100	70	130						
Surr: Toluene-d8	47.61	0	50.00		95.2	70	130						
Sample ID: LCS-189490	Client ID:				Un	-	Pr	ep Date:	04/09/201	4 1	Run No: 3	265148	
SampleType: LCS	TestCode:	Oxygenates (AES SOP O	A-11010) SW82	260B	Bat	chID: 189490	At	nalysis Date:	04/09/201	4 :	Seq No:	5585929	)
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	f Val 9	6RPD	RPD 1	Limit	Qua'
ert-Amyl alcohol	1014	100	1000		101	70	130						
ert-Amyl methyl ether	174.5	10	200.0		87.2	70	130						
ert-Butyl Alcohol	1104	100	1000		110	70	130						
Sample ID: 1404588-053AMS SampleType: MS	Client ID: TestCode:	MW-59 Oxygenates (AES SOP O	A-11010) SW82	260B	Un Bai	its: ug/L chID: 189490		ep Date: nalysis Date:	04/09/201 04/09/201		Run No: 2 Seq No: 3		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	fVal %	6RPD	RPD I	Limit	Qua
ert-Amyl alcohol	52970	5000	50000	1575	103	54.6	145						
ert-Amyl methyl ether	8350	500	10000		83.5	71.1	129						
ert-Butyl Alcohol	52150	5000	50000		104	50.3	149						
Sample ID: 1404588-053AMS SampleType: MS	Client ID: TestCode:	MW-59 Volatile Organic Compo	unds by GC/MS	SW8260B	Un Bar	its: ug/L chID: 189490		ep Date: nalysis Date:	04/09/201 04/10/201		Run No: 2 Seq No: 3		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	f Val 9	6RPD	RPD I	Limit	Qua
Allalyte						70.0	138						Τ,
Benzene	460.2	10	500.0	20.10	88.0	70.2	150						
lenzene	460.2 827.4	10 10	500.0 500.0	20.10 301.6	88.0 105	70.2 71.9	133						
<u>-</u>													
denzene Ethylbenzene	827.4	10	500.0	301.6	105	71.9	133						

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Workorder: 1404588 ANALYTICAL QC SUMMARY REPORT

BatchID: 189490

WORKOTUET: 1404388								Batenii	D; 1034	<del>5</del> 0	
Sample ID: 1404588-053AMS SampleType: MS	Client ID: TestCode:		nds by GC/MS	SW8260B	Un Bai	its: ug/L chID: 189490	•	Date: 04/09 lysis Date: 04/10	0/2014 0/2014	Run No: 26523' Seq No: 55867	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Bromofluorobenzene	460.8	0	500.0		92.2	66.2	120				
Surr: Dibromofluoromethane	474.7	0	500.0		94.9	79.5	121				
Surr: Toluene-d8	460.5	0	500.0		92.1	77	117				
Sample ID: 1404588-053AMSD SampleType: MSD	Client ID: TestCode:	MW-59 Oxygenates (AES SOP OA	-11010) SW82	260B	Un Bat	its: <b>ug/L</b> :chID: <b>189490</b>		Date: 04/09 lysis Date: 04/09	0/2014 0/2014	Run No: 265148 Seq No: 558613	_
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Amyl alcohol	58190	5000	50000	1575	113	54.6	145	52970	9.40	23.5	
tert-Amyl methyl ether	9360	500	10000		93.6	71.1	129	8350	11.4	20	
tert-Butyl Alcohol	57120	5000	50000		114	50.3	149	52150	9.09	33.5	
Sample ID: 1404588-053AMSD SampleType: MSD	Client ID: TestCode:		nds by GC/MS	SW8260B	Un Bat	its: ug/L chID: 189490	•	Date: 04/09 lysis Date: 04/10	0/2014 0/2014	Run No: 26523' Seq No: 55871	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	437.7	10	500.0	20.10	83.5	70.2	138	460.2	5.01	20	
Ethylbenzene	782.7	10	500.0	301.6	96.2	71.9	133	827.4	5.55	20	
Naphthalene	500.2	50	500.0	65.30	87.0	54.6	130	508.6	1.67	21.4	
Toluene	425.9	10	500.0		85.2	70	139	447.2	4.88	20	
Xylenes, Total	1506	10	1500		100	70.7	136	1584	5.04	20	
Surr: 4-Bromofluorobenzene	456.9	0	500.0		91.4	66.2	120	460.8	0	0	
Surr: Dibromofluoromethane	470.4	0	500.0		94.1	79.5	121	474.7	0	0	
Surr: Toluene-d8	458.5	0	500.0		91.7	77	117	460.5	0	0	

Qualifiers:

Greater than Result value

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Crawford Environmental Services

Project Name: Clouds Chevron et. al.

1404588

ANALYTICAL QC SUMMARY REPORT

BatchID: 189491

Workorder: 1404588													
Sample ID: MB-189491	Client ID:				Un	its: ug/L	Pre	Date:	04/09/2	014	Run No:	265148	
SampleType: MBLK	TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Bat	chID: 189491	Ana	lysis Date:	04/09/2	014	Seq No:	5585204	ļ
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	fVal	%RPD	RPD	Limit (	Qua
Benzene	BRL	1.0											
Ethylbenzene	BRL	1.0											
Methyl tert-butyl ether	BRL	1.0											
Naphthalene	BRL	5.0											
Toluene	BRL	1.0											
Xylenes, Total	BRL	1.0											
Surr: 4-Bromofluorobenzene	42.62	0	50.00		85.2	70	130						
Surr: Dibromofluoromethane	54.64	0	50.00		109	70	130						
Surr: Toluene-d8	46.98	0	50.00		94.0	70	130						
											D N.	265140	
Sample ID: MB-189491	Client ID:				Un	its: ug/L	Prep	Date:	04/09/2	2014	Run No:	200148	
Sample ID: MB-189491 SampleType: MBLK		Oxygenates (AES SOP O	0A-11010) SW82	260B		its: ug/L chID: 189491		Date: lysis Date:			Kun No: Seq No:		 I
		Oxygenates (AES SOP O	OA-11010) SW82	260B SPK Ref Val		chID: 189491			04/09/2		Seq No:		
SampleType: MBLK Analyte	TestCode:				Bat	chID: 189491	Ana	lysis Date:	04/09/2	014	Seq No:	5585938	
SampleType: MBLK Analyte ert-Amyl alcohol	TestCode:	RPT Limit			Bat	chID: 189491	Ana	lysis Date:	04/09/2	014	Seq No:	5585938	
SampleType: MBLK	TestCode:  Result  BRL	RPT Limit			Bat	chID: 189491	Ana	lysis Date:	04/09/2	014	Seq No:	5585938	
SampleType: MBLK  Analyte ert-Amyl alcohol ert-Amyl methyl ether	TestCode:  Result  BRL  BRL	RPT Limit 100 10 100	SPK value		Bat	Low Limit	Ana High Limit	lysis Date:	04/09/2	%RPD	Seq No:	5585938 Limit (	
SampleType: MBLK  Analyte  ert-Amyl alcohol  ert-Amyl methyl ether  ert-Butyl Alcohol	TestCode:  Result  BRL  BRL  BRL	RPT Limit 100 10 100	SPK value		Bat %REC	Low Limit	Ana High Limit	llysis Date:  RPD Ref	04/09/2 f Val 04/09/2	%RPD	Seq No: RPD	5585938 Limit (	Qua
SampleType: MBLK  Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol  Sample ID: LCS-189491	TestCode:  Result  BRL  BRL  BRL  Client ID:	RPT Limit 100 10 100	SPK value	SPK Ref Val	Bat %REC	Low Limit  Low Limit  its: ug/L  chID: 189491	Ana High Limit	RPD Ref	04/09/2 f Val 04/09/2 04/10/2	%RPD	RPD  Run No: Seq No:	5585938 Limit (	Qu.
SampleType: MBLK  Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol  Sample ID: LCS-189491 SampleType: LCS	Result BRL BRL BRL Client ID: TestCode:	RPT Limit  100 10 100 Volatile Organic Compo	SPK value	SPK Ref Val	%REC Un	Low Limit  Low Limit  its: ug/L  chID: 189491	Ana High Limit Prep Ana	RPD Ref	04/09/2 f Val 04/09/2 04/10/2	%RPD	RPD  Run No: Seq No:	5585938 Limit ( 265237 5586628	Qu.
SampleType: MBLK  Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189491 SampleType: LCS  Analyte Benzene	Result  BRL BRL BRL Client ID: TestCode: Result	RPT Limit  100 10 100 Volatile Organic Compo	SPK value	SPK Ref Val	Bat %REC  Uning Bat  %REC	Low Limit  Low Limit  its: ug/L chID: 189491  Low Limit	Ana High Limit  Prep Ana High Limit	RPD Ref	04/09/2 f Val 04/09/2 04/10/2	%RPD	RPD  Run No: Seq No:	5585938 Limit ( 265237 5586628	Qu.
SampleType: MBLK  Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189491 SampleType: LCS  Analyte Benzene Ethylbenzene	Result BRL BRL BRL Client ID: TestCode: Result 41.65	RPT Limit  100 10 100 Volatile Organic Compo	SPK value  spy GC/MS  SPK value  50.00	SPK Ref Val	WREC Unibate %REC 83.3	Low Limit  its: ug/L chID: 189491  Low Limit  70	Ana High Limit  Prep Ana High Limit	RPD Ref	04/09/2 f Val 04/09/2 04/10/2	%RPD	RPD  Run No: Seq No:	5585938 Limit ( 265237 5586628	Qu.
SampleType: MBLK  Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189491 SampleType: LCS  Analyte Benzene Ethylbenzene Naphthalene	Result BRL BRL Client ID: TestCode: Result 41.65 51.61	RPT Limit  100 10 100  Volatile Organic Compo  RPT Limit  1.0 1.0	SPK value  SPK value  50.00 50.00	SPK Ref Val	WREC Unibate WREC 83.3 103	Low Limit  its: ug/L chID: 189491  Low Limit  70 70	Prep Ana High Limit	RPD Ref	04/09/2 f Val 04/09/2 04/10/2	%RPD	RPD  Run No: Seq No:	5585938 Limit ( 265237 5586628	Qu 
SampleType: MBLK  Analyte ert-Amyl alcohol ert-Amyl methyl ether ert-Butyl Alcohol Sample ID: LCS-189491 SampleType: LCS  Analyte	Result BRL BRL Client ID: TestCode: Result 41.65 51.61 44.61	RPT Limit  100 10 100  Volatile Organic Compo  RPT Limit  1.0 1.0 5.0	SPK value  SPK value  50.00 50.00 50.00	SPK Ref Val	%REC  Un Bat  %REC  83.3 103 89.2	Low Limit  its: ug/L chID: 189491  Low Limit  70 70 70	Prep Ana High Limit  130 130 130	RPD Ref	04/09/2 f Val 04/09/2 04/10/2	%RPD	RPD  Run No: Seq No:	5585938 Limit ( 265237 5586628	Qu 

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

- N Analyte not NELAC certified
- S Spike Recovery outside limits due to matrix
- H Holding times for preparation or analysis exceeded
- R RPD outside limits due to matrix

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Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Workorder: 1404588

ANALYTICAL QC SUMMARY REPORT

BatchID: 189491

Sample ID: LCS-189491 SampleType: LCS	Client ID: TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Un Bat	its: ug/L :chID: 189491		Date: llysis Date:	04/09/20 04/10/20		Run No: Seq No:		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	f Val	%RPD	RPD	Limit	Qual
Surr: Dibromofluoromethane	48.45	0	50.00		96.9	70	130						
Surr: Toluene-d8	46.96	0	50.00		93.9	70	130						
Sample ID: LCS-189491	Client ID:				Un	its: ug/L	Prej	Date:	04/09/20	)14	Run No:	265237	
SampleType: LCS	TestCode:	Oxygenates (AES SOP O	A-11010) SW8	260B	Bat	chID: 189491	Ana	lysis Date:	04/10/20	)14	Seq No:	558663	8
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	fVal	%RPD	RPD	Limit	Qual
ert-Amyl alcohol	977.2	100	1000		97.7	70	130						
ert-Amyl methyl ether	186.7	10	200.0		93.3	70	130						
ert-Butyl Alcohol	978.6	100	1000		97.9	70	130						
Sample ID: 1404588-066AMS	Client ID:				Un	-	Pre	Date:	04/09/20	)14	Run No:		
SampleType: MS	TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Bat	chID: 189491	Ana	llysis Date:	04/09/20	)14	Seq No:	558559	8
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Re	f Val	%RPD	RPD	Limit	Qual
Benzene	4804	50	2500	3304	60.0	70.2	138						s
thylbenzene	2580	50	2500	30.00	102	71.9	133						
laphthalene	2344	250	2500	247.0	83.9	54.6	130						
'oluene	2090	50	2500	66.00	80.9	70	139						
Kylenes, Total	8192	50	7500	1031	95.5	70.7	136						
Surr: 4-Bromofluorobenzene	2313	0	2500		92.5	66.2	120						
Surr: Dibromofluoromethane	2320	0	2500		92.8	79.5	121						
Surr: Toluene-d8	2270	0	2500		90.8	77	117						
Sample ID: 1404588-066AMS	Client ID:				Un			Date:	04/09/20		Run No:		
SampleType: MS	TestCode:	Oxygenates (AES SOP C	A-11010) SW8	260B	Bat	tchID: 189491	Ana	llysis Date:	04/09/20	)14	Seq No:	558613	5
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	I ove I imit	High Limit	RPD Re	eval	%RPD	ppn	Limit	O110.

Qualifiers:

Greater than Result value

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Client:

Crawford Environmental Services

Project Name: Clouds Chevron et. al.

Workorder: 1404588

ANALYTICAL QC SUMMARY REPORT

BatchID: 189491

WOFKOTUEF: 1404388 BatchID: 108491									91	
Sample ID: 1404588-066AMS	Client ID:				Un	its: ug/L	Prep	Date: 04/0	9/2014	Run No: 265148
SampleType: MS	TestCode:	Oxygenates (AES SOP O	A-11010) SW82	260B	Bat	chID: 189491	Ana	lysis Date: 04/0	9/2014	Seq No: 5586135
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qua
ert-Amyl alcohol	55970	5000	50000	4148	104	54.6	145			
ert-Amyl methyl ether	8842	500	10000	77.00	87.6	71.1	129			
ert-Butyl Alcohol	52110	5000	50000		104	50.3	149			
Sample ID: 1404588-066AMSD	Client ID:				Un	its: ug/L	Prep	Date: 04/0	9/2014	Run No: 265148
SampleType: MSD	TestCode:	Volatile Organic Compou	nds by GC/MS	SW8260B ·	Bat	chID: 189491	Ana	lysis Date: 04/0	9/2014	Seq No: 5585600
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qua
Benzene	5480	50	2500	3304	87.0	70.2	138	4804	13.1	20
Ethylbenzene	2845	50	2500	30.00	113	71.9	133	2580	9.79	20
Naphthalene	2435	250	2500	247.0	87.5	54.6	130	2344	3.81	21.4
Γoluene	2344	50	2500	66.00	91.1	70	139	2090	11.5	20
Xylenes, Total	8936	50	7500	1031	105	70.7	136	8192	8.70	20
Surr: 4-Bromofluorobenzene	2315	0	2500		92.6	66.2	120	2313	0	0
Surr: Dibromofluoromethane	2356	0	2500		94.3	79.5	121	2320	0	0
Surr: Toluene-d8	2336	0	2500		93.4	77	117	2270	0	0
Sample ID: 1404588-066AMSD	Client ID:				Un	its: ug/L	Prep	Date: 04/0	9/2014	Run No: 265148
SampleType: MSD	TestCode:	Oxygenates (AES SOP O	A-11010) SW82	260B	Bat	chID: 189491	Ana	lysis Date: 04/0	9/2014	Seq No: 5586136
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qua
ert-Amyl alcohol	61000	5000	50000	4148	114	54.6	145	55970	8.59	23.5
ert-Amyl methyl ether	9779	500	10000	77.00	97.0	71.1	129	8842	10.1	20
ert-Butyl Alcohol	59060	5000	50000		118	50.3	149	52110	12.5	33.5

Qualifiers:

> Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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# **APPENDIX E**

**QAPP Addendum Contractor Checklist** 



tem #:	Item	Yes	No	N/A
l	Is Facility Name, Permit #, and address provided?	Yes		
2	Is UST Owner/Operator name, address, provided?	Yes		
3	Is name, address, & phone number of current property owner provided?	Yes		
1	Is the SCDHEC Certified UST Site Rehabilitation Contractor's name, address, phone number, and certification number provided?	Yes		
5	Is the name, address ,telephone number, and certification number of the well driller that installed the boring/monitoring wells provided?	Yes		
3	Is the name, address, telephone number, and certification number of the certified laboratories performing analytical analyses provided	Yes		
7	Has the facility history be summarized?			N/A
3	Has the regional geology and hydrogeology been summarized?			N/A
9	Are the receptor survey results provided as required?			N/A
10	Has the current use of the site and adjacent land been described?	Yes		
11	Has the site specific geology been described?			N/A
12	Has the primary soil type been described?			N/A
13	Have the field screening results been described?			N/A
14	Has a description of the soil sample collection and preservation been detailed?			N/A
15	Has the field screening methodology been detailed?			N/A
16	Has the monitoring well installation and development dates been provided?			N/A
17	Has the method of well development been detailed? (Table 2)			N/A
18	Has the justification been provided for the locations of the monitoring wells?			N/A
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?			N/A
20	Has the groundwater sampling methodology been detailed?	Yes		
21	Have the groundwater sampling dates and groundwater measurements been provided?	Yes		
22	Has the purging methodology been detailed?	Yes		
23	Has the volume of water purged from each well been provided along with the measurements to verify purging is complete?	Yes		
24	If free-product is present, has the thickness been provided?			N/A
25	Does the report include a brief discussion of the assessment done and the results?	Yes		

IIST P	ogrammatic QAPP Contractor Checklist		
26	Does the report include a brief discussion of the aquifer evaluation and the results?		N/A
27	Does the report include a brief discussion of the fate & transport models used?		N/A
 28	Are the site-conceptual tables included (Tier 1 risk evaluation)		N/A
29	Have the exposure pathways been analyzed (Tier 2 risk evauluation)		N/A
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 risk evaluation)		N/A
31	Have recommendations for further action been provided and explained?		N/A
32	Has the soil analytical data for the site been provided in tabular format? (Table 5)		N/A
33	Has the potentiometric data for the site been provided in tabular format?	Yes	
34	Has the current and historical laboratory data been provided in tabular format		N/A
35	Have the aquifer characteristics been provided and summarized on the appropriate form?		N/A
36	Have the Site conceptual model tables been included (Tier 1 risk evaluation)		N/A
37	Has the topographic map been provided with all the required elements?	Yes	
38	Has the site base map been provided with all the required elements?	Yes	
39	Have the CoC maps been provided?	Yes	
40	Have the potentiometric maps been provided?		, N/A
41	Have the geologic cross-sections been provided		N/A
42	Have maps showing the predicted migration of the CoCs through time been provided?		N/A
43	Has the site survey been provided and include all necessary elements? (Appendix A)		N/A
44	Have the sampling logs, chain of custody forms and analytical data package been included with all elements? (Appendix B)	Yes	
45	Is the laboratory performing the analyses properly certified? (Appendix B)	Yes	
46	Has the tax map been included with all necessary elements? (Appendix C)		N/A
47	Have the soil/boring field screening logs been provided? (Appendix D)		N/A
48	Have the well completion logs been provided? (Appendix E)		N/A
49	Have the aquifer evaluation forms,data, graphs, equations,etc. been provided? (Appendix F)		N/A
50	Have the disposal manifests been provided? (Appendix G)	Yes	
51	Has a copy of the local zoning regulations been provided? (Appendix H)		N/A

UST Pro	grammatic QAPP Contractor Checklist		
52	Has all fate and transport modeling been provided? (Appendix I)		N/A
	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)		N/A
54	Has a copy of this form been attached to the final report and are explainations for any missing or incomplete data been provided?	Yes	
Comme	nts:		

# **TABLES**

Table 1: Well Construction and Historical Groundwater Elevation Summary
Table 2: Groundwater Laboratory Analytical Result Summary
Table 3: Site Specific Target Levels



Facility Name:				sity Mart & Clouds		U	IST Permit I			777 / 12352
Address:	236			lumbia, South Ca			Project Nu		7.0	547
	Well Depth		ened	truction and H	Date	Depth to	Depth to	Summary Product	Product	Groundwater
Monitor Well	(ft)		ened ervai	(ft)	Measured	Product (ft)	Water (ft)	Thickness (ft)	Elevation (ft)	Elevation (ft)
MW-1	27	17	27	93.89	4/2/2014	NA NA	DRY	NA	NA NA	DRY
MW-2	30	20	30	94.70	4/2/2014	NA	21.12	NA	NA .	73.58
MW-3	29	19	29	94.45	4/2/2014	NA NA	21.40	NA NA	NA NA	73.05
MW-4 MW-5	28 26	18 16	28 26	94.85 95.26	4/2/2014 4/2/2014	NA NA	21.31 DRY	NA NA	NA NA	73.54 DRY
MW-6	30	20	30	94.96	4/3/2014	NA NA	22.61	NA NA	NA NA	72.35
MW-7	30	20	30	95.93	4/3/2014	NA NA	23.02	NA NA	NA NA	72.91
MW-8	28	18.5	28	94.79	4/3/2014	NA	19.95	NA	NA	74.84
MW-9	30	20	30	92.30	4/2/2014	NA	20.60	NA	NA	71.70
MW-10 MW-11	28 30	18	28 nown	85.98 88.46	4/1/2014 4/2/2014	NA NA	17.69 18.61	NA NA	NA NA	68.29
MW-12	24.65		nown	72.80	4/2/2014	NA NA	4.20	NA NA	NA NA	69.85 68.60
MW-13	30.1		nown	80.44	4/1/2014	NA NA	11.13	NA NA	NA NA	69.31
MW-15	25	15	25	86.44	4/1/2014	16.60	16.00	0.60	69.84	70.88*
MW-16	25	15	25	88.19	4/2/2014	NA NA	17.54	NA NA	NA NA	70.65
MW-17 MW-18	22 30	20 20	30 30	92.45 94.81	4/2/2014 4/2/2014	NA NA	22.00 23.68	NA NA	NA NA	70.45 71.13
MW-19	30	20	30	93.96	4/3/2014 4/3/2014	NA NA	23.33	NA NA	NA NA	71.13
MW-20	25	15	25	94.12	4/3/2014	NA NA	21.95	NA NA	NA NA	72.17
MW-22	30	20	30	94.25	4/3/2014	NA.	21.11	NA	NA	73.14
MW-23	30	20	30	94.43	4/3/2014	NA NA	23.65	NA NA	NA NA	70.78
MW-25 MW-26	25.6 30		nown	93.09 95.96	4/1/2014 4/3/2014	NA NA	19.71 20.01	NA NA	NA NA	73.38 75.95
MW-27	30	15	30	91.40	4/1/2014	NA NA	14.65	NA NA	NA NA	76.75
MW-28	30	15	30	91.46	4/1/2014	NA	15.63	NA NA	NA NA	75.83
MW-29	30	15	30	91.09	4/1/2014	NA	15.51	NA	NA	75.58
MW-30	30	15	30	92.77	4/1/2014	NA NA	20.50	NA	NA.	72.27
MW-31 MW-32	35 30	20 15	35 30	95.20 92.87	4/2/2014 4/2/2014	NA NA	24.41 21.28	NA NA	NA NA	70.79 71.59
MW-33	35	20	35	93.84	4/1/2014	NA NA	23.18	NA NA	NA NA	70.66
MW-34	35	20	35	94.77	4/1/2014	NA	24.06	NA	NA	70.71
MW-35	35	20	35	93.71	4/1/2014	NA	21.35	NA	NA	72.36
MW-36	35	20	35	93.89	4/1/2014	NA NA	22.84	NA NA	NA NA	71.05
MW-37 MW-38	35 35	20 20	35 35	93.78 95.53	4/1/2014 4/1/2014	NA NA	22.24 24.61	NA NA	NA NA	71.54 70.92
MW-39	35	20	35	96.19	4/2/2014	NA NA	25.59	NA NA	NA NA	70.60
MW-40	35	20	35	95.69	4/2/2014	NA	25.29	NA	NA .	70.40
MW-41	35	20	35	94.85	4/1/2014	NA	24.70	NA NA	NA	70.15
MW-42 MW-43	35 40	20	35 40	95.81 95.15	4/1/2014 4/2/2014	NA NA	25.35	NA NA	NA NA	70.46
MW-44	31	16	31	94.57	4/1/2014	NA NA	24.00 24.42	NA NA	NA NA	71.15 70.15
MW-45	30	15	30	92.51	4/1/2014	NA NA	21.22	NA NA	NA NA	71.29
MW-46	35	20	35	94.50	4/1/2014	NA	23.55	NA	NA	70.95
MW-48	30	15	30	89.95	4/2/2014	NA	19.70	NA .	NA .	70.25
MW-49 MW-50	30 30	15 15	30 30	88.18 84.09	4/2/2014 4/2/2014			e to Access - Lo e to Access - Lo		
MW-51	35	20	35	93.91	4/2/2014 4/2/2014	NA	21.23	NA NA	NA NA	72.68
MW-53	20	5	20	79.60	4/3/2014	NA NA	9.60	NA NA	NA NA	70.00
MW-54	20	5	20	77.58	4/1/2014	NA	11.31	NA	NA	66.27
MW-55	14	4	14	71.22	4/3/2014	NA NA	2.51	NA NA	NA NA	68.71
MW-56 MW-58	20 19	5	20 19	76.39 76.37	4/3/2014 4/2/2014	NA NA	5.12	NA Abandoned	NA NA	71.27
MW-59	17	2	17	68.02	4/2/2014	NA NA	6.05	NA NA	NA NA	61.97
MW-60	14	4	14	67.94	4/2/2014			Unable to Loc		
MW-62	35	20	35	94.05	4/1/2014	NA NA	22.32	NA	NA	71.73
MW-63	35	20	35	94.65	4/2/2014	NA	23.07	NA le to Locate :: Pr	NA NA	71.58
MW-65 MW-67	35 35	20 20	35 35	94.04 96.10	4/2/2014 4/1/2014	NA NA	24.44	le to Locate - Pa	NA NA	71.66
MW-70	35	20	35	95.49	4/2/2014	NA NA	24.70	NA NA	NA NA	70.79
MW-5AR	28	18	28	94.18	4/1/2014	NA	21.24	NA	NA	72.94
PW-1R	50	45	50	93.75	4/3/2014	NA NA	23.11	NA	NA_	70.64
DW-1	70 75	65	70	94.66	4/2/2014	NA NA	45.00	NA NA	NA NA	49.66
DW-2 DW-3	75 52	70 47	75 52	94.02 93.75	4/2/2014 4/3/2014	NA NA	44.34 24.40	NA NA	NA NA	49.68 69.35
DW-4	110	105	110	93.79	4/3/2014	NA NA	44.60	NA NA	NA NA	49.19
DW-5	70	65	70	93.74	4/1/2014	NA	44.22	NA	NA NA	49.52
DW-6	70	65	70	95.90	4/1/2014	NA	45.86	NA	NA	50.04

					Table 1							
Facility Name:	Handy P	antry #6	5 / Unive	sity Mart & Clouds	s Chevron	- L	J\$T Permit I	D:	07584 / 07777 / 1235			
Address:	2367 Taylor Street Columbia, South Carolina CES Project Number: 7.0547											
		We	II Cons	truction and H	listorical Gr	oundwater l	Elevation	Summary				
Monitor Well	Well Depth	Scre	ened	Top of Casing	Date	Depth to	Depth to	Product	Product	Groundwater		
MOUTO VVEI	(ft)	Inte	erval	(ft)	Measured	Product (ft)	Water (ft)	Thickness (ft)	Elevation (ft)	Elevation (ft)		
DW-7	55	50	55	72.79	4/3/2014	NA .	24.00	NA NA	NA	48.79		
DW-8	55	50	55	68.63	4/2/2014			Abandoned				
DW-9	65	60	65	76.47	4/2/2014	NA	25.00	NA NA	NA	51.47		

INA = Information not available

\* = GW Elevation Corrected for The Presence of Free Product n/a = not applicable

CRAWFORD ENVIRONMENTAL

acility Name: Address:	Handy Pantry : 2367 Taylor St	treet Columbi	a, South Ca	louds Chevron rolina	Table 2 ry Analytical R	US Crawford F <b>esuit Summ</b>	roject No.	07584	4 / 07777 / 1: 7.0547	2352
Well ID:	Date:	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	Naphthalene	TAA	TAME	TBA
MW-1	4/2/2014	]				Dry				
MW-2	4/2/2014	170	41	200	960	320	150	230	1	6.8
MW-3	4/2/2014	6900	18000	1200	16000	1800	600	980	560.000	,340
MW-4	4/2/2014	<1	<1	<1	<1	3.5	<5	<100	10.000	<100
MW-5	4/2/2014					_ Dry				
MW-6	4/3/2014	2.6	<1	2.4	10	2.5	4.2	<100	<10	<100
MW-7	4/3/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100
MW-8	4/3/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100
MW-9	4/2/2014	830	7500	1700	14000	50	590	1700	5000	5
MW-10	4/1/2014	1800	5700	350	8500	50	690	5000	500,000	5000
MW-11	4/2/2014	2.3	4.1	11	4.1	<1	4.4	120	<10	<100
MW-12	4/2/2014	2.9	0.67	1.6	0.91	18	4.7	630	9.300	<100
MW-13	4/1/2014	0.62	8.8	4.5	86	<1	31	10	<10	<100
MW-15	4/1/2014					t of Free Produ				
MW-16	4/2/2014	<1	<1	<1	<1	<1	3.4	<100	<10	<100
MW-17	4/2/2014	280	5100	450	13000	50	850	2200	500,000	5000
MW-18	4/2/2014	1900	7200	630	8300	340	370	4900	70.000	5000
MW-19	4/3/2014	300	1800	490	12000	50	900	610		
MW-20	4/3/2014	1800	11000	460	12000				500.000	500
MW-22	4/3/2014					50	960	3100	65,000	5000
MW-23		5700	12000	880	23000	50	990	3600	500.000	5000
	4/3/2014	4200	16000	880	19000	120	1100	5900	500.000	5000
MW-25	4/1/2014	5.5	200	320	4400	<1	1300	170	<10	<100
MW-26	4/3/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100
MW-27	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100
MW-28	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100
MW-29	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10
MW-30	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10
MW-31	4/2/2014	0.9	<1	<1	<1	2.7	<5	59	<10	<10
MW-32	4/2/2014	0.94	<1	1.9	2.4	<1	6.6	170	<10	<100
MW-33	4/1/2014	560	5200	2500	6900	50	670	4100	500.000	5000
MW-34	4/1/2014	<1	<1	<1	<1	<1	<5	39	<10	<100
MW-35	4/1/2014	3700	4300	2000	6200	160	550	5600	54,000	5000
MW-36	4/1/2014	5.1	<1	38	<1	<1	55	96	<10	<100
MW-37	4/1/2014	<1	<1	<1	<1	<1	3.7	<100	<10	<100
MW-38	4/1/2014	<u> &lt;1</u>	<1	<1	<1	<1	<5	<100	<10	<100
MW-39	4/2/2014	<1	3.2	2.2	14	<1	3.3	<100	<10	<100
MW-40	4/2/2014	5.8	14	2	580	<1	24	<100	<10	<100
MW-41	4/1/2014	<1	<1	<1	<u> </u>	<del>- 7</del>	<5	<100	<10	<100
MW-42	4/1/2014	<del>  'i</del>	<1	<1	<1	<1				
MW-43	4/2/2014	<del>  2 </del>	<1	<1	<1		<5	<100	<10	<10
						<1	<5	<100	<10	<10
MW-44	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10
MW-45	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10
MW-46	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10
MW-48	4/2/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10
MW-49	4/2/2014					ccess - Locked				
MW-50	4/2/2014	L			Unable to A	cess - Locked	Gate			
MW-51	4/2/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10
MW-53	4/3/2014	<1	<1	<1	<1	<1	4.1	<100	<10	<10
MW-54	4/1/2014	<1	<1	<1	<1	9.6	<b>&lt;</b> 5	<100	6.700	<10
MW-55	4/3/2014	10	1	3.5	<1	24	3.9	98	6.400	<10
MW-56	4/3/2014	<1	<1	<1	<1	<1	<5	50	<10	<10
MW-58	4/2/2014	L			A	bandoned				
MW-59	4/2/2014	28	2.8	300	6.4	130	45	2600	42.000	160
MW-60	4/2/2014	1			Unal	ole to Locate				
MW-62	4/1/2014	0.86	<1	<1	<1	3	3.3	260	<10	<10
MW-63	4/2/2014	<1	<1	<1	<1	<1	5	120	<10	<10
MW-65	4/2/2014	<del> </del>	•			ocate - Paved o			0	-10
MW-67	4/1/2014	<1	<1	<1	<1	<1	5	<100	<10	<10
MW-70	4/2/2014	<1	<1	<1	<1	<1	5	<100	<10	<10
MW-5AR	4/1/2014	12000	13000	2400	13000	70	1000	<5000		_
PW-1R	4/3/2014	460	3400	320					160.000	<500
DW-1		-			9200	<50	<250	710	<500	<500
	4/2/2014	0.45	1.2	1.7	7.2	<1.0	<5.0	<100	<10	<10
DW-2	4/2/2014	<1.0	<1.0	<1.0	<1.0	7.1	4.1	<100	<10	<10
DW-3	4/3/2014	9800	22000	3700	17000	990	780	10000	190.000	<500
DW-4	4/3/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10
DIAL E	4/1/2014	3300	68	37	1000	940	81	4300	83.000	<10
DW-5 DW-6	4/1/2014	8.5	1.2	1.6	7.2			7000	00.000	

			_		Table 2			-			
Facility Name:				louds Chevron		_	ST	07584 / 07777 / 12352 7.0547			
Address:	Address: 2367 Taylor Street Columbia, South Carolina Crawford Project No.  Groundwater Laboratory Analytical Result Summary										
			Ouridwar	ei Laborato	y Allalyucai ix	esuit Suiiiii	iaiy				
Well ID:	Date:	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	Naphthalene	TAA	TAME	TBA	
DW-7	4/3/2014	0.52	0.46	<1.0	1.4	2.6	4.2	<100	<10	<100	
DW-8	4/2/2014				Al	bandoned					
DW-9	4/2/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100	
SW-1	4/2/2014	42	6.5	350	9.500	100					

BDL= Below Detectable Limit RBSL= Risk Based Screening Levels NE= Not Established

1,2 DCA = 1,2 Dichloroethane
J = Estimated value detected below reporting limit

	Facility Name:			ly Pantry #65 / U 2367 Taylor Stree							IST Project No.	07584 / 07777 / 12352 7.0547
				Sit	te Specifi	c Target Lev	el Summ	arv			•	
	·			-	Xvienes	J Taigot Lov	or outtime	<u>,</u>				Т
Well ID:	Item	Benzene	Toluene	Ethylbenzene	(Total)	MTBE	Naphth	TAA	TAME	TBA	Total	
	Initial	140.0	280.0	56.0	460.0	380.0	54.0	200.0	9.2	140.0	1719.2	
	SSTL	77.0	280.0	56.0	460.0	380.0	54.0	200.0	9.2	140.0	1656.2	1
	Initial > SSTL	63.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.0	1
MW-2	Subsequent	170.0	41.0	200.0	960.0	320.0	150.0	230.0	1.0	6.8	2078.8	-1269.84%
	SSTL	77.0	280.0	56.0	460.0	380.0	54.0	200.0	9.2	140.0	1656.2	1
	Subsequent > SSTL	93.0	0.0	144.0	500.0	0.0	96.0	30.0	0.0	0.0	863.0	
	Initial	3000.0	7400.0	260.0	4500.0	3300.0	260.0	2000.0	340.0	1300.0	22360.0	<del></del>
	SSTL	111.0	7400.0	260.0	4500.0	1976.0	108.0	2000.0	340.0	1300.0	17995.0	1
	Initial > SSTL	2889.0	0.0	0,0	0.0	1324.0	152.0	0.0	0.0	0.0	4365.0	1
MW-3	Subsequent	6900.0	18000.0	1200.0	16000.0	1800.0	600.0	980.0	560.0	340.0	46380.0	-600%
	SSTL	111.0	7400.0	260.0	4500.0	1976.0	108.0	2000.0	340.0	1300.0	17995.0	1
	Subsequent > SSTL	6789.0	10600.0	940.0	11500.0	0.0	492.0	0.0	220.0	0.0	30541.0	1
	Initial	50.0	50.0	50.0	30.5	946.0	50.0	1000.0	100.0	1000.0	3276.5	
	SSTL	50.0	50.0	50.0	30.5	946.0	50.0	1000.0	100.0	1000.0	3276.5	1
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MW-5	N-5 Subsequent					Dry						Dry
	SSTL	50.0	50.0	50.0	30.5	946.0	50.0	1000.0	100.0	1000.0	3276.5	
	Subsequent > SSTL					Dry					_	1
	Initial	4100.0	27000.0	2500.0	19000.0	150.0	960.0	1600.0	2000.0	20000.0	77310.0	
	SSTL	35.0	7134.0	2500.0	19000.0	150.0	68.0	809.0	270.0	15628.0	45594.0	1
MW-9	Initial > SSTL	4065.0	19866.0	0.0	0.0	0.0	892.0	791.0	1730.0	4372.0	31716.0	1
MVV-9	Subsequent	830.0	7500.0	1700.0	14000.0	50.0	590.0	1700.0	5000.0	5000.0	36370.0	77%
	SSTL	35.0	7134.0	2500.0	19000.0	150.0	68.0	809.0	270.0	15628.0	45594.0	1
	Subsequent > SSTL	795.0	366.0	0.0	0.0	0.0	522.0	891.0	4730.0	0,0	7304.0	1
	Initial	740.0	7800.0	2500.0	15000.0	2500.0	950.0	50000.0	5000.0	50000.0	134490.0	
	SSTL	24.0	7800.0	2500.0	15000.0	294.0	53.0	793.0	707.0	11042.0	38213.0	1
MW-10	Initial > SSTL	716.0	0.0	0.0	0.0	2206.0	897.0	49207.0	4293.0	38958.0	96277.0	1
M: AA- 10	Subsequent	1800.0	5700.0	350.0	8500.0	50.0	690.0	5000,0	500.0	5000.0	27590.0	93%
	SSTL	24.0	7800.0	2500.0	15000.0	294.0	53.0	793.0	707.0	11042.0	38213.0	1
	Subsequent > SSTL	1776.0	0.0	0.0	0.0	0.0	637.0	4207.0	0.0	0.0	6620.0	1
	Initial	1.7	5.0	11.0	5.0	5.6	4.7	370.0	1.5	19.0	423.5	
	SSTL	1.7	5.0	11.0	5.0	5.6	4.7	370.0	1.5	19.0	423.5	1
MW-12	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-36140%
WIVY- 12	Subsequent	2.9	0.7	1.6	0.9	18.0	4.7	630.0	9.3	100.0	768.1	-36140%
	SSTL	1.7	5.0	11.0	5.0	5.6	4.7	370.0	_ 1.5	19.0	423.5	
	Subsequent > SSTL	1.2	0.0	0.0	0.0	12.4	0.0	260.0	7.8	81.0	362.4	1
	Initial					Free Prod	uct					
	SSTL	16.0	3198.0	3700.0	21680.0	730.0	45.0	492.0	199.0	5838.0	35898.0	1
MW-15	Initial > SSTL											]
M AA- 10	Subsequent					Free Prod	uct					Free Product
	SSTL	16.0	3198.0	3700.0	21680.0	730.0	45.0	492.0	199.0	5838.0	35898.0	1
	Subsequent > SSTL										0.0	1

									i			
						Table 3						
	Facility Name:			iy Pantry #65 / U							JST	07584 / 07777 / 12352 7.0547
	Address:		•	2367 Taylor Stre						Crawtord	Project No.	7.0547
				Si		c Target Lev	ei Summ	ary				
\A(-1) ID.					(Total)	MTBE	Naphth	TAA	TAME	TBA	Total	ł
Well ID:	Item	Benzene	Toluene	Ethylbenzene	,			9400.0	2000.0	20000.0		
	initial	1400.0	26000.0	2500.0	23000.0	1000.0	1000.0				86300.0	
	SSTL	32.0	6631.0	2500.0	21680.0	1000.0	66.0 934.0	773.0 8627.0	263.0	14286.0 5714.0	47231.0	
MW-17	Initial > SSTL	1368.0 280.0	19369.0 5100.0	0.0 450.0	1320.0 13000.0	0.0 50.0	850.0	2200.0	1737.0 500.0	5000.0	39069.0 27430.0	93%
	Subsequent SSTL	32.0	6631.0	2500.0	21680.0	1000.0	66.0	773.0	263.0	14286.0	47231.0	
		248.0	0.0	0.0	0.0	0.0	784.0	1427.0	237.0	0.0	2696.0	
	Subsequent > SSTL	1900.0	7200.0	630.0	8300.0	340.0	370.0	4900.0	70.0	5000.0	28710.0	
	Initial	40.0	19326.0	3700.0	21680.0	4260.0	348.0	938.0	4989.0	54462.0	109743.0	
	SSTL Initiat > SSTL	1860.0	0.0	0.0	0.0	0.0	22.0	3982.0	0.0	0.0	5844.0	-
MW-18	Subsequent	1900.0	7200.0	630.0	8300.0	340.0	370.0	4900.0	70.0	5000.0	28710.0	- 0%
	SSTL	40.0	19326.0	3700.0	21680.0	4260.0	348.0	938.0	4989.0	54462.0	109743.0	1
	Subsequent > SSTL	1860.0	0.0	0.0	0.0	0.0	22.0	3982.0	0.0	0.0	5844.0	1
	Initial	300.0	1800.0	490.0	12000.0	50.0	900.0	610.0	500.0	5000.0	21650.0	
	SSTL	54.0	11081.0	3700.0	21680.0	16080.0	86.0	1065.0	320.0	26814.0	80880.0	1
	Initial > SSTL	246.0	0.0	0.0	0.0	0.0	814.0	0.0	180.0	0.0	1240.0	1
MW-19	Subsequent	300.0	1800.0	490.0	12000.0	50.0	900.0	610.0	500.0	5000.0	21650.0	0%
	SSTL	54.0	11081.0	3700.0	21680.0	16080.0	86.0	1085.0	320.0	26814.0	80880.0	
	Subsequent > SSTL	246.0	0.0	0.0	0.0	0.0	814.0	0.0	180.0	0.0	1240.0	1
	Initial	412.0	2930.0	728.0	8820.0	88.7	817.0	2850.0	200.0	2000.0	18845.7	
	SSTL	83.0	2930.0	728.0	8820.0	88.7	108.0	1403.0	200.0	2000.0	16360.7	
	Initial > SSTL	329.0	0.0	0.0	0.0	0.0	709.0	1447.0	0.0	0.0	2485.0	
MW-20	Subsequent	1800.0	11000.0	460.0	11000.0	50.0	960.0	3100.0	65.0	5000.0	33435.0	-605%
	SSTL	83.0	2930.0	728.0	8820.0	88.7	108.0	1403.0	200.0	2000.0	16360.7	1
	Subsequent > SSTL	1717.0	8070.0	0.0	2180.0	0.0	852.0	1697.0	0.0	3000.0	17516.0	
	Initial	3300.0	17000.0	2900.0	20000.0	1000.0	640.0	6200.0	130.0	20000.0	71170.0	
	SSTL	90.0	17000.0	2900.0	20000.0	1000.0	112.0	1469.0	130.0	20000.0	62701.0	
	Initial > SSTL	3210.0	0.0	0.0	0.0	0.0	528.0	4731.0	0.0	0.0	8469.0	1
MW-22	Subsequent	5700.0	12000.0	880.0	23000.0	50.0	990.0	3600.0	500.0	5000.0	51720.0	-42%
	SSTL	90.0	17000.0	2900.0	20000.0	1000.0	112.0	1469.0	130.0	20000.0	62701.0	
	Subsequent > SSTL	5610.0	0.0	0.0	3000.0	0.0	878.0	2131.0	370.0	0.0	11989.0	
	Initial	4200.0	16000.0	880.0	19000.0	120.0	1100.0	5900.0	500.0	5000.0	52700.0	
	SSTL	72.0	14880.0	3700.0	21680.0	33368.0	100.0	1279.0	359.0	38475.0	113913.0	
1.00 CO	Initial > SSTL	4128.0	1120.0	0.0	0.0	0.0	1000.0	4621.0	141.0	0.0	11010.0	1
MW-23	Subsequent	4200.0	16000.0	880.0	19000.0	120.0	1100.0	5900.0	_500.0	5000.0	52700.0	0%
	SSTL	72.0	14880.0	3700.0	21680.0	33368.0	100.0	1279.0	359.0	38475.0	113913.0	1
	Subsequent > SSTL	4128.0	1120.0	0.0	0.0	0.0	1000.0	4621.0	141.0	0.0	11010.0	1
	Initial	5000.0	3000.0	1900.0	23000.0	5000.0	5000.0	100000.0	10000.0	100000.0	252900.0	
	SSTL	104.0	3000.0	1900.0	23000.0	5000.0	121.0	1612.0	415.0	60494.0	95646.0	1
MW-25	Initial > SSTL	4896.0	0.0	0.0	0.0	0.0	4879.0	98388.0	9585.0	39506.0	157254.0	100%
IVIVV-20	Subsequent										0.0	100%
	SSTL	104.0	3000.0	1900.0	23000,0	5000.0	121.0	1612.0	415.0	60494.0	95646.0	]
	Subsequent > SSTL										0.0	1

						Table 3			_			
	Facility Name:			ly Pantry #65 / U							JST	07584 / 07777 / 1235
	Address:		:	2367 Taylor Stree	et Columbia,	South Carolina	a			Crawford	Project No.	7.0547
				Sit	te Specifi	c Target Lev	rei Summ	ary				
					Xylenes							
Well ID:	ltem	Benzene	Toluene	Ethylbenzene	(Total)	MTBE	Naphth	TAA	TAME	TBA	Total	
	Initial	57.0	90.0	520.0	250.0	12.0	210.0	510.0	50.0	500.0	2199.0	
	SSTL	51.0	90.0	520.0	250.0	12.0	210.0	510.0	50.0	500.0	2193.0	
	Initial > SSTL	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	1
MW-31	Subsequent	5.5	200.0	320.0	4400.0	1.0	1300.0	170.0	10.0	100.0	6506.5	-89067%
	SSTL	51.0	90.0	520.0	250.0	12.0	210.0	510.0	50.0	500.0	2193.0	ĺ
	Subsequent > SSTL	0.0	110.0	0.0	4150.0	0.0	1090.0	0.0	0.0	0.0	5350.0	1
	Initial	520.0	7200.0	1500.0	7200.0	500.0	410.0	3200.0	1000.0	10000.0	31530.0	
	SSTL	53.0	7200.0	1500.0	7200.0	500.0	410.0	1136.0	1000.0	10000.0	28999.0	-87%
	Initial > SSTL	467.0	0.0	0.0	0.0	0.0	0.0	2064.0	0.0	0.0	2531.0	
VIVV-33	Subsequent	560.0	5200.0	2500.0	6900.0	50.0	670.0	4100.0	500.0	5000.0	25480.0	
	SSTL	53.0	7200.0	1500.0	7200.0	500.0	410.0	1136.0	1000.0	10000.0	28999.0	i
	Subsequent > SSTL	507.0	0.0	1000.0	0.0	0,0	260.0	2964.0	0.0	0.0	4731.0	1
	Initial	4400.0	2000.0	1700.0	3500.0	300.0	580.0	5300.0	51.0	5000.0	22831.0	
	SSTL	56.0	2000.0	1700.0	3500.0	300.0	542.0	1181.0	51.0	5000.0	14330.0	-57%
MW-35	Initial > SSTL	4344.0	0.0	0.0	0.0	0.0	38.0	4119.0	0.0	0.0	8501.0	
	Subsequent	3700.0	4300.0	2000.0	6200.0	160.0	550.0	5600.0	54.0	5000.0	27564.0	1 -5/%
	SSTL	56.0	2000.0	1700.0	3500.0	300.0	542,0	1181.0	51.0	5000.0	14330.0	1
	Subsequent > SSTL	3644.0	2300.0	300.0	2700.0	0.0	8.0	4419.0	3.0	0.0	13374.0	
	Initiai	240.0	34.0	270.0	240.0	11.0	220.0	850.0	50.0	44.0	1959.0	
	SSTL	90.0	34.0	270.0	240.0	11.0	220.0	850.0	50.0	44.0	1809.0	1
VIW-37	Initial > SSTL	150.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	150.0	63%
NIVV-31	Subsequent	1.0	1.0	1.0	1.0	1.0	3.7	100.0	10.0	100.0	218.7	] 63%
	SSTL	90.0	34.0	270.0	240.0	11.0	220.0	850.0	50.0	44.0	1809.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	56.0	1
	initiai	13.0	1300.0	460.0	4200.0	250.0	330.0	5000.0	500.0	5000.0	17053.0	
	SSTL	13.0	1300.0	460.0	4200.0	250.0	330.0	1607.0	500.0	5000.0	13660.0	
WW-39	initlal > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	3393.0	0.0	0.0	3393.0	100%
MAA-29	Subsequent	1.0	3.2	2.2	14.0	1.0	3.3	100.0	10.0	100.0	234.7	] 100%
	SSTL	13.0	1300.0	460.0	4200.0	250.0	330.0	1607.0	500.0	5000.0	13660.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Initial	290.0	2900.0	650.0	7100.0	500.0	530.0	10000.0	1000.0	10000.0	32970.0	
i	SSTL	113.0	2900.0	650.0	7100.0	500.0	530.0	1876.0	1000.0	10000.0	24669.0	1
W-40	initial > SSTL	177.0	0.0	0.0	0.0	0.0	0.0	8124.0	0.0	0.0	8301.0	100%
1111-10	Subsequent	5.8	14.0	2.0	580.0	1.0	24.0	100.0	10.0	100.0	836.8	1 100%
	SSTL	113.0	2900.0	650.0	7100.0	500.0	530.0	1876.0	1000.0	10000.0	24669.0	1
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Initial	260.0	1000.0	1100.0	1000.0	1000.0	420.0	20000.0	2000.0	20000.0	46780.0	
	SSTL	257.0	1000.0	1100.0	1000.0	1000.0	420.0	3234.0	2000.0	20000.0	30011.0	]
MW-41	Initial > SSTL	3.0	0.0	0.0	0.0	0.0	0.0	16766.0	0.0	0.0	16769.0	100%
	Subsequent	1.0	1.0	1.0	1,0	1.0	5.0	100.0	10.0	100.0	220.0	
	SSTL	257.0	1000.0	1100.0	1000.0	1000.0	420.0	3234.0	2000.0	20000.0	30011.0	0
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	L

	Facility Name: Address:			iy Pantry #65 / U 2367 Taylor Stre							JST Project No.	07584 / 07777 / 12352 7.0547							
				Si		c Target Lev	vel Summ	ary											
Well ID:	item	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	Naphth	TAA	TAME	TBA	Total								
11011110.	Initial	5.0	5.0	5.0	5.0	5.0	5.0	100.0	10.0	100.0	240.0								
	SSTL	5.0	5.0	5.0	5.0	5.0	5.0	110.0	2.0	14.0	156.0								
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	86.0	94.0								
MW-54	Subsequent	1.0	1.0	1.0	1.0	9.6	5.0	100.0	6.7	100.0	225.3	-1%							
	SSTL	5.0	5.0	5.0	5.0	5.0	5.0	110.0	2.0	14.0	156.0	•							
	Subsequent > SSTL	0.0	0.0	0.0	0.0	4.6	0.0	0.0	4.7	86.0	95.3	1							
	Initial	4.8	25.0	20.0	25.0	93.0	11.0	1800.0	15.0	100.0	2093.8								
	SSTL	4.8	25.0	20.0	25.0	51.0	11.0	279.0	15.0	100.0	530.8								
	Initial > SSTL	0.0	0.0	0.0	0.0	42.0	0.0	1521.0	0.0	0.0	0.0								
MW-58	Subsequent	0.0	0.0	0.0		Abando		102.1.0	0.0	0.0	0.0	Abandoned							
	SSTL	4.8	25.0	20.0	25.0	51.0	11.0	279.0	15.0	100.0	530.8								
	Subsequent > SSTL	7.0	20.0	20.0	20.0	Abando				100.0	000.0								
	Initial	420.0	398.0	234.0	262.0	16,4	168.0	648.0	50.0	500.0	2696,4								
	SSTL	326.0	398.0	234.0	262.0	16.4	168.0	648.0	50.0	500.0	2602.4								
	Initial > SSTL	94.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
MW-65	Subsequent	51.5		0.0		able to Locate			0.0	0.0	J	Unable to Locate							
	SSTL	326.0	398.0	234.0	262.0	16.4	168.0	648.0	50.0	500.0	2602.4								
	Subsequent > SSTL					able to Locate						1							
	Initial	9200.0	1000.0	1400.0	4400.0	160.0	810.0	1300.0	1000.0	10000.0	29270.0								
	SSTL	83.0	1000.0	1400.0	4400.0	160.0	108.0	1300.0	381.0	10000.0	18832.0	ĺ							
MW-5AR	Initial > SSTL	9117.0	0.0	0.0	0.0	0.0	702.0	0.0	619.0	0.0	10438.0	1							
	Subsequent	12000.0	13000.0	2400.0	13000.0	70.0	1000.0	5000.0	160.0	5000.0	51630.0	-265%							
	SSTL	83.0	1000.0	1400.0	4400.0	160.0	108.0	1300.0	381.0	10000.0	18832.0	İ							
	Subsequent > SSTL	11917.0	12000.0	1000.0	8600.0	0.0	892.0	3700.0	0.0	0.0	38109.0	i							
	Initial	460.0	3400.0	320.0	9200.0	50.0	250.0	710.0	500.0	5000.0	19890.0								
	SSTL	58.0	11928.0	3700.0	21680.0	290.0	19298.0	1114.0	330.0	29344.0	87742.0								
	Initial > SSTL	402.0	0.0	0.0	0.0	0.0	0.0	0.0	170.0	0.0	572.0	1							
PW-1R	Subsequent	460.0	3400.0	320.0	9200.0	50.0	250.0	710.0	500.0	5000.0	19890.0	0%							
	SSTL	58.0	11928.0	3700.0	21680.0	290.0	19298.0	1114.0	330.0	29344.0	87742.0	i							
	Subsequent > SSTL	402.0	0.0	0.0	0.0	0.0	0.0	0.0	170.0	0.0 :	572.0	1							
	Initial	2600.0	19000.0	2200.0	10000.0	1000.0	620.0	3600.0	2000.0	20000.0	61020.0								
	SSTL	45.0	8470.0	2200.0	10000.0	1000.0	620.0	3600.0	2000.0	20000.0	47935.0	1							
DW-3	Initial > SSTL	2555.0	10530.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13085.0	-193%							
D44-2	Subsequent	9800.0	22000.0	3700.0	17000.0	990.0	780.0	10000.0	190.0	5000.0	69460.0	1 -193%							
	SSTL	45.0	8470.0	2200.0	10000.0	1000.0	620.0	3600.0	2000.0	20000.0	47935.0	1							
	Subsequent > SSTL	9755.0	13530.0	1500.0	7000.0	0.0	160.0	6400.0	0.0	0.0	38345.0	1							
	Initial	130.0	2.8	23.0	36.0	17.0	6.5	340.0	2.6	23.0	580.9								
	SSTL	5.0	2.8	23.0	36.0	17,0	6.5	240.0	2.6	23.0	355.9	1							
	Initial > SSTL	125.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	225.0	1							
SW-1	Subsequent	180.0	8.4	30.0	53.0	42.0	6.5	350.0	9.5	100.0	779.4	-88%							
	SSTL	5.0	2.8	23.0	36.0	17.0	6.5	240.0	2.6	23.0	355.9	1							
	Subsequent > SSTL	175.0	5.6	7.0	17.0	25.0	0.0	110.0	6.9	77.0	423.5	1							
STL = Site Specific Target Level											initial>	SSTL 421858.0							
	ISL= Risk Based Screening Levels					CRAWFORD					Subseque								
	E= Methyl Tert-Butyl Ether				ENVIRONMENTAL					COC Re									
	= not applicable				I		SERVIC	HES .											
O - Exch	ided from Calculations				I														

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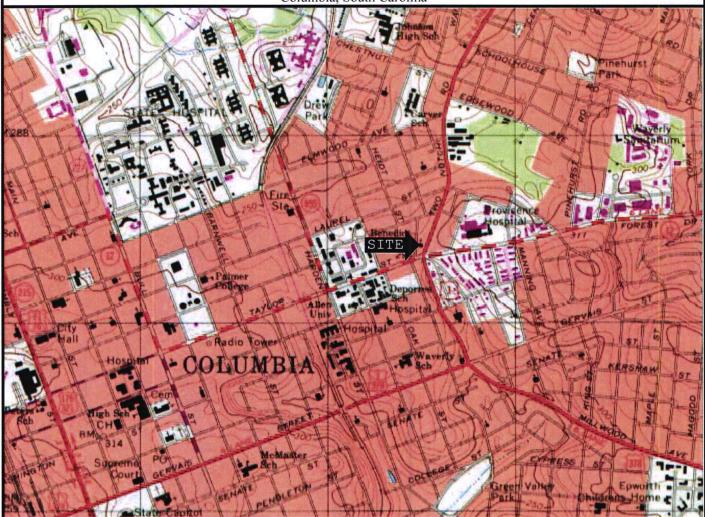
# **Figures**

Figure 1: Topographic Map Figure 2: Site Facility Base Map Figure 3: Chemicals of Concern Map Figure 4: Groundwater Elevation Map



## FIGURE 1

Site Location Map Handy Pantry #65 / University Mart / Clouds Chevron Intersection of Taylor Street and Two Notch Road Columbia, South Carolina



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540-343-6256 (office) 540-343-6259 (fax)

### NORTH COLUMBIA, SOUTH **CAROLINA**

Source:

U.S.G.S. Topographic Map of the Columbia North Quadrangle, Virginia,

7.5 Minute Series (1977, revised 1988)

Contour Interval: 20 Feet National Geodetic Vertical Scale: 1:24,000 Vertical Datum:

Datum 1929

Horizontal Datum: North American Datum1927

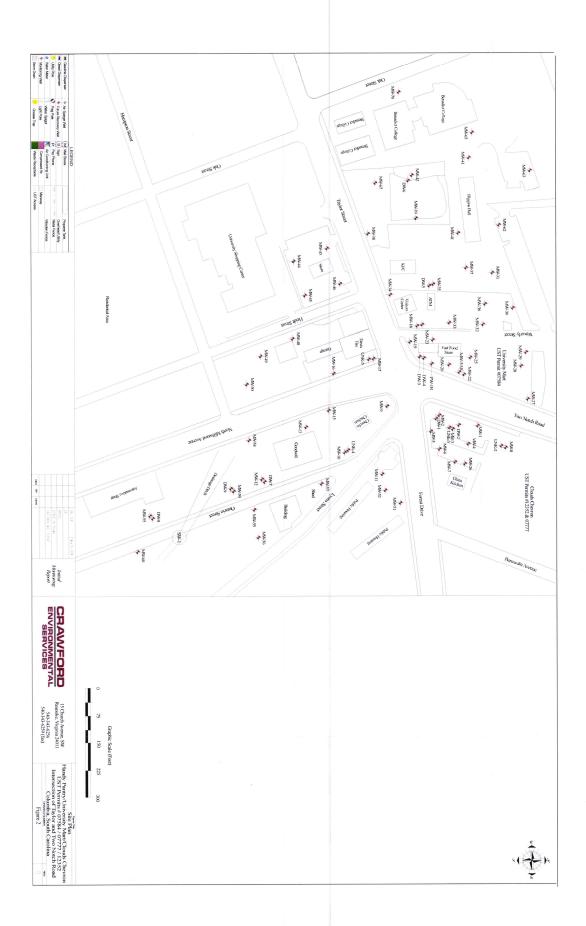
Project: Initial Monitoring Report

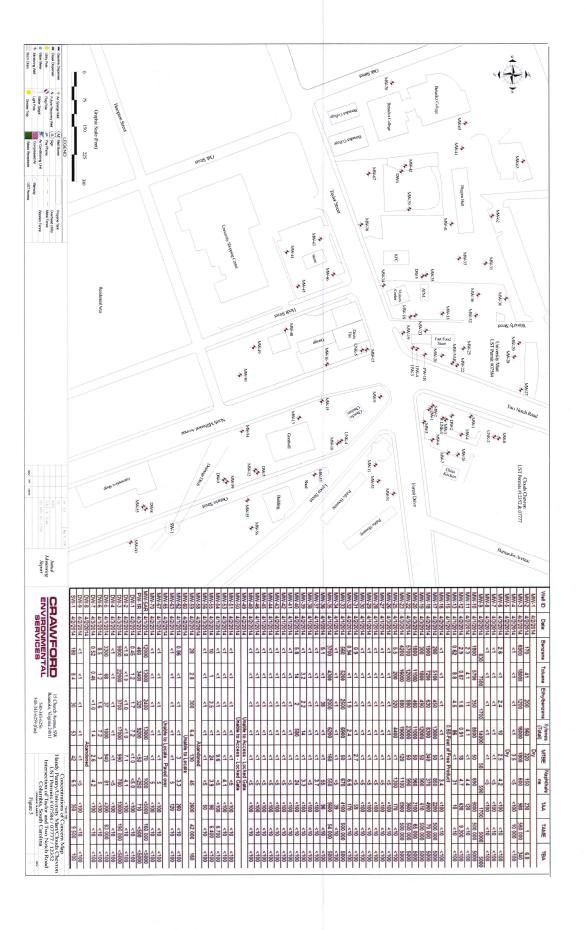
Client: SCDHEC

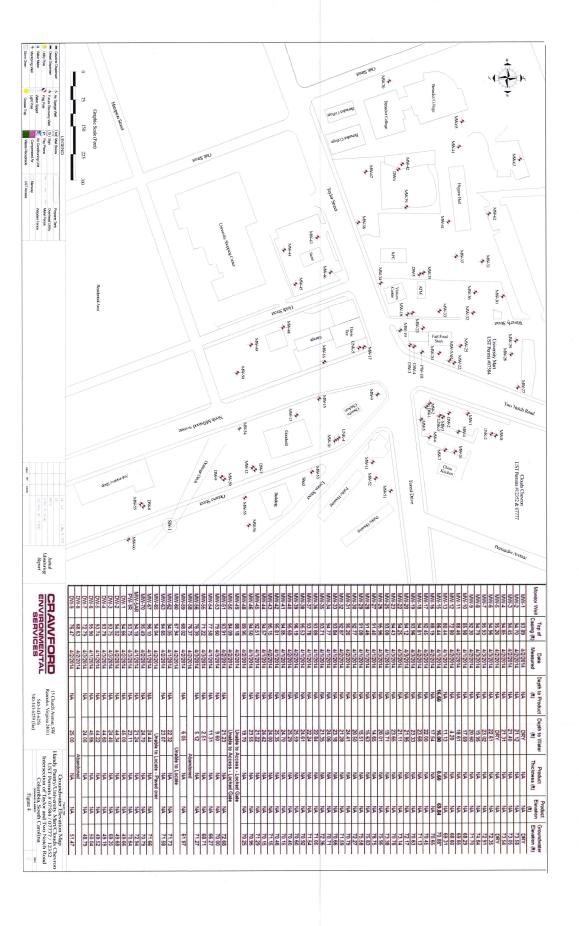
CES Job #: 7.0547



Latitude: 034"00'42.72"N Longitude: 081"01'00.13"W







May 16, 2014

Site ID: 07584/07777/12352

Mr. John Bryant
State of South Carolina
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action Plan Implementation

Handy Pantry #65/University Mart & Cloud's Chevron Intersection of Taylor Street and Two Notch Road

Columbia, South Carolina

UST Permit # 07584 / 07777 / 12352

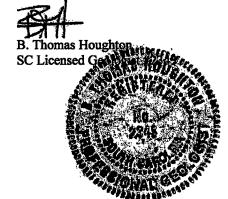
Dear Mr. Bryant:

Enclosed please find one copy of the *Corrective Action Plan* Implementation (CAP-IMP) prepared by Crawford Environmental Services, Inc. (CES) for the referenced site. Should you have any questions regarding the enclosed material, or if additional information is required, please feel free to contact me or Charlie Crawford at 540.343.6256.

Best Regards,

Daniel J. Fisher
Division Manager

cc:







#### CORRECTIVE ACTION PLAN IMPLEMENTATION

Handy Pantry #65/University Mart & Cloud's Chevron Intersection of Taylor Street and Two Notch Road Columbia, South Carolina UST Permit # 07584 / 07777 / 12352

#### **Submitted To:**

Mr. John Bryant
State of South Carolina
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

## **Prepared For:**

Mr. John Bryant
State of South Carolina
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

May 16, 2014 CES Job Number: 7.0547

Prepared By:

Daniel J. Fisher
Division Manager

**Reviewed By:** 

Charles F. Crawford

President

Approyed By:

B. Thomas Houghton, Licensed George #12



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### SIGNATURE/CERTIFICATION PAGE

### Prepared By:

Site ID: 07584/07777/12352

Name:

Daniel J. Fisher, Division Manager

Signature:

1 Salar

### **Reviewed By:**

As a registered geologist, I certify that I am a qualified groundwater professional, as defined by the South Carolina Board of Registration for Geologists. All off the information in this plan and in all of the attachments is true, accurate, complete, and in accordance with applicable State Rules and Regulations.

Name:

B. Thomas Houghton, P.G. – SC Licensed Geologist #23

Signature:

**Approved By:** 

I certify that I have prepared or supervised preparation of the attached report, the inters been prepared in accordance with industry practices and standards, and that the information contained herein is truthful and accurate to the best of my knowledge.

Name:

Charles F. Crawford III – President

Signature:

Company:

Crawford Environmental Services, Inc.

15 Church Avenue, SW Roanoke, Virginia 24011 (540) 343-6256 [phone] (540) 343-6259 [facsimile]



#### 1.0 INTRODUCTION

On behalf of the South Carolina Department of Health and Environmental Control (SCDHEC), Crawford Environmental Services, Inc. (CES) has prepared a Corrective Action Plan Implementation (CAP-IMP) report for the Handy Pantry #65/University Mart and Cloud's Chevron properties located proximal to the intersection of Two Notch Road and Taylor Street in Columbia, South Carolina.

#### 1.1 Site Description

The subject property is located in a primarily commercial area of Columbia, South Carolina (Figure 1). The subject sites, operating as Handy Pantry #65/University Mart and former Cloud's Chevron, is bordered by light commercial properties in all directions. A site plan depicting pertinent features of the subject property is provided as Figure 2.

#### 1.2 **Adjacent Properties**

As part of CAP development activities, CES reviewed the applicable tax maps for the site and surrounding area. Properties maintaining the presence of monitoring wells and/or those with confirmed petroleum releases are presented in Table 1. A copy of the tax map with the corresponding tax map number is included as Figure 3.

Table 1. **Summary of Adjacent Properties** 

Tax Map #	I.D.#	Owner Name	Address
R11412-10-16	1	Mr. Mahesh Patel	2367 Taylor Street, Columbia, SC
R11412-09- 014A	2	Mr. Andrew Diggins	1600 Block Two Notch Road, Columbia, SC
R11412-09-13	3	Mr. Andrew Diggins	1600 Block Two Notch Road, Columbia, SC
R11411-02-01	4	Ms. Bette Gordon Bateman & Mr. John Bateman	2436 Taylor Street, Columbia, SC
R11411-01-02	5	2368 Taylor Street LLC.	2368 Taylor Street, Columbia, SC
R11411-01-03	6	2368 Taylor Street LLC.	1512 Heidt Street, Columbia, SC
R11411-01-01	7	Chang Moon Sueng	2358 Taylor Street, Columbia, SC
R11408-10-31	8	Mr. Soloman Addico	2361 Taylor Street, Columbia, SC
R11408-10-30	9	Mr. Soloman Addico	1613 Waverly Street, Columbia, SC
R11408-10-29	10	Mr. Soloman Addico	1617 Waverly Street, Columbia, SC
R11407-06-01	11	Mr. Soloman Addico	1616 Oak Street, Columbia, SC
R11407-06-03	12	Mr. Soloman Addico	1604 Oak Street, Columbia, SC
R11407-06-02	13	Mr. Soloman Addico	2305 Taylor Street, Columbia, SC
R11408-10-12	14	Allen University	2315 Taylor Street, Columbia, SC
R11408-10-31	15	Sylvan Food Systems, Inc.	2349 Taylor Street, Columbia, SC
R11411-03-01	16	Ms. Linda Warren	1527 Lyon Street, Columbia, SC
R11411-03-02	17	Ms. Linda Warren	1510 Lyon Street, Columbia, SC



Site ID: 07584/07777/12352

# Table 1 (Cont'd).

### **Summary of Adjacent Properties**

Tax Map#	I.D. #	Owner Name	Address
R11411-04-01	18	Gilbert Walker	1505 Garden Plaza, Columbia, SC
R11411-02-02	19	1500 Millwood Ave LLC.	1527 Ontario Street, Columbia, SC
R11411-02-03	20	John M. Suddeth	Ontario Street, Columbia SC
R11407-07-02	21	Fung Lau	2324 Taylor Street, Columbia, SC

### 1.3 Topography

The subject site is located within the jurisdictional limits of Richland County, South Carolina and is situated within the Piedmont Physiographic Province. According to the U.S. Geological Survey 7.5 Minute Series Topographic Map of the North Columbia Quadrangle, South Carolina, the site elevation is approximately 293.0 feet above mean sea level.

#### 2.0 REMEDIATION SYSTEM DESIGN

In accordance with the CAP dated March 21, 2014, CES performed maintenance activities on the three existing remedial systems (Shed 1, Shed 2, and Shed 3) located at the subject site to facilitate continued remediation via air sparging (AS) and soil vapor extraction (SVE). Details of the activities are provided below;

#### 2.1 Re-Activation of Existing Remedial Components

CES mobilized to the subject site on April 18, 2014 to perform site cleaning, inspections of the remedial systems, and to secure the remedial systems. Approximately 15-cubic yards of debris was removed from the areas proximal to remedial sheds #1 and #3. Following clearing operations, the sheds were secured and the above ground piping was inspected for signs of failure. CES remobilized to the subject site on May 5, 2014 with an Atlas Copco Certified Compressor Technician to perform routine maintenance of the AS compressors located at remedial sheds #1, #2, and #3. Each compressor had a full service including; replacement of lubricants, filters, and drive belts. Following receipt of the notice to proceed on May 8, 2014, CES placed the remedial system back into operation on May 16, 2014. Due to the elevated temperatures during the summer months, CES has programmed the remedial systems to operate between 8:00 PM and 8:00 AM. The air sparge compressors have been initially set to delivery 2.5 cubic feet per minute (CFM) to each of the 58 on- and off-site air sparge wells. The existing soil vapor extraction units were inspected for proper operation and set to operate in conjunction with the air sparging. CES will conduct weekly visits of the air sparge / SVE systems for the first three months of operation to ensure proper operation. Photo-documentation of the CAP-IMP activities are included as Appendix A. Existing air sparge well completions logs are included as Appendix B with their corresponding locations shown on Figure 4.



Site ID: 07584/07777/12352

#### 3.0 FUTURE REMEDIAL ACTIVITIES

Following approximately one quarter of operation of the existing remedial systems, CES will evaluate site data to determine if additional remedial activities are warranted. Proposed additional remedial measures are presented below;

### 3.1 Surfactant Enhanced Recovery Events

Should site conditions indicate the presence of free-phase petroleum, CES will mobilize to the subject site and install a maximum of six free-product recovery wells. Eight-inch diameter soil borings will be installed utilizing hollow-stem auger techniques to facilitate the construction of six, four-inch recovery / injection wells. Each recovery / injection point will be installed to approximately 35.0 feet below ground surface (bgs). Recovery / injection wells will be equipped with screened intervals from approximately two feet above source area contaminants to the terminal depth of the boring. Each recovery / injection point will maintain an estimated eight-inch diameter waterproof manway installed within an estimated two foot by two foot concrete pad. Proposed recovery / injection point locations are presented on Figure 4.

Following installation of the injections wells, CES will mobilize to the site with remedial injection equipment and approximately 60-gallons of PetroSolv Surfactant (PetroSolv). CES will mix a 3.0% surfactant solution utilizing approximately 50-gallons of PetroSolv and approximately 600-gallons of potable water (acquired on-site). Over an estimated period of one to three days, CES will inject approximately 660-gallons of surfactant solution to injection points IW-1, IW-2, IW-3, IW-4, IW-5, and IW-6. During these injection events, CES will utilize a surge block to actively pressurize the surfactant solution into the formation creating direct contact with the free- and adsorbed-phase compounds. Following completion of the injection activities, CES will utilize a vacuum truck to extract approximately 150-gallons of petroleum impacted groundwater from each of the referenced injection wells.

#### 3.2 Chemical Oxidation

Following achievement of the 60% concentrations of concern (COC) milestone, CES proposes to use a dilute Fenton's reagent process at the subject site to oxidize adsorbed- and dissolved-phase petroleum constituents in the subsurface. The Fenton's reagent process utilizes a metal catalyst (ferrous sulfate) and hydrogen peroxide to produce hydroxyl radicals. These hydroxyl radicals rapidly oxidize petroleum hydrocarbons upon contact, ultimately producing by-products of carbon dioxide, water, and dissolved oxygen. Residual petroleum hydrocarbon mass and simple organic acids usually remain after the chemical oxidation process but can be treated with biological amendments. Fenton's reagent process is shown in the following steps:

(1) 
$$Fe^{2+} + H_2O_2 \rightarrow Fe^{3+} + OH^{\bullet} + OH^{-}$$
  
(2)  $Fe^{3+} + H_2O_2 \rightarrow Fe^{2+} + OOH^{\bullet} + H^{+}$ 

The hydrogen peroxide will be injected into the estimated 58 existing air-sparge wells utilizing the existing piping as subsurface conveyance conduits. The six recovery / injection wells referenced in



Section 3.1 also will be utilized for the injection of hydrogen peroxide on an as needed basis. The injection events will be performed episodically until an approximate COC reduction of 75-80% is achieved. CES estimates that each ChemOx injection event can be completed in approximately one to two weeks, however, the duration of these events will be controlled by the site's ability to sustain the desired rates of injection. CES estimates that approximately 3,000-gallons of 5.0% hydrogen peroxide solution will be utilized at the subject site.

### 3.3 Biological Injections

Directly following the final ChemOx injection, the holding tank will be cleansed prior to the introduction of bacteria and nutrient-amended water. CES will utilize the PetroBac<sup>TM</sup> product bundle which contains a TPH Bacterial Consortium and Enzyme Accelerator. The NutriMax<sup>TM</sup> nutrient mix also will be utilized to increase biological degradation of the hydrocarbon mass at the site. Over the course of an estimated three to five days, CES will inject approximately 1,000 lbs. of CBN nutrients and approximately 20 gallons of A2 bacteria mixed with an estimated 3,500-gallons of potable water. The biological amendments will be gravity fed to the injection points in order to facilitate physical contact with the adsorbed-phase compounds. The amendments will react with the residual TPH mass to produce carbon dioxide and water as by-products.

#### 4.0 MONITORING SCHEDULES

### 4.1 Remedial Monitoring Schedule

The remedial operation and monitoring (O & M) schedule presented below has been developed to assess the overall effectiveness and operating efficiency of the implemented remedial techniques. Table 2 is a summary of the O & M schedule for the corrective action efforts to be implemented at the subject sites in Columbia, South Carolina.

Table 2.

Summary of Remedial Operation & Monitoring Schedule

Location	Frequency	Parameters	Methods	Media
SVE and system components	Weekly inspections for first month; bi- monthly thereafter	N/A	Routine system O&M	N/A
SVE vapor effluents	Weekly inspections for first month; bi- monthly thereafter	ТРН	PID	Vapor
On- and Off-site Monitoring Wells	Semi-Annually from the Date of the CAP-IMP Report	BTEX, Naphthalene, MTBE, TAA, TAME, TBA.	8260B, 8260-OXY	Groundwater



Site ID: 07584/07777/12352

### 4.2 Post-Operational Schedule

Following achievement of the third interim Chemical of Concern (CoC) concentration goal for 30 consecutive days, CES will complete two quarters of post corrective action monitoring to ensure that dissolved-phase endpoints have been maintained. Upon verification of endpoint maintenance for two consecutive quarters, CES will mobilize to the subject site to remove/abandon all assessment and corrective action equipment. This process will include removal of the injection equipment and abandonment of all on- and off-site monitoring/injection wells.

#### 5.0 SUMMARY AND RECOMMENDATIONS

During the first quarter of CAP implementation, the existing remedial systems were re-activated on May 16, 2014. CES is currently scheduled to mobilize to the subject site weekly to perform system inspections to ensure proper operation. This CAP-IMP is being submitted to Mr. John Bryant of the South Carolina Department of Health and Environmental Control UST Management Department.



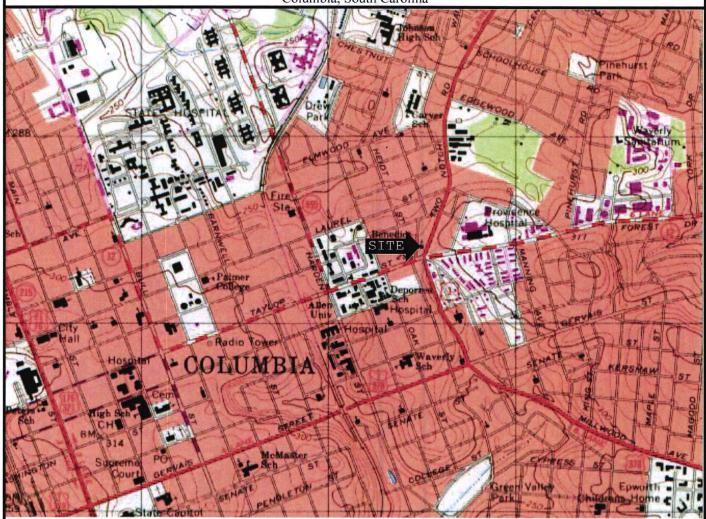
# Figures

Figure 1 – Topographic Map
Figure 2 – Site Map
Figure 3 – Tax ID Map
Figure 4 – Injection Point Location Map



### FIGURE 1

Site Location Map Handy Pantry #65 / University Mart / Clouds Chevron Intersection of Taylor Street and Two Notch Road Columbia, South Carolina



15 Church Avenue, SW Roanoke Virginia, 24011

540-343-6256 (office) 540-343-6259 (fax)

## NORTH COLUMBIA, SOUTH **CAROLINA**

Source:

U.S.G.S. Topographic Map of the Columbia North Quadrangle, Virginia, 7.5 Minute Series (1977, revised 1988)

Scale: 1:24,000 Contour Interval: 20 Feet

Vertical Datum: National Geodetic Vertical

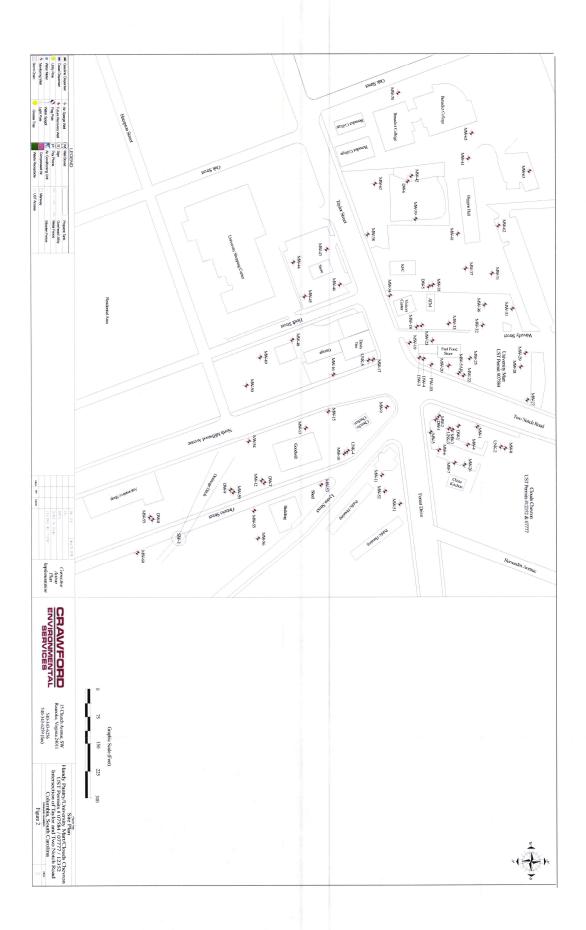
**Datum** 1929 Horizontal Datum: North American Datum1927 Project: Corrective Action Plan Implementation

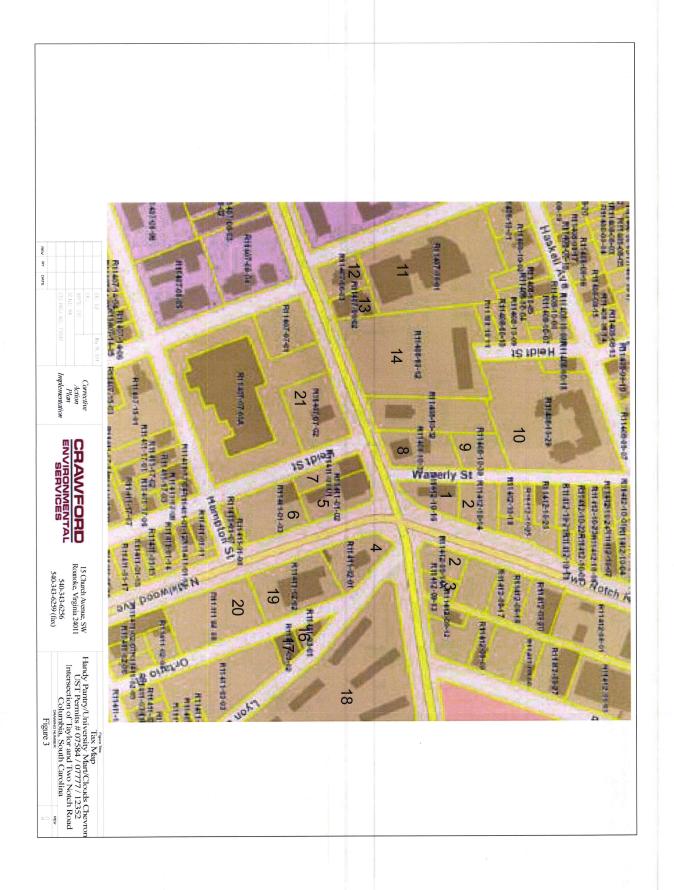
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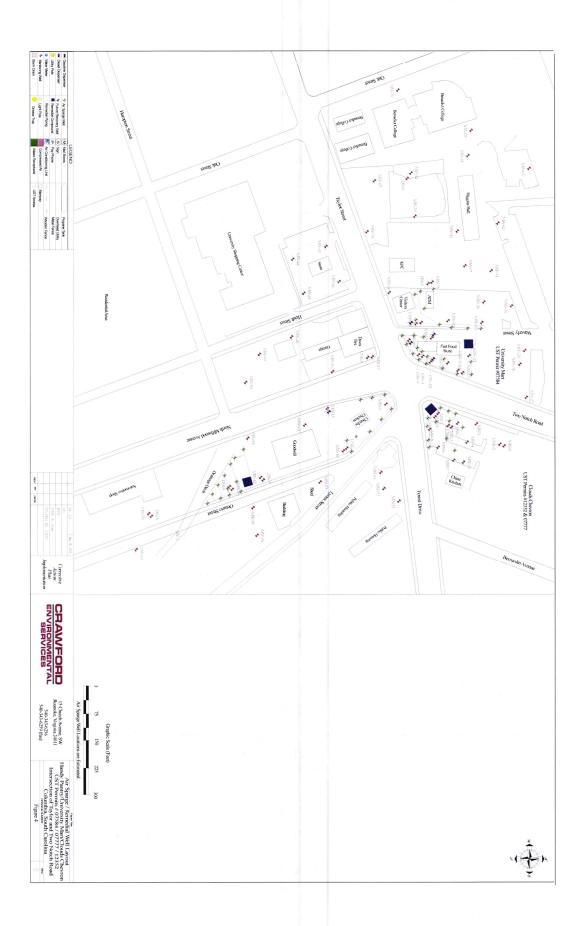
CES Job #: 7.0547



Latitude: 034"00'42.72"N Longitude: 081"01'00.13"W







## Appendix A

Photo-Documentation



### CAP-IMP Photographic Documentation Handy Pantry #65 / University Mart & Clouds Chevron 2367 Taylor Street Columbia, South Carolina 29209 Page 1



Clouds Chevron #1

View of Remedial Shed #1 following clearing activities.



Clouds Chevron # 2

View of Remedial Manifold at Remedial Shed #1.

### CAP-IMP Photographic Documentation Handy Pantry #65 / University Mart & Clouds Chevron 2367 Taylor Street Columbia, South Carolina 29209 Page 2



Clouds Chevron #3

View of Remedial Shed #3 following clearing activities.



Clouds Chevron #4

View of Remedial Manifold at Remedial Shed #1 prior to repairs.

## Appendix B

Well Completion Records





RECEIVED

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					□Dug		☐Air Rota	ry	□Driven		
City:	Columbia,	SC	Zip:		☐Cable 1	rooi	☐ Other				
COUNTY:	Richland		-		10. CASING:	☐ Threaded	Welded				
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		<u> 1"                                   </u>	Height: Above	e/Below		
2. SYSTEM		SYSTEM NU		<del></del>		ZIPVC	☐ Galvanized	Surface			
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							e to the best of r				-,
									-		
					M	<i>  N</i>	10				
					Signed: K	mil	Allen-	Date:	12/27/2006		
						Rapresentative					
<del></del>				<del></del>	<u> </u>				· · · · · · · · · · · · · · · · · · ·		



# Water Well Record

**Bureau of Water** 

1. WELL OWNER INFORMATION:	6. PERMIT NUMBER:	877	UNDERGROUND STORAG		
Name: Palmetto Environmental Group, Inc. (last) (first)			TANK PROGRAM		
Address: P. O. Box 427	7. USE:				
	☐ Residential	☐ Public Supply	☑ Process		
City: Eigin State: SC Zip:2904	☐ Irrigation	☐ Air Conditioning	☐ Emergency		
•	☐ Test Well	☐ Monitoring Well	Replacement		
Telephone: Wark: Home:	8. WELL DEPTH (completed)	Date Starte	d: 9/28/2006		
2. LOCATION OF WELL: AS-3	7				
Name: Handy Pantry #65/Cloud's Chevron/Site	45ft	t. Date Comp	leted: 12/15/2006		
Street Address: 2367 Taylor St./1600 Two No	h S. Mud Rotary	□Jetted	☑ Bored		
	□Dug	☐Air Rotary	□Driven		
City: Columbia, SC Zip:	Cable Tool	☐Other			
COUNTY: Richland	10. CASING: Threeded	2 Welded			
Latitude: 34°00.77 Longitude: 81°00.97	Diam.: 1"	Height: Abo	ve/Below		
3. System name: System number:	Type: PVC	☐ Galvanized Surface _			
		□Other Weight			
4. CUTTING SAMPLES: Yes V No	0 in. to45	_ feet depth   Drive Shoe	? 🛘 Yes 💆 No		
	in. to	feet depth			
Geophysical Logs:	11. SCREEN				
Formation Description Thickness of Patter	Type: PVC	Diam.:	4"		
Formation Description Incoress of Botton Stratum Stratu	of Stat/Geuge: .020 Set Between: 1 ft.	Length:	20		
	t.	and ft.	į		
Red/brown clayey sand 27' 27	Sleve Analysis	☐ Yes (please end	iose) 📝 No		
Yellow to gray clayey sand (wet) 18' 45	12. STATIC WATER LEVEL	A halamla	daniel de la constant		
Tellow to gray crayey sailu (wel.) 10 45	13. PUMPING LEVEL Below La	and Surface	d surgace after 24 hours		
	ft_afterhr	rs. Pumping	G.P.M.		
	Pumping Test:	Yes (please end			
	Yield: 14. WATER QUALITY				
	Chemical Analysis	es 📝 No Bacteria	Analysi□ Yes No. ✓		
	Please enclose lab results				
	18. ARTIFICIAL FILTER (filter p	pack) Yes			
	Installed from 44 Effective size	4 ft. to Uniformity C	45 ft.		
	16. WELL GROUTED?	✓ Yes □ No	Addicasi		
	I I Neet Cement ☐ Sand	Centent   Concrete	Other		
	Depth: From  17. NEAREST SOURCE OF PO	10 ft. to	40 ft.		
		SSIBLE CONTAMINATION West disinfected	N: ft. direction		
		unpon completion			
	18. PUMP: Date installed:		Not installed		
	Mifr. Name: H.P. Volts Le	Model No.: ength of drop pipe	ft. Capacity gpm		
	Type: Submersible	engui of drop pipe	ft. Capacity gpm		
	☐ Jet (deep)	□Reciprocating	☐Centrifugal		
	19. WELL DRILLER: R	Robyn Barkley CERT. NO.			
	Address: 2485 Watson Elgin, SC 29045		į		
Indicate Water Bearing Zones (Use		,	i		
a 2nd sheet if needed)	ŀ		[		
5. REMARKS:	Telephone No.: (8	503)438-1331			
	20. WATER WELL CONTRACT				
	direction and this report is true to	o the best of my knowledge	e and belief.		
		• •	}		
	Well Ro	Man	12/27/2006		
	Signed: Why Surpersiste	Date:	12/2/12/00		



1. WELL OWNER	INFORMA	TION:			6. PERMIT NU	MBER:	877				
Name: Pal		<b>vironments</b> lest)	al Group, Inc	c. (first)							I
Address: P. (			,	(mar)	7. USE:	······································					
Americas. 1. 4	O. DUX 72	L1			Resider	ntial	☐ Public S	vionu	<b>☑</b> Process		Ì
City: Elgi	n S	State:	SC :	Zip:29045	☐ irrigatio		□ Air Cond		☐ Emerger		ŀ
Ony.		rency.		mpasoro	☐ Test We		☐ Monitoria		☐ Replace		ł
Telephone: Work:	:	İ	Home:		8. WELL DEP	TH (completed)		Date Started:	· · · · · · · · · · · · · · · · · · ·	9/2	8/2006
2. LOCATION OF					1						ł
Name: Hat	ndy Pant	ry #65/Clou	id's Chevroi	n/Site	4	5	fit.	Date Complet	ed:	12/1	5/2006
Street Address:			r St./1600 T		9. Mud Ro	tary	Jetted		<b>✓</b> Bored		
		-			□Dug		□Air Rota	ry	□Driven		[
City: Col	lumbia, S	C :	Zip:		☐Cable T		□Other				
COUNTY: Ric	chland				10. CASING:	☐Threaded	Welded				]
Lattude: 34°	<sup>0</sup> 00.77 ι	ongitude:	81°00.97		Diam.:			Height: Above			1
3. <b>SYSTEM NAM</b> I	E: \$	SYSTEM NUM	ABER:		Туре:	PVC		Surface			ł
			77.		۱ ^	□ Steel	Other	Weight	☐ Yes		
4. CUTTING SAM	IPLES:	LI Yes	☑ No		<del></del>	in. to <u>45</u>	•	Duve Suces	LI Yes	M	MO
Occupant to	Limeta	II V	₩ No		11. SCREEN	in. to	feet depth	<u> </u>		•	—
Geophysical Lo	da:	☐ Yes		Depth to	11. SCREEN	PVC		Diam.:	<b>4</b> "		
Formatic	on Descript	lan	Thickness of	Bottom of	Slot/Gauge	.020	ft. and	Diam.: Length:	20'		_
			Stratum	Stratum	Set Betwee	n: 1	ft. and 10	ft.			1
Red/brow	vn clavev	sand	27'	27	Sieve Angl		π. andYes	IL.	(62		No No
				······································	12 STATIC W	ATER LEVEL					
Yellow to gray	y ctayey s	and (wet)	18'	45'	44 PINEPING	LEVEL Below	Land Surface	TL below land	surgace after 24 in	iours	
							hrs. Pumping		G.P.M.		
					Pumping 1	est:	☐ Yes	(please enclo	se)		No No
					Yield:	UALITY					
					Chemical	HUALIIY Anaiveis □	Yes DING	Bacterial A	\nalysi∐ Yes	No	מ
					Please en	diusen disi esoli:	s				
	·				18. ARTIFICIA	L FILTER (file	er pack)	Yes Yes			
			•		Installed fr	om	44	ft. to Uniformity Co		ft.	
	····		-				Yes _				
					i L/I Neat C	ement I.I Se	nd Cement Li		Other40		
					Depth: Fr	om	10	ft. to	40 :ft.	ft.	direction
					17. NEAREST	ovukc⊵ CF T\	pe well disinfect	ed∐ Yes 7	i: II. Type:		weam
							_ unpon compl	etion 🔽 No	o Amount:		
						Date installed:		Madel No	Not installed	7	
	- · · · · · · · · · · · · · · · · · · ·				Mfr. Name H.P.	: Volts	Length of drop	Model No.:	ft. Capacity		gpm
<u> </u>						Submersible	_ Let (sha				
					]	Jet (deep)	□Recipro	cating	☐ Centrifu		
					19. WELL DR	ILLER: 2485 Watson	Robyn Barkley	CERT. NO.:	934	•	
					Auguess.	Eigin, SC 290	145				
Indicate Water B					]						
a 2nd si	heet if need	ed)			Telephone	No ·	(803)438-1331				į
								FICATION: TH	nis well was drilled	under	my
							e to the best of I				-
					4	1					
1					Del.	an R	a blow	Deto	12/27/2006	:	
l					Signed: FOU	zad Representativo	menery	_ Date:	IZIZIIZVUO	·	
L	·			· · · · · · · · · · · · · · · · · · ·	1		· · · · · · · · · · · · · · · · · · ·				



PALINES.	OIE MOIECE I	TRUSTEN	<u> </u>								
1. WELL OW	MER INFORM	IATION:			6. PERMIT NU	MBER:	877	,			
Name:			zal Group, Ind	C. (first)							
Address	P. O. Box	• •	,	<del></del>	7. USE:				<del></del>	<del></del>	
400.	. , <del>.</del>				Residen	rtiai	☐ Public S	viqqu	Process		
City:	Elgin	State:	sc z	Zip:29045	☐ Irrigation		☐ Air Cond		☐ Emerger		
oay.	ल्यमेत ।	~43 W.	•	empresourio	☐ Test We		☐ Monitoria	•	☐ Replace	•	
Telephone: V			Home:			TH (completed)		Date Started:			8/2006
2. LOCATIO	N OF WELL:				1	_					<b></b>
Name:	-		ud's Chevror		4		ft.	Date Complete		12/1	5/2006
Street Add	irees:	2367 Taylo	or St./1600 Tv	wo Notch	9. Mud Ro	tary	□Jetted		☑ Bored		
		-			□Dug		☐Air Rota	<b>IIA</b>	□ Driven		
Ctty:	Columbia,	SC	Zip:		☐Cable T		□Other	<del></del>	-		
	Richland				10. CASING:						
Latitude:	34°00.77	Longitude:	81°00.97					Height: Above/			1
3. SYSTEM I		SYSTEM NU				<b>☑</b> PVC		Surface			
	-	*****************************			"-	☐ Steel	[] Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	√Z No		<b>ا</b> ـــــــ ا			Drive Shoe?		<b>Z</b> 1 1	No
		wa				in. to	•		, <del></del>		
Genninusio	cal Logs:	☐ Yes	☑ No		11. SCREEN			<del></del>			
		100		Depth to	Туре:	PVC		Diem.:	<u>4"</u>		اسب
For	rmation Descri	ption	Thickness of Stratum	Bottom of	Slot/Gauge	.020		Length:	20'		-
			Oramin)	Stretum	Set Betwee	n:1	ft. and10_		. <del> </del>		
Recif	brown claye	y sand	27'	27'	Sleve Analy	rale	ft. and	_ft. s (please enclos	9)		₩ No
					12 STATIC W	YATER LEVEL	)				PAT 140
Yellow to	gray clayey	sand (wet)	18'	45'		LEYEL Below		ft. below land s	surgace after 24 h	rours	
			[ ]						СРМ		į
			<del> </del>		Pumning T	, π. aπer Γe <b>s</b> t:	_hrs. Pumping IT Yes	s (please enclos	9) 		No.
			<u> </u>	· 	Yield:						
					14. WATER Q						
			<b></b>	· · · · · · · · · · · · · · · · · · ·			Yes 🛛 No	Bacterial At	naiysi⊡ Yes	No	1
		Ì	Į l	1		ciose leb result LL FILTER (filte		✓ Yes	No		
			<del>                                     </del>	<u> </u>				ft. to	45	ft.	Ì
			<u> </u>		Effective s	rom lize		Uniformity Coe			
			[		18. WELL GR	OUTED?	Y Yes	□ No			
	<del></del>		<del>                                     </del>				and Cement 🗆	Concrete () () fl. to	Other40	<del>-</del>	
		i	1 1	1	Depth: Fro	SOURCE OF	POSSIBLE CO				direction
	·		<del>                                     </del>							_	
			L				unpon comp.	letion 🔽 No	Amount:	*****	
				1	18. PUMP:	Date Installed:	ype well disinfect unpon comp :	Model No.:	Not installed		
			<del> </del>	<u> </u>	Mfr. Name H.P.	): Valts	Length of drop		ft. Capacity		gpm
				l 		Submersible	_ residin os asob ∏Jet (she		Turbine		Ahili
<del>,</del>			1			Jet (deep)	□Recipro	cating	☐ Centrifu	gal	
	<del></del>			1	19. WELL DR	ILLER:	Robyn Barkley	y CERT. NO.:	934		
	_	j	]	1	Address:	2485 Watson Elgin, SC 290					!
*[gollants 14/-	ther Bearing 7	Vice (12	<del> </del>	<u> </u>	4	myst oc 28	<del></del>				
	ater Bearing Zo and sheet if nee		, l	Ī							!
6. REMARK			<u></u>		Telephone		(803)438-1331				
					20. WATER W	VELL CONTRA	ACTOR'S CERTI	IFICATION: This	s well was drilled	under	my
					arrection and t	unis report is tru	ue to the best of a	rny knowladge a	no belief.		į
						1 -					į
					11	y 10	211	<b>-</b> -	46.000000		
					Signed: 141	17 12	werey_	_ Date:	12/27/2006		—
					Authori	zgi Representative					



4 Marris 611		470			o menune Mi	MDED-	877		<del> </del>		
1. WELL OW Name:	<b>NER INFORM</b> Palmetto E	Environment			6. PERMIT NU	MBEK:	6//				
A alabanasa :	P. O. Box	(last) 427		(first)	7. USE:					,	
Address:	P. U. 50X	721			7. USE: □ Resider	rffei	□ Public S	mnlv	Process		
OF	Clei-	Otates	SC	Zip:29045	☐ irrigatio	-	☐ Air Conc				
City:	Elgin	State:	<b>5</b> C	c.p:28048	☐ Test W		□ Monitori	-			
Telephone:	Work:		Home:		8. WELL DEP			Date Started:		9/28/2	2008
	N OF WELL:										
Name:	Handy Par	ntry #65/Clo				5	_ ft.	Date Comple		12/15/2	2006
Street Add	_		r St./1600 T		9. Mud Ro	itary	☐Jetted		<b>☑</b> Bored		
		-			□Dug		□Air Rota	ry	☐ Driven		
City:	Columbia,	SC	Zip:		☐Cable 1		□Other	·			
	Richland				10. CARING:	☐ Threeded					
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		_10	Height: Above	e/Below		
3. SYSTEM	NAME	SYSTEM NU	MBER:		Туре:	<b>☑</b> PVC	☐ Galvanized				
				***************************************	j	☐ Steel	☐ Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	✓ No		0	In. to45	feet depth	Drive Shoe?	☐ Yes	☑ No	
						in. to	feet depth	<u> </u>			
Geophysic	zal Logs:	☐ Yes	☑ No		11. SCREEN						
			*Thickness of	Depth to	Туре:	PVC		Diam.: Length:	<u>4"</u> 20'		-
Fo	rmation Descri	ption	Stratum	Bottom of Stratum	Slot/Gauge Set Betwee				<u> </u>		•
				Sudulli	- Ser Darmer	···	_ ft. and	- ft.			
Red/	brown claye	y sand	27'	27'	Steve Anal	yele	□ Yes	(please enclo	se)		No
Valley	fellow to gray clayey sand (wet) 18' 45'					ATER LEVE		& halomband	ALIMANA ABAU DE I	Lete artis	
1 GHOW TO	gray crayey	Sanu (Wet)	10	45	13. PUMPING	LEVEL Reim	w Land Surface	IL DEION IBUO	ourgace after 24.1	ivus	
							hrs. Pumping		G.P.M.		
	· · · · · · · · · · · · · · · · · · ·				Pumping 1 Yield:			(please enclo	ise)	Z	No
					Yield: 14. WATER C	UALITY				<del> </del>	
					Chemical	Analysis (	☐ Yes 🔽 No	Bacterial /	AnalysI□ Yes	No	
		<del> </del>			Piease en	ciose lab resu	ills				
					15. ARTIFICIA	L FILTER (f	iter peck) 44	✓ Yes ft. to	□ No 45	ft.	
ĺ				[	Effective s	om		Uniformity Co		H.	
					16. WELL GR	OUTED?		☐ No			
<u> </u>							Sand Coment 🔲		Other		
					Depth: Fr	om Facilisae A	1( F POSSIBLE CO	ft. to	40		ection
<del> </del>			<u> </u>	<del></del>	I'. MEAKES!		r Possible Cui Type well disinfec		Type:	une	اللبينى
							unpon comp	tetion N	o Amount:		
	<del> :                                  </del>	<del> </del>			18. PUMP:		d:		Not installed	2	
<u> </u>					Mfr. Name H.P.	votis	Length of drop	Model No.: _	ft. Capacity		дрп
1						Submersible			it. Capacity Turbine		mh.,
<del></del>			<u> </u>			Jet (deep)	Recipro	cating	☐ Centrifu	gal	
					19. WELL DR			CERT. NO.:	934		
					Address:	2485 Watson Eight, SC 25					
	ater Bearing Z										
	2nd sheet if ne	8 <b>08</b> (1)	<u> </u>	<u> </u>	Telephone	. Ma ·	(803)439_439	ı			
5. REMARK	a:						(803)438-1331 ACTOR'S CERT		his well was drilled	under my	,
ł							rue to the best of				
[					1	1		•			
1					1 10		n ho				
<b>]</b>					Signed:	Myn.	Burkley	_ Date:	12/27/2006		
					Author	zad foprosentativ	• /				



# Water Well Record

# **Bureau of Water**

			L		<del></del>					<del></del>
1. WELL OW	NER INFORM				O. PERMIT N	JMBER:	877			
Name:	Palmetto E	Environment (lest)	zai Group, in	C. (first)						
Address:	P. O. Box	427			7. USE:					
					☐ Reside	ntiai	☐ Public 8	upply	Process	)
City:	Elgin	State:	sc	Zip:29045	□irrigation		□ Air Cond		☐ Emerge	
			<del>-</del>		_	☐ Test Weil		ng Weil	☐ Replace	•
Telephone: \			Home:			TH (completed		Date Started:	•	9/28/2008
2. LOCATIO	N OF WELL:									
Nume:	Handy Pa		ud's Chevro			45	_ ft.	Date Complet		12/15/2006
Street Add	iress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud R	otary	☐ Jetted		Bored	,
1							☐Air Rota	ry	□Driven	
City:	Columbia,	SC	Zip:		□Cable :		☐Other_	<del>,</del>		
	Richland				10. CASING:	☐Threaded	Welded			
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	/Below	:
3. SYSTEM	NAME:	SYSTEM NU	MBER:		Type:	Z PVG	☐ Galvanized	Surface		,
					_	☐ Steel	☐ Other	Weight		_
4. CUTTING	SAMPLES:	☐ Yes	☑ No		<u>ا</u>	in. to 45	feet depth	Drive Shoe?	☐ Yes	No No
Ì						in. to	feet depth			
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN					
			*Thickness of	Depth to	Type:	PVC		Diam.:	<u>4"</u>	-,
Formation Description		Stratum	Bottom of	Slot/Gauge		6 and 45	Length:	20'		
<u> </u>	·			Stratum	Set Between	en:1	ft. and	_ ft. ft.		
Red/	brown claye	v sand	27'	27	Sieve Anal	vele		_ ir. (please enclo	<b>se)</b>	No.
Yellow to gray clayey sand (wet)						VATER LEVEL				
Yellow to	gray clayey	sand (wet)	18'	45'	AT STREET,	TEVEL BALL	Land Surface	II. below land	surgace after 24	hours
[			<u> </u>				hrs. Pumping		G.P.M.	
					Pumping '	awar Test:	no. i wiiping Ti Yes	(please encio	56)	<b>☑</b> No
<u></u>					Yield:			W		
					14. WATER C					
ļ					Chemical Places on	Analysis [] close lab result	]Yes ☑ No	Bacterial A	naiysi□ Yes	No.Z
<b>!</b>						AL FILTER (filt		Z Yes	□ No	
		<del></del>				rom		ft. to	45	ft.
					Effective a	size		Uniformity Co	efficient	
						OUTED?		□ No	0"	
					Depth: Fi	ement 🗆 S	and Cement 🔲	Concrete 🗆	Other	ft.
1			[		17. NEAREN	UIST TEOURCE OF	POSSIBLE CO	TAMINATION		. direction
	<del> </del>	···	<del> </del>		<b>-</b>		ype well disinfect	F aeY □bes	уре:	
							117505 0070	letion 🔽 No	Amount:	
			]			Date Installed	:		Not installed	2
<del></del>					Mifr. Name H.P.	otts:	Length of drop	Model No.:	ft. Capacity	gpm
			1			Submersible	Leagurordop Stel		IL Capacity Turbine	
		·····		<del></del>	ت <u> </u>	Jet (deep)	☐ Recipro	cating	☐ Centrifu	ıgal
			L		19. WELL DE	ULLER:	Robyn Barkley	CERT. NO.:	934	
1			1		Address:	2485 Watson Elgin, SC 29				
Indiana 145	nine Danston "		<del>                                     </del>		4	ENSIS 4 200 200	red			
Indicate Water Bearing Zones (Use a 2nd sheet if needed)										
6. REMARK	<b>3</b> :				Telephon		(803)438-1331			raiden en
							ACTOR'S CERTI ue to the best of I		nis well was drilled	under my
					ignamini sum	M SELECTION OF THE	ne (n gie gest 6)	iil umaaafia	and vonci.	
					1	// /	h			
1					Simon's	Money 1	Barkley	/Data	12/27/2008	e e
1					Signed:	tend Pyprocentative	The state of the s	_ 17816	IZIZIIZUUC	<del></del>
					78,099					



# Water Well Record

# **Bureau of Water**

			L			<del></del>	<del></del>			
1. WELL ON	VNER INFORM				6. PERMIT NI	MBER:	877	,		
Name: Pairnetto Environmental Group, Inc. (last) (first)										
Address:	P. O. Box	427		•	7. USE:					
ŀ					☐ Reside:	ntial	☐ Public 8	iupply	<b>☑</b> Process	1
City:	Elgin	State:	SC	Zip:29045	□irrigatio	n	☐ Air Cons		□ Emerge	•
l					☐ Test W		☐ Monitori	ing Weil	Replace	
Telephone:			Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/28/2006
2. LOCATIO	N OF WELL:				1					
Name:	Handy Pa	ntry #65/Clo				15	_ft	Date Completed		12/15/2006
Street Add	dress:	2367 Taylo	or St./1600 T	wo Notch	8. Mud Ro	otary	☐ Jetted		<b>☑</b> Bored	
					□Dug		☐Air Rota	ıry	□Driven	
City:	Columbia,	SC	Zip:		☐Cable 1		☐Other			
	: Richland				10. CASING:	Threaded	<b>☑</b> Welded			
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above/E	Below	
1. SYSTEM	NAME:	SYSTEM NU	MBER:		Туре:	<b>☑</b> PVC	☐ Gelvanized	Surface		
						☐ Steel	☐ Other	Weight		-
4. CUTTING	SAMPLES:	☐ Yes	Z No		1 <u> </u>	in. to 45	feet depth	Drive Shoe?	☐ Yes	☑ No
ŀ						in. to				
Geophysi	cai Logs:	☐ Yes	☑ No		11. SCREEN					
			*Thickness of	Depth to	Туре:	PVC		Diam.:	<u>4"</u> 20'	
Fo	ormation Descri	iption	Stratum	Bottom of	Slot/Gauge		- A	Length:	20'	· · · · · · · · · · · · · · · · · · ·
<del></del>	<del></del>			Stratum	Set Retwee	en:1	ft. and 10 ft. and	_ ft. ft.		
Red/	brown claye	ev sand	27'	27'	Sieve Anal	vsis		s (please enclose	)	No.
			12. STATIC V	ATER LEVEL						
Yellow to	gray clayey	sand (wet)	18'	45'	<u> </u>			ft. below land s	urgace after 24	hours
			•				Land Surface		G.P.M.	
					Pumping 1		_hrs. Pumping	s (please enclose		☑ No
f					Yield:			a Chicano cinacoc	·/	<b>2</b> 1
	-				14. WATER C					
					Chemical	Analysis [	Yes ☑ No	Bacterial An	aiysi□ Yes	No.
			I		18. ARTIFICI	cione ini resul	er nack)	✓ Yes	□ No	<del></del>
	<del> </del>							ft. to	45	ft.
			ļ		Effective s			Uniformity Cost	ficient	
					16. WELL GR	OUTED?	Yes Yes	☐ No		
					✓ Neat C	ement 🗆 S		Concrete 🗆 C	Other	ft.
			İ		Depth: Fr	om reminer av	) ( Briggini e 74	) fl. to NTAMINATION:	40	n. direction
<del> </del>		<del></del>	<del> </del>	<del> </del>			voe well disinfec	ted⊡ Yes Tv	ce:	
							unpon comp	letion 🗸 No	Amount:	
					18. PUMP:		:		Not installed	<b>M</b>
<del></del>	<del></del>			ļ	Mfr. Name H.P.	volts	Length of drop	Model No.:	ft. Capacity	
1				l		Submersible	_ rendin otaloh ∏jet (shi		it. Capacity	gpm
<b> </b>						Jet (deep)	☐Recipro		☐ Centrifu	
				<u> </u>	18. WELL DR	ILLER:	Robyn Barkle	y CERT. NO.:	934	
					Address:	2485 Watson				
*Inelle -4- *4	Inter De **		<del> </del>	<u> </u>	-	Elgin, SC 29	(PRO			
	later Bearing Z 2nd sheet If ne			Ī						
S. REMARK			<u> </u>	·	Telechone	a No.:	(803)438-1331	İ		
- remarke	₩.							FICATION: This	well was drilled	under my
1								my knowledge ar		· · · · ·
1 .					ا م	n -		. <del>.</del>		
1					4n	1 1				
					Signed:	mall	Mahlem/	_ Date:	12/27/2008	<u> </u>
						ized sepresentative				
				<del></del>		<del></del>		<del></del>		



- FRUIN	OIR PROJECT I	THE STEE	L								
1. WELL OW	NER INFORM	IATION:			6. PERMIT NU	MBER:	877				
Name:	Palmetto E	Environment (last)	al Group, Ind	C. (first)							
Address:	P. O. Box	• •		- •	7. USE:						
					☐ Residen	rtial	☐ Public St	upply	<b>✓</b> Process		
City:	Eigin	State:	SC :	Zip:29048	☐ Irrigation		☐ Air Cond		☐ Emerger	СУ	
Ouy.	≠-Ma.	Jen.		<del></del>	☐ Test We		☐ Monitoria	•	Replace	•	
Telephone: \			Hame:		8. WELL DEP			Date Started:			3/2006
	N OF WELL:				I		_			45	
Name:	Handy Par		ud's Chevro			5	ft.	Date Complete		12/1	5/2006
Street Add	irees:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	tary	☐ Jetted		<b>✓</b> Bored		1
					□Dug		☐Air Rota	ry	Driven		
City:	Columbia,	SC	Zip:		☐Cable T		☐ Other				
	Richland		_		10. CASING:	☐Threeded	<b>Welded</b>	1			1
Latitude:	34°00.77	Longitude:	81°00.97		Diem.:		1"	Height: Above/	Below		
3. SYSTEM		SYSTEM NUI		<del></del>	Туре:	<b>☑</b> PVC	☐ Galvanized	Surface			
					]	☐ Steel	☐ Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	☑ No		1 0	in. to 45		Drive Shoe?			Vo
			100			in. to	feet depth		·	_ ·	-
Geophysic	el i ane	☐ Yes	☑ No		11. SCREEN	41. CV		l			
Geomilage	en coller	L (68	1	Depth to		PVC		Diam.:	4"		
Formation Description			Thickness of	Bottom of	Slot/Gauge	.020		Length:	20'		
		-	Stratum	Stratum	Set Betwee	n:1	ft. and 10	ft.			
<b></b>			0	07	]		fi. and	î.			<b></b>
Red/brown clayey sand 27' 27				27'	Sieve Analy			(please enclos	B)		No
Yellow to gray clayey sand (wet) 18' 45'							ft. below land s	urgace after 24 h	ours		
	<u> </u>				13. PUMPING		Land Surface				
							hrs. Pumping				
					Pumping T	est:	☐ Yes	(please enclos	e)		No No
			ļi		Yield:	HAUTY			<del></del>		
				ļ	Chemical		Yes 🔽 No	Bacterial Ar	asivsii Yes	No	Ì
<del></del>	<del> </del>		<del> </del>	<del></del>		ziose lab result			• —		
			<u> </u>		18. ARTIFICU	L FILTER (m	er pack)	✓ Yes	□ No		
						om	44	ft. to	45	R.	
		····	<b></b>		Effective s		Ta Van	Uniformity Coe	mclent		
-					18. WELL GR		Yes and Cement		Officer		
	···		<del>                                     </del>		Depth: Fro	enient (1) of	10	fl. to	40	ft.	
			<u> </u>		17. NEAREST	SOURCE OF	POSSIBLE CO	VTAMINATION:	ft.		direction
					<b>]</b>	T	ype well disinfect	ed Yes Ty	/pe:		
		<del></del>					unpon compi	etion 🗾 No	Amount:		<del></del>
					18. PUMP: Mfr. Name	Pate installed	unpon compl unpon compl	Model No.:	Not installed	14	
		<del></del>	ļ		H.P.	Volts	Length of drop		fi. Capacity		gpm
İ			j j			Submersible					—···
		<del></del>			7 Ö	Jet (deep)	□Recipro	cating	☐ Centrifu	gal	
	r	¥************************	<u> </u>		19. WELL DR		Robyn Barkley	CERT. NO.:	934		
					Address:	2485 Watson Elgin, SC 290					
	Man Dearta		<del> </del>		4	ENHIII, 201 201	rtu				
<b>a</b> 2	ater Bearing Zo and sheet if ne					•					
5. REMARK	5:				Telephone		(803)438-1331		المالك مسير المبير	undas -	
l							NCTOR'S CERTI He to the best of I		s well was drilled	under i	ııy
					Chicarran and r	na ishar san	NO TO THE CASE OF I	n'i vinamenta s	ina Menel.		
l					1	1 -					
ł					West West	100	arkley	Date	12/27/2006		
ļ					Authorit	PO Representative	war way	_ Dave			
L						7	J				



Leto/A	OIE PROTECT	PRUBTE X									
1. WELL OW	MER INFORM	MATION:			6. PERMIT NU	MBER:	877				
Name: Palmetto Environmental Group, Inc.											
Address:	P. O. Box	• •			7. USE:	<del></del>	<del></del>				
					☐ Reside	ntiai	Public S	upply	Process	3	
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio		☐ Air Cond		□Emerge		
Ouy.	Min.	wate.			, •	☐ Test Well		ng Well	☐ Replace	•	
Telephone:	Work		Home:		8. WELL DEP	<u> </u>		Date Started:		9/28/	2006
	N OF WELL:		- 19411990		1	/	-7				
Name:			ud's Chevro	n/Site	4	15	_ ft.	Date Complete	ed:	12/15/	2006
Street Add	•		or St./1600 T				Lietted	certified	<b>✓</b> Bored		
Guest Man	A1408.	Loor rayk	. Jul 1000 l	TO ITUMI	Dug	J	☐Air Rota	rv	Driven		
City:	Columbia,	SC	Zip:		Cable 1	Cool	☐ Other				
	Richland		zip.		10. CASING:		✓Welded	1			
		Longitude:	21 <sup>9</sup> 00 07		I	IIUGENGU	48	Height: Above	/Relow		
Latitude: 3. SYSTEM		SYSTEM NU		<del></del>	Diam.:	<b>☑</b> PVC	☐ Gelvenized	T -	10000		
3. 575 IEM	RAME	STS!EM NU	reek;		Туре:	Steel □	☐ Other				
4 41			F21	··· ·· · · · · · · · · · · · · · · · ·	┥ 、			Weight		_ <b>Z</b> No	_
4. CUTTING	Samples:	☐ Yes	☑ No			in. to <u>45</u>		Drive Shoe?	니 Yes	₩ No	9
			<b>5</b>			in. to	feet depth	<u> </u>	·	<del>~~~~</del>	
Geophysic	cai Logs:	☐ Yes	☑ No	Depth to	11. SCREEN	PVC		Diam :	An		
Fn	Formation Description Thick		*Thickness of	Bottom of	Type: Slot/Gauge		<del> </del>	Diam.: Length:	20'		_
romanon concupum		Stratum	Stratum	Set Between		ft. and 10	ft.		******	_	
	_				1		ft. and	ĪL.			
Red/	brown claye	ey sand	27'	27	Sieve Anai			(please enclo	se)		No
Vollow to	arav eleven	sand (wet)	18'	45'	12. STATIC W	VATER LEVEL		the helmu land	surgace after 24	haume	
I GIIOM (O	Rich Cald	odin (Mat)	10	70	13. PUMPING	LEVEL Below	V Land Surface	THE POOL OF THE PARTY	ovidano enter va		
]			j		·	ft. after	_ hrs. Pumping		G.P.M.		
		<del></del>			Pumping 1	Test:	☐ Yes	(please enclo	se)		Z No
<u></u>					Yield:	31A1 &					
]			]		14. WATER C		Yes 🔽 No	Bacterial A	naivsi⊡ Yes	No	
		*:*		· · · · · · · · · · · · · · · · · · ·		ciose lab resul		- wavenial r	majorini 100	14011	
<b></b>					15. ARTIFICIA	AL FILTER (M	er pack)	✓ Yes	□ No		
			1			rom	44	ft. to	45	ft.	
			<b></b>		Effective s		12 0	Uniformity Co	emcient		
ł			1		119. WELL GN	COULDI Coment II Q	☑ Yes and Cement □	☐ No Concrete ☐	Other		
<del> </del>	<del></del>		<b></b>		Depth: Fr	rom	10	ft. to	40	n.	
					17. NEARES	T SOURCE OF	POSSIBLE CO	NTAMINATION	i: ft		rection
			•		]	T	ype well disinfect	bed ☐ Yes T	ype:		
<b></b>			ļ		18. PUMP:	Data Installac		letion V No	Not installed		
1			1		Mfr. Name	Date Installed 3:	•	Model No.:	I AFO IN STATISTICS	Œ	
<u> </u>			<u> </u>		H.P	Volts	_ Length of drop	pipe	ft. Capacity		gpm
					Type:	Submersible	☐Jet (sha	illow)	□Turbine		
1			1			Jet (deep)	Recipro		☐Centrift 934		
ļ —		······································	1	<del> </del>	19. WELL DR	ULLER: 2485 Watson		y CERT. NO.:	834	•	
1			1	ļ	( COURS.	Elgin, SC 29					
Indicate W	ater Bearing Z	ones (Use			7		-				
	2nd sheet if ne		1	ļ	1						
6. REMARK	<b>3</b> :	<del></del>			Telephoni		(803)436-1331				
1									nis well was drilled	l under m	y
]					direction and	tinis report is tr	ue to the best of	my knowledge i	and belisf.		
]						<u> </u>					
]					1. 1		2,60		40.000.000		
					Signed: ZCO	my E	MANALMY -	_ Date:	12/27/2006	2	
L					Author	ized Representative					



1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	MBER:	877	. —			
Name: Palmetto Environmental Group, Inc. (last) (first)											
Address:	P. O. Box	• •			7. USE:						
					☐ Residen	ıtizi	Public S	u <b>ppły</b>	Process		
City:	Elgin	State:	SC	Zip:29045	☐ Irrigation	n	☐ Air Cond	litioning	□ Emerge		
			:	•	☐ Test We		☐ Monitorir	ng Weil	☐ Replace		
Telephone: \	Nork:		Home:		8. WELL DEP	TH (completed	)	Date Started:		9/28/	/2006
	N OF WELL:				1						
Name:	Handy Par	ntry #65/Clou			4	5	ft.	Date Complete		12/15/	<u> 2006</u>
Street Add					9. Mud Ro	tary	□Jetted		<b>✓</b> Bored		
		-			□Dug		☐Air Rota	ry	☐ Driven		
City:	Columbia,	SC	Zip:		☐Cable T		☐Other				
	Richland		•		10. CASING:	□Threaded	Welded V				
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1 <sup>n</sup>	Height: Above	/Below		
3. SYSTEM!		SYSTEM NUI				<b>☑</b> PVC	☐ Gaivanized	Surface			
						□ Steel	☐ Other	Weight		_	
4. CUTTING	SAMPLES:	☐ Yes	☑ No		1o		feet depth			<b>2</b> N	0
						in. to		1			
Geophysic	ai Logs:	☐ Yes	Mo		11. SCREEN			<del></del>	A-047-		
			Thickness of	Depth to	Type:	PVC		Diam.:	<b>4</b> "		
Fox	rmation Descri	ption	Stratum	DOMONII OI	Slot/Geuge			Length:	20'	<del></del>	-
·				Stratum	- Set Betwee	n: <u>1</u>	ft. and 10	. ft. ft.			
Red/i	brown claye	y sand	27'	27'	Sieve Analy	rais	T Yes	_ ic. (please enclos	9e)	<b>E</b>	7) No
				···	12. STATIC W	ATER LEVEL					
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land	surgace after 24	hours	
					13. PUMPING				CPM		
<b></b>	1 · · · · · · · · · · · · · · · · · · ·				Pumping T	icana 'est:	hrs. Pumping	(please enclos		c	Z) No
					Yield:		F 100	- William Cillian			
<u> </u>				<del></del>	14. WATER Q						
					Chemical		Yes 🔽 No	Bacterial A	knalysi⊟ Yes	No.	
				[	Please end	iluser disi esok	S or nack)	Yes	□ No		
		···		<del></del>	inetalled for	ow	u paunj 44	ft to	45	ft.	
]		_	<b>]</b>	ļ	Effective s	ize		Uniformity Co			
					16. WELL GR	OUTED?		□ No	00	-	
<u> </u>	<del> </del>				Neet C	ement 🔲 Se	and Cement 🗆	Concrete 🗍	Other	) ft.	
<u> </u>		ļ	į į	1	Depth: Fro	SOURCE OF	POSSIBLE CO	TAMINATION	:f	, it.	irection
<del></del>			<del>                                     </del>	····			ype well disinfect	ed Yes T	уре:		
							unpon comp	letion 🔽 No	Amount:		
					18. PUMP:	Date Installed	:	Madel No.	Not installed	4	
	×		<u> </u>	<b></b>	Mfr. Name H.P.	: Veits	Length of drop	Model No.: _	ft. Capacity		gpm
		1		1		Submersible	uengaroradop Jet (sha	illow)	it. Capacity ☐Turbine	•	- Shirt
	<del></del>		<u> </u>	<del>                                     </del>		Jet (daep)	□Recipro	cating	☐ Centrifi	ugal	
					19. WELL DR	ILLER:	Robyn Barkley		93	4	
I	<del></del>		l	I	Address:	2486 Watson Elgin, SC 291					
* d1	ntee Donate	WAG # 1	<del> </del>	<del>                                     </del>	4	ш <b>у</b> н, эс 25	<b>77</b> 0				
	ater Bearing Zo 2nd sheet if nee	•		1	1						
E REMARK			L	<u> </u>	Telephone	No.:	(803)438-1331				
					20. WATER W	VELL CONTRA	ACTOR'S CERTI	FICATION: TH	tis well was driller	d under m	iy
							ue to the best of i				
<u> </u>								_			
1					An	1 h	11				
1					Signed:		repley	_ Date:	12/27/2009	3	
					Authori	ze Representative					



******	OIR PROJECT	S INTEREST EAST	<u> </u>							
1. WELL ON	MER INFORM				6. PERMIT NU	MBER:	877	,		
Name:	Palmetto E	Environment (lest)		C. (first)						
Address:	P. O. Box	427		•	7. USE:					
					□Resider	rtiai	☐ Public S	upply	Process	
City:	Elgin	State:	SC	Zlp:29045	☐ Irrigatio	n	☐ Air Cont	ditioning	☐ Ernerge	ncy
					☐Test W		☐ Monitori	ng Well	☐ Replace	
Telephone:			Hame:		8. WELL DEP	TH (completed	)	Date Started:	•	9/28/2006
	N OF WELL:						_		_	45455555
Name:	-	ntry #65/Clo				5	ft.	Date Complete		12/15/2006
Street Add	iress:	2367 Taylo	or St./1600 T	wo Notch	8. Mud Ro	tery	☐Jetted		<b>☑</b> Bored □ Driven	
	Onlaundala	00			□Dug □Cable 3	ra al	□Air Rota □Other	iry	TIDUARU	
City:	Columbia, Richland	SC	Zip:		10. CASING:		Welded	T		
	34°00.77	Longitude:	04900 07		I	THE HIGH	Nu ■STAAGIGISCI	Height: Above/I	Rojour	
3. SYSTEM		SYSTEM NU		<del> </del>	Diam.:	<b>☑</b> PVC	☐ Gelvanized	_		
3. 578 (EM	NAME	STS   EM NU	meser:		Туре:	BZIPVC □Steel	☐ Other	Weight		
4. CUTTING	CAMOLES.	☐ Yes	☑ No		ه ا			Drive Shoe?	☐ Yes	☑ No
4. Cut ting	ermples:	⊔ tes	M21 140			in. to	feet depth	Diffe Shoet	LI TES	
Geophysic	el Logo:	☐ Yes	☑ No		11. SCREEN	u. w	teer depail	.L		<del></del>
Geophyon	ei Lugo.			Depth to	Type:	PVC		Diam.:	4" 20'	
Fo	rmetion Descr	iption	Thickness of Stratum	Bottom of	Slot/Gauge			Length:	20'	
	······		Guattini	Stratum	Set Betwee	n: <u>1</u>	ft. and 10	_ ft. ft.		
Red/	brown claye	ev sand	27'	27'	Sieve Anal	vela	ft. and	_ ic s (please enclose	e)	No.
					12. STATIC W	ATER LEVEL				
Yellow to	gray clayey	sand (wet)	18'	45'	43 ETOLOTIC	Havel Polos	Land Surface	. ft. below land s	urgace after 24 i	Nours
							_ hrs. Pumping		G.P.M.	
					Pumping 1		☐ Yes	s (please enclose		<b>☑</b> No
	· · · · · · · · · · · · · · · · · · ·				Yield:	A LAN TOWN				
					Chemical		Yes 🔽 No	Bacterial An	aivsi⊡ Yes	No.
		<del></del>				close lab result				
					18. ARTIFICIA			Yes Yes	D No	
			1		Installed fi	om		ft. to Uniformity Coe	45 Release	ft.
		****			18. WELL GR		Yes	□ No	monen	
					☑ Neat C	ement 🔲 Si	and Cement 📋	Concrete 🗆 (	Other	
<del></del>					Depth: Fr			) fl. to NTAMINATION:	40	ft. direction
			<del> </del>		- NEAKEST			NIAMINA (ION: led∐ Yes Ty		— dilector
			İ					letion 🛂 No	Amount:	
					18. PUMP:	Date Installed		No del Mari	Not installed	Z
	· <del>- · · · · · · · · · · · · · · · · · ·</del>		-		Mfr. Name H.P.	volts	Length of drop	Model No.:	ft. Capacity	дрп дрп
						Submersible			□Turbine	
[						Jet (deep)	□Recipro		☐ Centrifu	gal
<u> </u>	<del></del>		<del>                                     </del>		19. WELL DR	ILLER: 2485 Watson		y CERT. NO.:	934	•
					, mail 1003.	Eigin, SC 29				
*Indicate W	ater Bearing Z	ones (Uee			7					
	2nd sheet if ne	eded)	<u> </u>		1					
5. REMARK	<b>3</b> :		<u> </u>		Telephone		(803)438-1331	FICATION: The	manil uma dell'ad	under my
ł								my knowledge at		minel IIIA
j					1	1 1	10			
1					Signed:	m B	ackless	Date:	12/27/2006	
					Author	zer Representative				



4 10000 - 4000		1471001	·		le proven	MDED-	877	,			
1. WELL ON Name:	<b>Palmetto E</b>	MATION: Environment (fact)		C. (first)	6. PERMIT NU	ymack:	<b>6//</b>				
Address:	P. O. Box	· ·		7	7. USE:	· · · · · · · · · · · · · · · · · · ·		<del></del>			
					Reside	ntial	☐ Public S	upply	Process	ì	
City:	Eigin	State:	SC	Zip:29045	□Irrigatio		☐ Air Cond	- 7 1 7	☐ Emerge		
,				<del></del>	☐ Test W		☐ Monitoria	•	☐ Replace	•	
Telephone:		- 12	Home:			TH (completed		Date Started			8/2006
	N OF WELL:										# 14 # # F
Name:	•	ntry #65/Clo				45	ft.	Date Comple		12/1	5/2006
Street Add	17885:	2367 Taylo	or <b>St./1600</b> T	wo Notch	1	otary	☐Jetted		Bored		
A	<b>O-1</b>	60	<b>70</b>		□ Dug	Page 1	□Air Rota	u <b>y</b>	☐ Driven		
City:	Columbia, Richland	36	Zip:		☐Cable 1		☐Other ☐	<del> </del>			
			04000 0-		10. CASING:		Welded	Matalia At -	n/Bales		
		Longitude:			Diam.:	[7] n 4	1"	Height: Abov			
3. SYSTEM	rane:	SYSTEM NU	MBER:		Туре:	☑ PVC					
4 81	OALES			<del> </del>	- ∤	☐ Steel	☐ Other	Weight			Me
4. CUTTING	GAMPLES:	☐ Yes	☑ No		0	In. to 45		Drive Shoe?	☐ Yes		140
Caretani.	rol I ses	[T] W	(7) At-		11. SCREEN	In. to	feet depth	<u></u>	<del></del>		
Geophysic	es LUDS:	☐ Yes		Depth to	11. SCREEN Type:	PVC		Dlam.:	4"		
Fo	rmation Descri	iption	*Thickness of	Bottom of	Slot/Gauge	.020		Length:	4" 20'		<del></del>
		<del></del>	Stratum	Stratum	Set Betwee		ft. and10_	_ft			
Dedi	brown claye	iv gand	27'	27'	Sieve Anal	vele	ft. and	ft.	<b>100</b> )		<b>□</b> N-
L/GU/	JIJWII GICIYE	्र बद्धा <u>स</u>		- 41		ysis VATER LEVEL		s (please encla	A201		<b>☑</b> No
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land	d surgace after 24 i	noure	
						LEVEL Below	Land Surface				
ļ	<del></del>		<b></b>	ļ——	Pumping 7		_hrs. Pumping	s (please encid	_ G.P.M.		D No
					Yleld:	. <del>gal.</del>	196	- Anceso Guer			No.
		······································		j <del></del>	14. WATER C				<del></del>		<del></del>
	<del></del>				Chemical	Analysis 🗆	Yes 🛛 No	Bacterial A	Analysi⊡ Yes	No	ī
		•		Ţ	TIBOSE ON	close lab result	St Dack)	✓ Yes	□ No		
	<del></del> -			<del></del>			44	ft. to	45	ñ.	
					Effective s	ize		Uniformity C			
				ļ		OUTED?		□ No	Other		
				<del> </del>	Depth: Fr	om	and Cement 🗍 10	ft. to	40	R.	
					17. NEAREST	<b>SOURCE OF</b>	POSSIBLE CO	NTAMINATIO	N: ft.		direction
					]	T <sub>3</sub>	ype well disinfect	led⊡ Yes	Туре:		
	<del></del>				48 BI IND.	Date Installed	unpon comp	ietion 🔽 N	lo Amount: Not installed		
<u></u>				[	Mfr. Name		*	Model No.:	Delimica n .c	ها.	_
					H.P	Volts	Length of drop	pipe	ft. Capacity		gpm
						Submersible	☐Jet (sha		☐Turbine		
			]	ļ	19. WELL DR	Jet (deep)	☐Reciprod Robyn Barkley		☐Centrifu 934		
_						2485 Watson Elgin, SC 290			-		
Indicate W	ater Bearing Zo	ones (Use		<b></b>	1		- · <del>-</del>				
	ater bearing 21 2nd sheet if ne			1							
S. REMARK			<del></del>		Telephone		(803)438-1331				
							ACTOR'S CERTI us to the best of r		his well was drilled and belief.	under	my
					A						
					Signed:	man 12	ackley	_Date:	12/27/2006	<u>}_</u>	
						egal Representative	The same of the sa				
		<del></del>				Manager 1					



#### **Bureau of Water**

	OIE INDIGE!	I INCOLUENT	<u>L</u>								1
1. WELL OW	MER INFORM	AATION:			6. PERMIT NL	MBER:	877				
Name:	Palmetto I	Environment (last)	tal Group, In	C. (first)							
Address:	P. O. Box	427			7. USE:	····					
					☐ Reside:	ntial	☐ Public S	upply	✓ Process	1	
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio	n	☐ Air Cond	•	☐ Emerge	ncy	
				-	☐Test W	eil	☐ Monitori	ng <b>Wei</b> l	Replace		
Telephone: \	Work: N OF WELL:	AQ 14	Home:	<del></del>	8. WELL DEP	TH (completed	)	Date Started:		9/28/	2008
2. LOCATION Name:	· · · · · · · · · · · · · · · · · · ·		ud's Chevro	n/Cila		15		Data Assessates	d.	19148	2000
Street Add	•		or St./1600 T		9. LiMud Ro		_ ft.	Date Complete	a: Bored	12/15/	2000
Sueer von	n <del>40</del> 9.	Zour rayk	// GL/ (QUU	MO MORCI		wai y	□Air Rota	***	☑Driven		
City:	Columbia,	SC	Zip:		☐Cable 1	ľoni	□Other	. J	LL:TEF)		i
	Richland		raile.		10. CASING:		Welded	<del>                                     </del>			
		Longitude:	81°00 97				1 <sup>11</sup>	Height: Above/I	Below		
3. SYSTEM		SYSTEM NU		<del></del>		<b>☑</b> PVC		_			
					, yes.	☐ Steel	☐ Calvanizad	Weight			
4. CUTTING	SAMPLES:	☐ Yes	Z No		10			Drive Shoe?		☑ No	, !
							feet depth		~~		
Geophysic	ai Logs:	☐ Yes	☑ No		11. SCREEN						
			Thickness of	Depth to	Туре:	PVC		Diam.:	4" 20'		
Foi	rmation Descri	ption	Stratum	Bottom of Stratum	Slot/Gauge Set Betwee	.020		Length:	20,		-
	L			oratum	7		nt. and <u>10</u> ft. and	_ ft. ft.			
Red/f	prown claye	y sand	27'	27'	Sieve Anzi	ysla	☐ Yes	(please enclose	)		No.
Vallow to	area ejeven	sand humi	18'	45'				A tratamentaria			
LAHOM IO	AIGY CIGYBY	sand (wet)	10	40	13. PUMPING	LEVEL Role	Land Surface	ft. below land s	urgace aner 24 i	iùris	
									A-11 11401		
					Pumping 1	est:	☐ Yes	(please enclose	))		] No
<del> </del>			<del></del>		Yield:	MAUTY					
					Chemical /	Analysis 🗆		Bacterial An	alysi⊡ Yes	No.	
					Please en	close lab result	8				
<del></del>					18. ARTIFICIA	ル FiLTER (間)	er pack) 44	Yes ft. to	□ No	ß.	
]					Effective s	ize	<del></del>	Uniformity Coef		tL.	
					16. WELL GR	OUTED?	✓ Yes	□ No			
					Neat C	ement 🔲 Sa	ind Cement 🔲	Concrete   C	other		
			}		Depth: Fr	MII SOURCE OF	FOSSIBLE CO	R. to TAMINATION:	40		ection
		···					pe well disinfect	ed Yes Ty	pe:	<u> </u>	
							unpon compl	letion 7 No	Amount:		
					18. PUMP: Mfr. Name	uate installed:		Model No.:	Not installed	M	
		• • • • • • • • • • • • • • • • • • • •				Volts	Length of drop	pipe	ft. Capacity	· · · · · · · · · · · · · · · · · · ·	gpm
					Type: 🗆	Submersible	□Jet (sha	llow)	☐Turbine		-
					19. WELL DR	Jet (deep)	☐Reciprod Robyn Barkley		☐Centrifu 934		
				-		2486 Watson		veni. Ny	534		
Indicate We	ter Bearing Zo	ones (Ues			1	Elgin, SC 290	145				
a 2	nd sheet if nee				j						
5. REMARKS	B:				Telephone		(803)438-1331				
								FICATION: This my knowledge an		under my	,
					0	1 13.	bl.		40.0000000		
					Signed: Authoriz	196 Representative	mer	Date:	12/27/2006	· · · · · · ·	
<del></del>	*	<del></del>			1	,					



4 19/21 / 614	VNER INFORM	TATION-	<del></del>	******	6. PERMIT NI	(14050-	877	7			
			-I O !		J. PERMINI RI	- MPERC	9/1	Ŧ			,
Name:		Environment (last)		C. (first)			-		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	·	
Address:	P. O. Box	427			7. USE:						
					Reside		☐ Public 8		Process		
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio		☐ Air Con	-	☐ Emerge	•	
-					☐Test W		☐ Maritor	<del>, , , , , , , , , , , , , , , , , , , </del>	☐ Replace		
Telephone:			Home:		8. WELL DEF	TH (completed	1)	Date Started:		9/2	8/2006
	N OF WELL:			<b>185</b> 11		45	<b>A</b>	<b>.</b>	h	4844	E 14444
Name:	•	ntry #65/Clo				45 	ft.	Date Complet		12/1	5/2008
Street Add	ress:	230/ Taylo	or <b>St./1600</b> T	wo Notch		otan <b>y</b>	☐ Jetted	<b>9</b> 00.4	☑ Bored		
	Oakk-1	00	<b>***</b>		□ Dug	Taal	☐Air Rote	aly	□ Driven		
City:	Columbia,	36	Zip:		Cable Cable	Tool  Threeded	Other			<del></del>	
,	: Richland		04000 000			ш іппевсекі	✓ Welded	Links at	Malau.		
		Longitude:			Diam.:	[7]		Height: Above			
3. SYSTEM	NAME:	System Nu	mber:		Type:	☑PVC		Surface			
4 61	04255		Table   1	<del></del>	4 _	☐ Steel	☐ Other	Weight		_ [73)	Me
4. CUTTING	SAMPLES:	☐ Yes	☑ No		0				☐ Yes	Z	No
A	rat I aca-	, pro	F78		44 645	in. to	feet depth		<del></del>		
Geophysic	CHI LOGS:	' 🗆 Yes	·	Danilla da	11. SCREEN Type:	PVC		Diam.:	<b>4</b> "		
Fa	rmation Descri	iption	Thickness of	Bottom of	Slot/Gauge	9: .020	<del></del>	Length:	20'		
			Stratum	Stratum	Set Betwee	en: 1	ft. and 10	_ft.			
Ded	hroup ele	weend	27'	27			ft. and	ft.	201		<b>- 1</b>
K90/	brown claye	y sand	21	27'	Steve Anal	lysis VATER LEVEL	Ye	s (please enclo	est)		✓ No
Yellow to	gray clavev	sand (wet)	18'	45'				_ ft. below land	surgace after 24	hours	
				T			v Land Surface				
				<u> </u>			hrs. Pumping		G.P.M.		
<u> </u>		<u> </u>		1	Pumping * Yield:	I ESC	☐ Ye	s (please enclo	<del>56</del> )		☑ No
			† — — — — — — — — — — — — — — — — — — —	<del></del>	14. WATER C						
			,		Chemical	Analysis [	Yes 🛛 No	o Bacterial A	vnalysi⊟ Yes	No	7
_				1.	Please en	iclose lab result AL FILTER (filt	or neal?	120	□ No		
			<del> </del>	<del></del>		rom	ter pack) 44	Yes ft. to	∐ №0 45	ft.	
					Effective s	size		Uniformity Co	efficient		
				ļ		KOUTED?		□ No			
	<del></del>	<del></del>		<u> </u>			and Cement 🖺	Concrete 🗆	Other	) ft.	
			<b>j</b>	1	Depth: Fr	T SOURCE OF	POSSIBLE CO		(: #L	) TL	direction
		***************************************			T		ype well disinfec	ted∐ Yes 1	Type:		
				<u> </u>		Date Installed	Immon come	pletion Z No	o Amount:		
				ţ	18. PUMP: Mfr. Name		ı:	Model No.:	Not installed	M	
	<del>,</del>	<del></del>	<b> </b>	<del></del>	H.P.	o: Volts	Length of drop		ft. Capacity		gpm
		<del></del>			Type: 🗖	Submersible	☐Jet (sha	allow)	☐ Turbine		
		. <del></del>		1		Jet (deep)	☐Recipro		☐ Centrifu		
			<b></b>	<del></del>	19. WELL DR	tiller: 2485 Watson	•	y CERT. NO.:	934	•	
						Elgin, SC 28					
	ater Bearing Z			1	1						
	2nd sheet if ne	eded)			4 _	•					
S. REMARK	<b>S</b> :				Telephon		(803)438-1331	1	the same three of	1 0 000	1000 f
							ACTOR'S CERT us to the best of		nis well was drilled and belief.	under	al <b>y</b>
					- South I MIN		un vest Ui	,			
•					A.	1 1	1 .				
					Signed: Rac	by Br	uller	Date:	12/27/2006	}	
<u></u>						tega Representative					
		<del></del>					<del></del>				



											لـــــا
1. WELL OW	NER INFORM				6. PERMIT NU	IMBER:	877	,			
Neme:	Palmetto I	Environment (last)	zai Group, in	C. (first)						<u></u> .	
Address:	P. O. Box	• •		-	7. USE:		- <del></del>			<del></del>	
					Reside	ntial	☐ Public S		Process		
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio		☐ Air Con	•	☐ Emerge		
				•	☐ Test W		□Monitor	<del> </del>	Replace		أحب
Telephone: V		- A	Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/28/2	2006
	N OF WELL:				1		•	_		·	
Name:	-		ud's Chevro			45	_ft.	Date Complet		12/15/2	2006
Street Add	T <b>968:</b>	230/ Taylo	or <b>St./1600</b> T	wo Notch	9. Mud Ro	otary	Lietted Care		Bored		
A*-	Calcusti-	80	<b>7</b> 2			Pani	☐Air Rote	ıı <b>y</b>	Driven		1
City:	Columbia, Richland	30	Zip:		Cable 1		☐Other ☐ Welded	<del>1</del> -	<del></del>		
	34°00.77	Longitude:	21 <sup>0</sup> 00 07		i .	⊶ imeaged	1"	Holekt AL	/Deter-		
2. SYSTEM A		Longitude: SYSTEM NUI			Diem.:			Height: Above			
9 [ 0   EM	THE STATE OF THE S	OTO I EM NU	MPER:		Type:	☑PVC □Steel	☐ Galvanized ☐ Other				
4. CUTTING	SAMPI FA	☐ Yes	☑ No		-lo			Weight Drive Shoe?		- IZI No	
: 1HTG	was takiQi	<b>⊸</b> 195	₩ 140			in. to <u>45</u>	feet depth	J.170 G11097	148	ar.d 140	
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN			<del></del>			
	<del></del>		*Thickness of	Depth to	Туре:	PVC		Diam.:	<u>4"</u>		.
For	metion Descri	ption	Strutum	Bottom of	Slot/Gauge			Length:	20'		. 1
				Stratum	Set Betwee	an: <u>1</u>	ft. and 10	_ft. ft.			
Red/c	prown claye	y sand	27'	27'	Sieve Anai		Yee	_ 11. s (please enclos	se)	[7]	No
						ATER LEVEL	,				
Tellow to	RIBA CIBAGA	sand (wet)	18'	45'	13 PHE BOO	LEVEL Below	v Land Surface	n. Delow land	surgace after 24 I	nours	
				Į.			_ hrs. Pumping		G.P.M.		1
					Pumping T		☐ Ye	s (pieese enclo			No
			<b> </b>		Yield: 14. WATER Q	UALITY	9				
<u> </u>				<u> </u>			Yes 🛂 No	Bacterial A	\naiysi∐ Yes	No.	
				T	Please end	close lab result	ts				
		<del>-</del>	<del> </del>			L FILTER (filt)		✓ Yes ft. to	□ No 45		
. <u></u>			ţ l	<b>ļ</b>	Effective s	ize _	<del></del>	Uniformity Co.		ft.	_
					16. WELL GR	OUTED?	✓ Yes	□ No			
							and Cement 🔲	Concrete   tt. to	Other40	1	<u> </u>
			<u> </u>	Į	Depth: Fro	SOURCE OF	POSSIBLE CO	NTAMINATION	i ft.		ection
	<del></del>										
		·	ļļ		40 (11)	Deta Inc.	ype well disinfect unpon comp :	tetion 🗸 No	Amount:	7-3	
			{	ļ	18. PUMP: Mfr. Name	rais installed	·	Model No.:	Not installed		
			ļ		H.P	Valts	Length of drop	pipe	ft. Capacity		gpm
	<del></del>	· · · · · · · · · · · · · · · · · · ·			,,	Submersible	☐Jet (sha	•	Turbine		i
l				Ţ	19. WELL DR	Jet (deep)	☐Recipro Robyn Baride	cating y CERT. NO.:	☐Centriffu 934		
						2485 Watson Elgin, SC 290		,	•	-	
	ter Bearing Zo nd sheet if nee				]						Ì
5. REMARKS				<del></del>	Telephone		(803)438-1331				
							ACTOR'S CERTI us to the best of		ds well was drilled and belief.	under my	
					Signed: Rutherts	Lyn B	ashley	_ Date:	12/27/2006	)	_
	<del></del>								<del></del>		



#### **Bureau of Water**

HON	OTE PROTECT	TICLESTE R	<u> </u>								
1. WELL ON	MER INFORM				6. PERMIT NL	MBER:	877				
Name:	Palmetto E	Environment (last)	al Group, In	C. (firet)							
Address:	P. O. Box			•	7. USE:		······································	<del></del>		·· · ·	
					Reside	ntial	☐ Public 8	upply	Process		
City:	Elgin	State:	SC	Zip:29045	☐irrigatio	n	☐ Air Cont		☐ Emerge		Ì
	0	- <del></del>			☐ Test W		☐ Monitori	•	☐ Replace	-	
Telephone: 1			Home:		8. WELL DEP			Dete Started:			8/2006
2. LOCATIO	N OF WELL:										
Name:	Handy Par		ud's Chevro			5	, ft.	Date Complete		12/1	5/2006
Street Add	iress:	2367 Taylo	or St/1600 T	wo Notch	9. Mud Ro	otary	□Jetted		<b>☑</b> Bored		
					□Dug		☐Air Rota	ry	□Driven		
	Columbia,	SC	Zip:		☐Cable 1		□Other				
	Richland				10. CASING:	Threaded	✓ Welded				
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:	<del></del>	1"	Height: Above	/Below		
3. SYSTEM	NAME:	SYSTEM NU	MBER:		Туре:	<b>☑</b> PVC	☐ Galvanized	Surface			
					1 "	☐ Steel	□ Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	Z No		10	in. to 45	feet depth	Drive Shoe?		<b>2</b> 1	No
}							feet depth				
Georghysic	zi Loge:	□ Yes	₩ No		11. SCREEN			<del>*</del> /			
				Depth to	Type:	PVC		Diem.:	4"		
For	rmation Descri	iption	Thickness of Stratum	Bottom of	Stot/Gauge			Length:	20'		
		·	Cuattan	Stratum	Set Betwee	n:		.ft.			
Port#	brown claye	w gand	27	27'	Sieve Anal		fit. and	ft. (piesee enclos	las		No.
				٤!	12 STATIC W	ysis IATER LEVEL	Tet	WIGGER CICIOS	es)		MI NO
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land	surgace after 24 h	HOUT'S	
1							Land Surface		0.7.1		
<b></b>					4 =====================================	TL STOF	_ hrs. Pumping	/nlnnnn	G.P.M.		<b>-</b> 2 N-
ł			j		Yield:	USL.	☐ Yes	(hierae euclos	5 <del>0</del> )		No No
<b> </b>					14. WATER C	UALITY					
					Chemical	Analysis 🗆	Yes 🛂 No	Bacterial A	nalysi□ Yes	No	1
						ciose lab result					
<u> </u>					18. ARTIFICIA	AL FILTER (filte Corn		Yes ft. to	□ No 45	ft.	
İ			[		Effectives	ine		Linkson by Co.		n.	1
<u> </u>					16. WELL GR	OUTED?	<b>✓</b> Yes	☐ No			
	<u> </u>				☑ Neat C	ement 🔲 Sa	and Cement 🔲	Concrete	Other		<del></del> .
					Depth: Fn	om	10	ft. to	40	ft.	
							POSSIBLE CO				direction
]							ype well disinfect	sulli 195 î letion 17î Na	ype:		
ļ ————————————————————————————————————	<del></del>		<del>                                     </del>		18. PUMP:	Date Installed	ype well disinfect unpon comp		Not installed	Z	
					T com : Latina	*					
]					H.P	Volts	Length of drop		fl. Capacity		gpm
<del> </del>				<del></del>	—	Submersible	□Jet (sha □Recipro			aal	
l			]		19. WELL DR	Jet (deep)	Robyn Barkley		☐Centrifu 934		
<del></del>						2485 Watson		,	304		
					_	Elgin, SC 290	<b>M</b> 5				
	ater Bearing Zo										
	and sheet if ne	eded)	<u> </u>		1		****				
5. REMARK	5:			<del></del> _	Telephone		(803)438-1331		de secolo	5 pag = 0	
ł							CTOR'S CERTI To the best of r		le well was drilled	under	n <b>ny</b>
					Can Scatter Mind 1	ina indenies (ir	io io uio d <b>es</b> i os i	ny knowkago s	and Doller.		
ŀ					1 .	1 -					
					Signed: R	lan Bo		Date:	12/27/2006		
					Author	cof Representative	wasen	_ UARO:	IKIKLIKUUD		
			·			9					



FRANCE	OIR MOIECL L	ROSPER									
1. WELL OW	MER INFORM	ATION:			6. PERMIT NU	MBER:	877				l
Name:			al Group, inc	2.	1						ł
ragines.		(last)		(first)							
Address:	P. O. Box 4				7. USE:						
Audioss.	1 . Q. DQX -	721			□Reside	ntiel	☐ Public S	unniv	Process		1
									☐Emerge:		
City:	Eigin	State:	SC .	Zip:29045			☐ Air Cond	•	•	•	
					☐ Test W	eli	☐ Monitori	ng Well	□Replace		
Telephone: 1	Work:		Home:		8. WELL DEP	TH (completed	) i	Date Started:		9/28/	2006
	N OF WELL:	AS-18			1						
Name:			ud's Chevro	n/Cite	i a	15	_ft.	Date Complete	ad:	12/15/	2006
					2000		Jetted	Date Campion	✓ Bored		
Street Add	iress:	230/ laylo	or St./1600 T	WO NOICH	1	Juny					
					□Dug		☐Air Rota	ry	Driven		
City:	Columbia,	SC	Zip:				Other				
COUNTY	Richland		•		10. CASING:	☐ Threaded	<b>✓</b> Welded				
		Longitude:	91 <sup>0</sup> 00 07		Diam.:		411	Height: Above	Below		
						73		-			
3. SYSTEM	NAME:	SYSTEM NU	MBER:		Type:	<b>☑</b> PVC	☐ Galvenized				- 1
					}	☐ Steel	☐ Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	☑ No		]0	in. to 45	feet depth	Drive Shoe?	☐ Yes	Z No	,
						in. to		1			
Caraltural	nat I age-	☐ Yes	☑ No		11, SCREEN					**	
Geophysic	ORI LOGO:	LI 168	<b>671 140</b>	Depth to	Type:	PVC		Dlam.:	<b>4</b> *		
	rmation Descri	-41	*Thickness of	Bottom of	Stot/Gauge		<del> </del>	Length:	<u>4"</u> 20'		-
FO	manon Dakari	puon	Stratum	Stratum		en: 1	ft. and 10				- 1
				Suamu	- Ser Dermon	a	fi. and	- <del>1</del> 1.			
Redi	brown claye	v sand	27'	27'	Sieve Anal	wala		(please encios	e)		No
1100	Biowii dayo	y doile									
Yellow to	gray clayey	sand (wet)	18'	45'			•	ft. below land	surgace after 24 l	ndurs	i
1011011 10	gray dayay	Contra (1100)			13. PUMPING	LEVEL Below	Land Surface			77	
						ft. after	_ hrs. Pumping		G.P.M.		
· · · · · · · · · · · · · · · · · · ·			<del> </del>			Test:	⊓ Ye	s (please enclo	<b>(e)</b>		No K
					Yield:					-	-
					14. WATER	UALITY		.,,			
			]		Chemical	Analysis [	] Yes 🔽 No	Bacteriel A	nalysi□ Yes	No✓	
	<del></del>					close lab result					
ŀ						AL FILTER (M		✓ Yes	□ No		
					Installed f	rom	44	ft. to	45	ñ.	
					Effective s	size		Uniformity Co	afficient		
			1		16. WELL OF	<b>OUTED?</b>	✓ Yes	□ No			
L							and Cement 🔲	Concrete 🗆	Other		
l					Depth: Fi	om	1(	ft. to	40		
<u> </u>					17. NEARES		POSSIBLE CO			d	rection
l						T	ype well disinfec				
			ļ			D-4: 1-:4-9	unpon comp	letion 🔽 No	Amount:	72	
				ŀ	18. PUMP:	Date Installed	·	Madel No.	Not installed		
				ļ	Mīr. Nam	a:		Model No.:	& Connelle		gpm
1			1	ŀ	H.P	Volts	Length of drop □Jet (sha		_ ft. Capacity Turbina		. Ahii
<b>}</b>			<del></del>	ļ		Submersible Jet (deep)	☐Rectore		☐ Centrifu		
				ł	19. WELL DE			y CERT. NO.:	<u> </u>		
<b></b>			<del> </del>	<del> </del>		ullier: 2485 Watson	•	,	95-	•	
1				l	Termess.	Eigin, SC 29					
*Imellanes 141	latas Bassina **		<del> </del>	<del> </del>	<b>-</b>		<del>-</del>				
	later Bearing Zo		I	1							
	2nd sheet If nee	su60)	1	<u> </u>	<b>-</b>	a Na :	(802)420 4224				
6. REMARK	<b>US:</b>				Telephon	5 (40.:	(803)436-1331	IEICATIALL T	is well was drilled	المراجعة المراجعة المراجعة	V
l										LINGS III	y
i .					direction and	me nabour se m	ue to the best of	unk kumansaide s	ių usibi.		
1					Į.	<b>a</b>					
1					A	1 M	10				
1					Signed:	Ina B	arklan	Date:	12/27/2006	<u> </u>	
1						Representative		· · · · · · · · · · · · · · · · · · ·			_
L											



S. Seed Direct	nie impieri	INCUCIENT									
1. WELL OW	NER INFORM	MATION:			6. PERMIT NU	IMBER:	877				
Name:		Environment (lest)		C. (first)		-					
Address:	P. O. Box	427		• •	7. USE:		· · · · · · · · · · · · · · · · · · ·				
		-			□Reside	ntial	☐ Public S	מסטוי	Process		į
City:	Elgin	State:	SC .	Zip:29045	☐ Irrigatio		☐ Air Cone		□Emerge		
Oily.	⊏(Rn i	omis.		Zip.250+0	☐ Test W		Monitori	•	□Replace	•	
Telephone: \	Work:		Home:			TH (completed		Date Started:	Tivohioco		/2006
2. LOCATIO	N OF WELL:	AS-19			1						
Name:	Handy Pa	ntry #65/Clo	ud's Chevro	n/Site	4	15	_ft.	Date Complete	ed:	12/15	/2008
Street Add	_		or St/1600 T		9. Mud Ro		□Jetted	· · · · · · · · · · · · · · · · · · ·	<b>✓</b> Bored		
					□Dug		☐Air Rota	rv	□Driven		
City:	Columbia,	SC	Zip:			Fool	□Other	•			
	Richland		zip.		10. CASING:		Welded	1			
			04900 07		1	E IIHQQUSU	49	I lutable Abana	Mala		
	34°00.77				Diam.:		1	Height: Above			
3. SYSTEM !	NAME:	SYSTEM NU	MBER:		Type:	<b>PVC</b>			<del></del>		
					_	☐ Steel	☐ Other	Weight	·		
4. CUTTING	SAMPLES:	☐ Yes	₩ No		]0			Drive Shoe?	☐ Yes	N	0
Geophysic	ol I one	☐ Yes	Mo No		11. SCREEN	in. to	feet depth	L		<del>,,,</del>	
Geopriyak	ar Lugs.	<u> </u>		Deoth to	Type:	PVC		Diam.:	<b>∆</b> n		
For	rmation Descri	intion	Thickness of	Bottom of	Slot/Gauge		<del></del>	Length:	4" 20'		-
,			Stratum	Stratum	Set Between		ft. and 10	ft.	<del></del>		-
					1		ft. and	ft.			
Red/l	brown claye	y sand	27'	27'	Sieve Anai	yeis	☐ Yes	(please enclos	e)		Z) No
Yellow to	gray clayey	sand (wet)	18'	45'	12. STATIC V	ATER LEVEL		ft. below land	surgace after 24 h	iours	
						LEVEL Below	Land Surface				
								<del></del>			
					Pumping 1 Yield:	rest:	☐ Yes	(please enclos	<b>:</b> e)	6	2 No
<u> </u>				<del></del>	14. WATER C						
					Chemical /	Analysis 🔲 close lab result	Yes ☑ No S	Bacterial A	nalyei∐ Yes	No	
					18. ARTIFICI	L FILTER (alti		✓ Yes	□ No		
						rom	44	ft. to	45	ft.	
	·				Effective s			Uniformity Cor	efficient		
·			1			OUTED?		□ No	Od		
	·····				Depth: Fr		ind Cement ☐	ft. to	Other40	•	
					17 NEADER	SOURCEOF	POSSIBLE CO	TAMINATION		n.	irection
***										— "	
							unpon compl	etion 🛂 No	Amount:		
					18. PUMP:	Date Installed	ype well disinfect unpon compl		Not installed	12	
					1 10001 - 14001 100	<b>"</b>		INTERNAL LAND.			
					H.P	Volts	Length of drop		ft. Capacity		_ gpm
	······					Submersible Jet (deep)	□Jet (sha		☐Turbine ☐Centrifu	nol	
					18 WELL DR		Robyn Barkiey				
	<del></del>					2485 Watson		,	<b>701</b>		
					4	Elgin, SC 290	<b>45</b>				!
	ater Beering Zo and sheet if ne										
S. REMARK	B:	<del></del>		· · · · · · · · · · · · · · · · · · ·	Telephone		(803)438-1331				
									s well was drilled	under m	y
					direction and	ihis report is tru	e to the best of r	ny knowledge a	ind belief.		
					1						
					1	1 1	11				
					Signed: KA	my Be	urlon/	_ Date:	12/27/2006		
						Representative					



1.4674)	UIL PRUIDLE	INVITER	L												
1. WELL OW	NER INFORM				6. PERM	AIT NU	MBER:	<del></del>	877						
Name:	Palmetto E	Environment (last)	tai Group, Ind	C. (first)											
Address:	P. O. Box	427			7. USE:										
					□R	lesiden	tial		i Public Su			Process			
City:	Elgin	State:	SC :	Zip:29045		rigation			i Air Condi	-		Emergen	-		
Walanta	S. Constan		Llame:			est We			Monitorin	ng Well Date Starte	<del></del>	Replacen		8/20	100
Telephone: \	Work: N OF WELL:		Home:		io Meri	L UEP	TH (complete	<b>73)</b>		THE STATE	u:		31 <i>Z</i>	o/Zl	, VO
2. LOCATION Name:		· · · · ·	ud's Chevro	n/SHo	į.	A	5	ft.		Date Comp	lated.		12/1	5/20	เกล
Name: Street Add	_		or St./1600 T		9. DM				Jetted	See Coult		Bored	121	<u> </u>	
Siest Mill	u <b>400.</b>	Loui layic	# GW 1000 1	AC HUUH			7		l Air Rotar	v		Driven			
City:	Columbia.	SC	Zip:		1	cable To	nol		Other	,					
	Richland		adr.				☐Threaded						-		
	34°00.77	Longitude:	81 <sup>0</sup> 00 07		Diam			4 <sup>8</sup>		Height: Abo	we/Below				
3. SYSTEM		SYSTEM NUI			Type		Z PVC				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				ļ
J. 4131681	rer-titalise	SIGIEM NU	MCEIV		iype		BZIFVC □Steel	□ Ott		Weight					j
4. CUTTING	SAMPI ES-	☐ Yes	Z No		1		in. to4			Drive Shoe		'es		No	
11110	erun <b>LEX</b> i	<u>⊶</u> 100					in. to		et depth	2110 0100	. 🛥 '				
Geophysic	al Logs:	☐ Yes	☑ No		11. SCR			<del></del>							
		h 69	*Thickness of	Depth to	Type		PVC		_	Diam.:	4* 20'	<del></del>		_	
Fo:	rmation Descri	ption	Stratum	Bottom of Stratum		Gauge: Between		) ft. and		Length:	20		<del></del>		
				Ougani	- 381	JELNEU	" <u>1</u>	_ it. airu ft. and		îL ÎL					
Red/t	brown claye	y sand	27'	27'	Sleve	e Analy	sis	-		(please end	dose)			Z	No
Yellow to	gray clavev	sand (wet)	18'	45'			ATER LEVE				nd surgace a	ifter 24 hr			
					13. PUN		LEVEL Belo		urface		<del></del>				
					1 ==		ft. after	hrs. F			G.P.M.	•			<b>N</b> 1-
					Pum Yteld	nping To d:			☐ Yes	(please end	1050)			Z	NO
					14. WAT	TER Q	UALITY	<b></b>		_			–		
	· · · · · · · · · · · · · · · · · · ·		-	<u> </u>			Analysis dose lab rest	☐ Yes	☑ No	Bacteria	i Analyei□	Yes	No[Z	7	
<b>l</b> .			]				L FILTER (f		)	V Yes	<u> </u>	Vo			
		· · · · · · · · · · · · · · · · · · ·			Insta	alled fro	om			ft. to	45		N.		
						ctive si		2	V	Uniformity	Coefficient		<del></del>		_
		+					OUTED? ement 🗆 S	Sand Cerr	Tes hent∏i	No Concrete	Other				i
					Dept	th: Fro	m		10	ft. to		40			_
		<del></del>			17. NEA	TREST	SOURCE O		BLE CON	TANINATIO		ft.		direc	tion
			[ ]		I —			2 400		ed Yes	Type: No Amou	nt·			-
					12 PIII	IP:	Date Installe	d:	OII COLLUDA		Not in	nc nstalled			
					Mfr.	Name:	:			Model No.:					
					H.P.		Volts		h of drop p		ft. Cap			(	gpm
	· · · · · · · · · · · · · · · · · · ·				- <sup>™</sup> yp÷		Submersible Jet (deep)		]Jet (sheli ]Reciproc			Turbine Centrifug	gi		
					10. WEI	LL DRI	LLER:	Roby		CERT. NO.		934			-
						rees:	2485 Watso Eigin, SC 2	n -	,	- <del></del> -					
*Indicate 14/-	ater Bearing Zo	ones (Use	<del>                                     </del>		1		<u> کان را الوست</u>	wrtii							
	ner Bearing 2.0 Ind sheet if nec														;
5. REMARK		<del>-</del>				phone			138-1331						
							HELL CONTR his report is t						under	my	
						- م	9			•					
					.	P.V	. 10	211		-		710000			
					Signed:	Authorit	A Representativ	BASEY	<u>/</u>	Date:	12/2	7/2006			-
		-			<u> </u>	- MILITARY	Topical and	<u> </u>				*			



# **Bureau of Water**

Lincola	OIE PROTECT (	THE PETER								
1. WELL OW	NER INFORM	IATION:			G. PERMIT N	UMBER:	877	7		
Name:			al Group, Inc	C. (first)						
Address:	P. O. Box			7	7. USE:					
		-			☐ Reside	intial	☐ Public 8	Supply	Process	
City:	Elgin	State:	SC :	Zip:29045	□irrigati		□ Air Con	•••		
			·		☐ Teet V		Monitor	•	Replace	
T <b>el</b> ephone: V	Work:		Home:			PTH (complete		Date Started:	<del> </del>	9/28/2000
	N OF WELL:		<del></del>		1		-			
Name:			ud's Chevroi	n/Site	}	45	ft.	Date Comple	ted:	12/15/2000
Street Add	•		or St./1600 T				□Jetted		Bored	
		wy	t		□Dug	-	□Air Rota	ary	□Driven	
City:	Columbia,	SC	Zip:		□ Cable	Tool	☐Other	-		
	Richland	<del>-</del>				☐Threaded		T	· · · · · · · · · · · · · · · · · · ·	
Latitude:		Longitude:	81°00.97		Diam.:			Height: Above	e/Below	
2. SYSTEM I		SYSTEM NU		·	Type:	<b>☑</b> PVC	☐ Gelvanized			
~ ~ · ~ : =:	<b></b>	RU			· ypo.	BZIFVC □ Steel	. DOther	Weight		
4 CLITTING	SAMPLES:	☐ Yes	<b>✓</b> No	<del></del>	1 .		feet depth	1		☑ No
		- 1 <del>0</del> 5	140			in. to	feet depth		199	140
Geophysic	al Loos:	☐ Yes	<b>☑</b> No		11. SCREEN		cot vehul			<del></del>
priyati		- 100	T	Depth to	Type:	PVC		Diam.:	4" 20'	
For	rmation Descri	ption	Thickness of Stratum	Bottom of	Slot/Gaug	e: .020	)	Length:	20'	
			On arrilla	Stratum	Set Betwe	en: 1		_ ft.		
Port#	brown claye	v gand	27'	27'	Sieve Ans	hele	ft. and	ft. s (please encid	ian)	<b> </b>
1/60/1		A ACRIEN	***************************************	£!	12 STATIC	NATER LEVE	<u> </u>	Andrea SUCK	wa j	<u> </u>
Yellow to	gray clayey	sand (wet)	18'	45'				_ ft. below land	surgace after 24 h	tours
							w Land Surface			
<u> </u>	· · · · · · · · · · · · · · · · · · ·		ļi				hrs. Pumping	s (please encio	_ G.P.M.	F-3 41
l		1			Pumping Yield:	Test:	☐ Ye	e (hisase encid	150)	Z N
					14. WATER			<del></del>		
<u></u>	<del></del>				Chemical	Analysis [	☐ Yes 🖸 No	o Bacterial	Analysi□ Yes	No.
]			[			nolose lab resu AL FILTER (fil			F1 61-	
<del></del>			<del> </del>		Inetelled	me rielek (ii İom	MET (PACK)	Yes ft. to	□ No 45	11.
<u></u>					Effective	from size		Uniformity Co		
					16. WELL GI	ROUTED?	Yes Yes	☐ No		
					Neat C	Zement 🗆 8	Sand Cement	Concrete 🔲	Other	
l			ļ ļ		Depth: F	T SOUTHER A	10 F POSSIBLE CO	O fl. to	40 V: #L	ft. directio
	,						unpon comp	pletion 🔽 N	o Amount:	
					18. PUMP:	Date Installe	Type well disinfed unpon comp d:	Madel N	Not installed	
	+		<b> </b>		Mfr. Nem H.P.	e: Volts	Length of drop	_ ****** _	ft. Capacity	gpr
						Submersible			it. Capacity	am
	•				<u> </u>	Jet (deep)	□Recipro	ocating	☐ Centrifu	
	······				19. WELL DI			y CERT. NO.:	934	
					Audress:	2485 Watson Eigin, SC 28	• •			
indicate Wa	iter Bearing Zo	ones (Use			1		- <del></del>			
	nd sheet if nee				1					
S. REMARKS	3:			<del>,</del>	Telephon		(803)438-1331			
									his well was drilled	under my
					direction and	this report is t	rue to the best of	my knowledge	and belief.	
						1				
					10	1. 1	110 -		48.000.000	
					Signed: (10)	1/2 /2 /2	The seaf	Date:	12/27/2006	
L		-			1 Austra	- Company				



1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	JMBER:	877				
Name:	Palmetto E	invironment (last)	tal Group, In	C. (first)							
Address:	P. O. Box	427		• •	7. USE:						
					□Reside	ntiai	☐ Public 8	upply	Process	3	
City:	Elgin	State:	SC	Zip:29045	□Irrigatio	n	☐ Air Cone		☐ Emerge	ncy	
·	-				☐ Test W	ell	☐ Monitori	ng Well	Replace	ment	
Telephone: \	Nork:		Home:		8. WELL DEP	TH (completed	f)	Date Started:		9/2	8/2006
2. LOCATIO	N OF WELL:	AS-22			1						;
Name:	Handy Par	itry #65/Clo	ud's Chevro	n/Site	l	15	_ ft.	Date Complete	ed:	12/1	5/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted		<b>✓</b> Bored		
		_			□Dug		☐Air Rota	iry	□Driven		
City:	Columbia,	SC	Zip:		☐Cable 1	<b>Fool</b>	☐ Other				
COUNTY:	Richland				10. CASING:	□Threaded	✓ Welded				
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		10	Height: Above	/Below		
3. SYSTEM	NAME:	SYSTEM NU	MBER:		Туре:	<b>PVC</b>	☐ Gaivanized	Surface			
					1 "	☐ Steel	☐ Other	Weight		_	
4. CUTTING	SAMPLES:	☐ Yes	☑ No		10	in. to45	feet depth	Drive Shoe?	☐ Yes		No
						in. to	feet depth			_	
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN			. <del></del>			
		-	*Thickness of	Depth to	Туре:	PVC		Diam.:	4"		
For	metion Descri	ption	Stratum	Bottom of	Slot/Gauge			Length:	20'		
		· · · · · · · · · · · · · · · · · · ·		Stratum	Set Betwee	in: <u>1</u>	ft. and 10	_ft. ft.			
Red/t	prown claye	v sand	27'	27	Sieve Anal	vale		_ ir. (please enclos	<b>28)</b>		☑ No
					12. STATIC W	ATER LEVEL					
Yellow to	gray clayey	sand (wet)	18'	45'	28 WILE (1/2		1 18	ft. below land	surgace after 24	tours	
			1				Land Surface hrs. Pumping		G.P.M.		
	*****				Pumping 1	est:		(please enclos			☑ No
					Yield:			4			
					14. WATER C			D4-dal A			
					Chemical A	ranenysis Ciose lab result	]Yes 🔽 No	Bacterial A	nalysi⊟ Yes	No	1
					18. ARTIFICIA	L FILTER (能	er pack)	✓ Yes	☐ No		
						om	44	ft. to	45	ft.	
					Effective s	ize OUTED?	- F-1 V	Uniformity Co	officient		
							✓ Yes and Cement □	Concrete III	Other		
					Depth: Fr	om	10	ft. to	40	ft.	
<u> </u>					17. NEAREST	SOURCE OF	POSSIBLE CO		ft	·	direction
							ype well disinfect	ed Yes T	уре:		İ
					18. PUMP:	Date Installed	unpon compi	etion 🗹 No	Not installed		
					Mfr. Name	t		Model No.:		ئى	
					H.P	Volts	Length of drop	pipe	ft. Capacity		gpm
						Submersible Jet (deep)	□Jet (sha □Recipro				
					19. WELL DR	LLER:	Robyn Barkiey		☐Centrifu 934		
		*******				2485 Watson			30.		
9. m : -:					4	Elgin, SC 290	<b>M</b> 5				
	ter Bearing Zo										
6. REMARKS	nd sheet if nee	uou)			Tolombon.	No:	/8091490 4994				i
o. removed					Telephone 20. WATER W		(603)438-1331 ACTOR'S CERTI	FICATION: Th	s well was drilled	under	TON
							e to the best of r				
								- <del>-</del>			İ
					l M	1 1	10				
					Signed: //	ma 13	arllen	Date:	12/27/2008		
	·				Authoriz	evilaineenquive					



4 (600-	-	TATION:	<del></del>	<del></del>	Le presentation Ac-	neper-	67	7			
1. WELL OW Name:	VNER INFORM Palmetto E	Environment	al Group, Inc	C.	6. PERMIT NU	valdek:	877	Ŧ			
	D ^ D	(lest) 427		(first)	7. USE:						
Address:	P. O. Box	44!				ntiet	□D-±0- 0	tunnlu	Process	•	
<u> </u>		Charter:	00	71	☐ Reside:		☐ Public 8		_		
City:	Elgin	State:	SC :	Zip:29045	☐ imigatio		∐Air Con ☐Monitori		☐ Emerge ☐ Replace	•	
Tologham.	Mort		Lingua-			/ell PTH (completed		ing Well Date Started:	- rebiac		8/2006
Telephone: V	Work: N OF WELL:		Home:		- WELL DEF	ru (compieté)	"	Para 2131190;		312	.ur&UU!
			ud's Chevro	n/Site		45	_ ft.	Date Complete	sei-	19/4	5/2006
Name: Street Add	-		ua's Chevrol or St./1600 T				Tt. []Jetted	Complet	ea:  Bored	الممد	<u></u>
- Jugot A00	<del> </del>	aver rayit		TOPPI OF		7	□Jetted □Air Rote	trγ	<u>W</u> Bored □Driven		
City:	Columbia,	SC	Zip:		☐Cable 1	Tool		·	1		
	: Richland	. <del></del>			10. CASING:		Welded	T	<del></del>		
		Longituda:	81º00 97		Diam.:		4n	Height: Above	/Below		
2. SYSTEM I		SYSTEM NU			Type:	<b>☑</b> PVC		Surface			
	- <del> </del>				. 74-0.	□ Steel		Weight		_	
4. CUTTING	SAMPLES.	☐ Yes	☑ No		- o			-			No
<b></b>		140	unial (NU			In. to					
Geophysic	si Logs:	□ Yes	☑ No		11. SCREEN						
			T	Depth to	Type:	PVC		Diam.:	4" 20'		_
Fox	mnetion Descri	iption i	Thickness of Stratum	Bottom of	Slot/Gauge	e: .020		Length:	20'		
				Stratum	Set Between	<b>धा:</b> 1	ft. and <u>10</u> ft. and	_ ft.			
Red/h	brown claye	y sand	27'	27'	Sieve Anal	yeis	☐ Ye	R. :s (piezse enclos	<b>1e</b> )		D) No
					12. STATIC V	VATER LEVEL	`				<u></u>
reliow to	gray clayey	sand (wet)	18'	45'		LEVEL Below		ft. below land:	surgace after 24 l	nours	
		· ·	1	1			v Land Surface _ hrs. Pumping		G.P.M.		
	<del></del>		<del>                                     </del>	<del> </del>	Pumping 1	Test		e (please enclos			
					Yleid:				•		
		1			14. WATER C		1 Van (73	Bentalita		No	•
<del> </del>		<del></del>		<del> </del>	Chemical Please en	Analysis   Idose lab result	]Yes 🕢 No	o Bacterial A	neiysi□ Yes	No.	4
				<u></u>	18. ARTIFICI	AL FILTER (filti	er pack)	✓ Yes	□ No		
					Installed fi	rom	44	ft. to	45	A.	
ļ			<del></del>	<u> </u>	Effective s		✓ Yes	Uniformity Coe	emclent		
		ì	1	1			and Cement [7]	☐ No Concrete ☐	Other	_	
· · · · ·	<del></del>			<del></del>	Depth: Fr	rom	10	0 ft. to	40	) A.	
				<u> </u>	17. NEARES	T SOURCE OF	POSSIBLE CO	NTAMINATION	: ft.		direction
<u> </u>		_ <del></del>		1			LIDDON CORDS	xed□ Yes T pletion ☑ No	ype:		
			<del> </del>	<b>——</b>	18. PUMP:	Date installed	wipon com		Not installed	<b>D</b>	
			<u> </u>		Mfr. Name	o:		Model No.:			
					H.P.	Volts Submarship	Length of drop		ft. Capacity ☐Turbine		gpn
			<del>   </del>	<del></del>		] Submersible   Jet (deep)	□Jet (she		☐Turbine ☐Centrifu		
					19. WELL DR	ULLER:	Robyn Barkle	y CERT. NO.:	934		
			1			2485 Watson	1				
*jndlasts 100	the Bouds	1000 At-	<del> </del>	<del></del>	4	Eigin, SC 290	<b>√:</b> 0				
	ater Bearing Zo 2nd sheet If nee		1	•							
5. REMARK		/	<b>*</b>		Telephone		(803)438-1331			_	
					20. WATER V	<b>VELL CONTRA</b>	ACTOR'S CERT	IFICATION: Th	is well was drilled	i under	my
								my knowledge a			
					1	A					
					10	1. M	4.6		40.000	,	
					Signed: 100	tend Representative	musery/	Date:	12/27/2006	<b>1</b>	
<u> </u>											



1. WELL OW	NER INFORM	IATION:	<del> </del>	<del>, , , , , , , , , , , , , , , , , , , </del>	S. PERMIT NU	JMBER:		877					
Name:	Palmetto E	Environment (last)	al Group, Inc	C. (first)									
Address:	P. O. Box			-	7. USE:								
}					☐ Reside	ntial		l Public Si		_	<b>Z</b> Process		
City:	Elgin	State:	SC :	Zip:29045	☐ Irrigatio	m		Air Cond	•		☐ Emerge	-	
•	-			•	☐ Test W	'ell		l Monitorir	ng Well		☐ Replace		-
Telephone: \			Home:	<del></del>	8. WELL DEP	TH (complete	ed)		Date Starte	d:		9/2	8/2006
	N OF WELL:				1	.=	<u></u>			_			-
Name:	•		ud's Chevroi			45	ft	F-2	Date Comp		7-	12/1	5/2006
Street Add	iress:	2367 Taylo	vr St./1600 T	wo Notch	9. Mud Ro	otary		1Jetted	_	_	Bored		
ļ					□Dug			Air Rota	TY		□Driven		
City:	Columbia,	SC	Zip:		☐ Cable 1	100		Other					
	Richland		# 40c = ·		10. CASING:	⊔ Threadec	_		<b>.</b>	<u></u> .			
		Longitude:			Diam.:		1"		Height: Abo				
3. SYSTEM	name:	SYSTEM NU	MBER:		Type:	<b>Z</b> PVC							
					4	☐ Steel	Oti		Weight				
4. CUTTING	SAMPLES:	☐ Yes	☑ No	_	<u> </u>				Drive Shoe	3 D	Yes	Z	No
_			_			in. to	fe	et depth	<u></u>	<del></del>			
Geophysic	cal Logs:	☐ Yes	✓ No		11. SCREEN	m.			Di	<b>A</b> P			
	rmation Descri	piton	*Thickness of	Depth to Bottom of	Type: Slot/Gauge	PVC .020	5	_	Diam.: Length:	4" 20'	<del></del>		
L "			Stratum	Stratum	Set Between		ft. and	10	ft.	<u></u>			
_	<b></b>				1		fil. and		ft.	de ·			<del></del>
Red/	brown claye	y sand	27	27'	Siave Anal	yeis	1	☐ Yes	(please end	210GE)			No.
Yellow to	gray clayey	sand (wet)	18'	45'	IZ SIAIR W	ANIEK LEYE	_		ft. below las	nd suroac	9 after 24 i	amor	
			<del></del>	<del></del>	13. PUMPING			Surface					
	-J		<u> </u>	L		ft. after	hrs. F			G.P.	M.		,
			1	!	Pumping 7 Yield:	i est:		☐ Yes	(please end	2109e)			No.
<del> </del>	<del></del>		<del></del>	<del></del>	14. WATER C						<del></del>		
<u></u>			<u> </u>		Chemical .	Analysis	☐ Yes	✓ No	Bacteria	i AnalysiC	] Yes	No	3
[	-				Piesse en	ciose lab resi	uits	_			- K1=		
<del> </del>			<del>                                     </del>	<del> </del>	15. ARTIFICIA	AL FILTER (1) rom	aust PECK	,	Yes ft. to	□ 45	No	ñ.	
<u></u>				<u> </u>	Effective s	size			Uniformity				
				<u>,                                      </u>	18. WELL GR	OUTED?		Yes	☐ No				
<del></del>	<del></del>			<u> </u>	Neet C	ernent 🗆 8	Sand Cer	nent 🔲	Concrete   ft. to	] Other	40		<del></del>
			1	1	Depth: Fr	SOURCE A	k bOder	BLE CU	TAMINATI	:NC	4U	11-	direction
	<del></del>		1		1		Type well	i disinfect	ed Yes	Type:			
							ump	on compl	letion Z	No Am	ount:		
·			1 7	1	18. PUMP: Mfr. Name	Date installe	7Q:		Model No.:		t installed	K	
<del>                                     </del>			<del>                                     </del>	<del></del>	H.P.	volts	Lenat	n of drop	bibe Lucres IAD";		apacity		gpm
		<del></del>		[	Type: 🗆	Submersible		Jet (sha	illow)	<del></del>	□Turbine		
			1		19. WELL DR	Jet (deep)		Reciproc			☐Centrifu 934		
		<del></del>	<del>                                     </del>	<del></del>		uller: 2485 Watso		n deirig)	CERT. NO.	••	934	•	
						Elgin, SC 2							
	ater Bearing Zo	•			1								
a 2	2nd sheet if nec	•			4	. 44:	***						
5. REMARK	<b>8</b> :	<b></b>	<del></del>		Telephone 26. WATER V			438-1331 S CERTI		This"	upo dall- "	- قىجور و	Man.
I					26. WATER V							. un 1018)	111 <b>3</b>
1					aiM	coposit so (	W UR	Wi l	,	,			
Ī					l an		<u>.</u> 1.	9					
[					Signed:	In 1	Zanhl	2	Date:	12/	/27/2006	<u> </u>	
L					Authori	ized/tepresentation	168						
<del></del>					<del>-</del>								



		- 100-01								
1. WELL OW	MER INFORM		<del></del>		6. PERMIT NU	IMBER:	877	7		
Name:	Palmetto I	Environment (last)	bal Group, in	C. (first)					·	1
Address:	P. O. Box	• •		-	7. USE:					
ŀ					☐ Resider	- 1,0-0-1	☐ Public 8		✓ Process	
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio		□ Air Con		□ Emerge	•
ļ					☐ Test W	<del></del>	☐ Monitor		Replace	
Telephone: \			Home:		8. WELL DEP	TH (completed	0	Date Started:		9/28/2006
	N OF WELL:						•	_	_	4 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Name:	-		ud's Chevro			15	ft.	Date Complete		12/15/2006
Street Add	iress:	2367 Taylo	or St./1600 T	wo Notch	1	TELLA	☐Jetted	····	<b>☑</b> Bored	,
-	O=1L1	80	-		□ Dug	Page .	☐Air Rota	wy	□Driven	ř
City:	Columbia,	<b>3</b> U	Zip:		☐Cable 1		☐Other ☑ Welded	<b>T</b>		
Ĭ	Richland		04000		10. CASING:	L I III eeded	_	United 41	(Deless	
Latitude:		Longitude:		<del></del>	Diam.:	Mmm	1" Columbia	Height: Above		
3. System i		SYSTEM NU	mber:		Type:	PVC Distant	☐ Gaivanized			
4 CHTTHAC	SAMPLES:	☐ Yes	Z No	<del></del>	٦ ,		Other	Weight Drive Shoe?		☑ No
T. 00111116	ormirLEV:	<b>□ 196</b>	MEI NO		1	In. to <u>45</u>			⊔ 7 <del>6</del> 8	GET 140
Geophysic	ai Lone	□ Yes	₩ No		11. SCREEN	86.W	। एटा प्रभूमा	<u></u>	<del></del>	<del></del>
COUPLINE		L 176		Depth to	Type:	PVC		Diam.:	<b>4</b> "	
For	rmation Descri	iption	Thickness of Stratum	Bottom of	Slot/Gauge	.020		Length:	20'	
<del></del>			Suemilli	Stratum	Set Betwee	en: <u>1</u>	ft. and10_	_ft.	<del></del>	
Red/	brown claye	y sand	27'	27'	Sieve Analy	vsis	ft. and	ft. s (please enclos	se)	☑ No
					12. STATIC W	ATER LEVEL	•			
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land	surgace after 24 l	hours
ł				1			Land Surface hrs. Pumping		GPM	
<del></del>			<b></b>			rest:	_ nerrandeng T∏Ye	s (please enclos	G.⊤.≅i. 96)	<b>☑</b> No
					Yield:					
- 				_ <del></del>	14. WATER Q		Yes 🔽 No	Bacterial A	nokelli V	No.
<del> </del>	<del></del>		<del> </del>			Analysis L close lab result		, pavenal A	nalysi⊡ Yes	No.
					18. ARTIFICIA	L FILTER (曲)	er pack)	V Yes	□ No	
					installed fr	om	44	ft. to	45	ft.
	<del></del>		<del> </del>	<del> </del>	Effective s	ize OUTED?	✓ Yes	Uniformity Co	SINCIBITE	<del></del>
					Neat C	ement 🗆 Sa	and Cement 🔲	Concrete	Other	
					Depth: Fro	om	10	t. to	40	ft.
<del></del>			<b>_</b>				POSSIBLE CO ype well disinfec			direction
<u> </u>				1	1 =	<sup> </sup> }	TUDOU COUL. THE MON CHAINEC	eletion 🛂 No	Amount:	<del></del>
					18. PUMP:	Date installed	ype well disinfed unpon comp :		Not installed	Ø
			<b></b>		Mfr. Name H.P.	: Volts		_ 10000111011	ft. Capacity	<del> </del>
						VoltsSubmersible	Length of drop	allow)	_ n. Capacny ☐Turbine	gpm
			T		7 <u> </u>	Jet (deep)	□Recipro	cating	□Centrifu	gal
<del></del>	<del></del>		<u> </u>		18. WELL DR			y CERT. NO.:	934	
					Address:	2485 Watson Elgin, SC 290				
Indicate Wa	eter Bearing Zo	ones (Use			7					•
	nd sheet if ne				J					
6. REMARK	<b>S</b> :				Telephone		(803)438-1331			
	_								is well was drilled	under my
ł	•				quecton and t	use report 16 tr.	ue to the best of	my knowledge a	uri dehet.	
						<i>a</i> -				
					Signed:	on Bu	klem-	_ Date:	12/27/2006	<b>}</b>
						zyti Representative				·
<u> </u>					<del></del>	· ·			<del></del>	



#### **Bureau of Water**

	ole molect	PHOSPER	<u> </u>							
1. WELL OW	NER INFORM	IATION:			6. PERMIT NU	MBER:	877			
Name:	Palmetto E	Environment (last)	al Group, In	C. (first)						
Address:	P. O. Box	• •		•	7. USE:		<del></del>			
					□Resider	rtial	☐ Public S	upply	Process	}
City:	Elgin	State:	sc	Zin:29045	☐ irrigatio	n	☐ Air Cond	iltionina	☐ Emerger	
Uy.					☐Test W		☐ Monitoria	•	☐ Replace	•
Telephone: \			Home:		8. WELL DEP			Date Started:		9/28/2006
2. LOCATIO	N OF WELL:	AS-26								
Name:	Handy Par	ntry #65/Clo	ud's Chevro		4	5	ft.	Date Complete	ed:	12/15/2006
Street Add	irees:	2367 Taylo	or St./1600 T	wo Notch		tary	□Jetted		<b>⊘</b> Bored	
					□Dug		☐Air Rota	ry	□Driven	
City:	Columbia,	SC	Zip:		☐Cathte 1	[agl	□ Other			
COUNTY:	Richland				10. CASING:	Threeded	☑ Welded			
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		10	Height: Above/	Below	
3. SYSTEM		SYSTEM NU				<b>☑</b> PVC	☐ Gelvanized	-		
		0.0.2			1,7,00.	□ Steel	Other	Weight		
4. CUTTING	SAMPLES.	☐ Yes	Z No		1 ^	in. to45_		Drive Shoe?		. Zi No
7. 0011010	Grant Live.	10g	W 140		<del></del>	in. to		Diles Gibes	L :00	621 NO
Geophysic	esi I cera-	☐ Yes	☑ No		11. SCREEN	11.10	roer vepui	<u> </u>		
Осоријак	· ·			Depth to		PVC		Diam.:	<b>4</b> "	
For	mation Descri	ption	*Thickness of	Bottom of	Slot/Gauge	.020	<del></del>	Length:	4" 20'	
		· · · · · · · · · · · · · · · · · · ·	Stratum	Stratum	Set Between	n: 1		ft.		
Doda			07	677	1	. ———	ft. and	n.	_	
Real	prown claye	y sand	27	27'	Sieve Analy			(please enclos	8)	<b>□</b> N
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land s	kurgace after 24 i	tours
							Land Surface			
						ft. after	hrs. Pumping	421-22-22-22-2	G.P.M.	
			1		Yield:	<b>est</b> :	☐ Yes	(please endos	e)	<b>⊠</b> No
					14. WATER Q	UALITY			<del></del>	
							Yes 🔽 No	Bacterial Ar	naiyst⊡ Yes	No
						close lab result				
		······································			18. ARTIFICIA	L FILTER (filte	er pack)	✓ Yes	□ No	_
ĺ					inetalled tr	om	44	ft. to Uniformity Cos	45 Malant	ft.
					16 WELL GR	DUTED?	✓ Yes	II No	HICKEI IK	
<u> </u>					Neat Co	ement 🔲 Sa	nd Cement 🗆	Concrete []	Other	
					Depth: Fro	om	10	ft. to	40	ft.
		**************************************					POSSIBLE CON			direction
					l ——		pe well disinfect	etion [7] Ala	/PE: Amount	
		·····	<b></b>		18. PUMP:	Date Installed	pe well disinfect unpon compl	PALL DEL 140	Not installed	7
						•		1410-000 140		
						Volts	Length of drop		ft. Capacity	gpn
ļ						Submersible	□Jet (shai		Turbine	1
					19. WELL DR	Jet (deep)	Reciprod Robyn Barkley		☐Centrifu 934	
				<del></del>		2486 Watson	•	THIS IT WAS	634	•
Indicate Wa	iter Bearing Zo	mes (Use			1	Elgin, SC 290	P <del>10</del>			
	nd sheat if nec	•			1					
5. REMARK	§:				Telephone		(803)438-1331			
							CTOR'S CERTI to the best of r		s well was drilled nd belief.	under my
					10.	1 10	. 11		4	
					Signed:	and proposed stative	arkley.	Date:	12/27/2006	<del></del>
<u> </u>			<del> </del>		Authori	and and and and				



1. WELL OW Name:	MER INFORM Palmetto E		tal Group, Inc	- <u>-</u>	6. PERMIT NU	MBER:	877	7				
		(last)		(first)					· · · · · · · · · · · · · · · · · · ·			
Address:	P. O. Box	427			7. USE: □ Residen	viisi	☐ Public S	himbe	Process			
City:	Elgin	State:	SC :	Zin:29045	☐ Irrigation		☐ Air Cond		M Emerger			
Jay.					☐ Test We		☐ Monitori	~	Replace			
Telephone: \			Home:		8. WELL DEP			Date Started:	i	9/28	3/20	06
2 LOCATION	N OF WELL:					ı <b>e</b>	<b>#</b>	<b>.</b>	<b></b>	4,44.4	: /	-
Name:	-		oud's Chevroi or St./1600 T		9. DMud Ro	15	_ ft.	Date Complete	ed:    Sored	12/15	<u> 2/20</u>	<u> </u>
Street Add	n ess <u>e:</u>	230/ 18 <b>y</b> K	л <b>эцтр</b> 00 Т	MOICI	9. UMud Ro	recall <b>J</b>	□Jetted □Air Rota	iry	☑ Bored ☑ Driven			
City:	Columbia,	SC	Zip:		☐ Cable T		□Other		::4411	_	_	_
COUNTY:	Richland		•		10. CASING:	□Threaded	Welded					
		Longitude:			Diam.:		1"	Height: Above				
3. SYSTEM		SYSTEM NUI				<b>☑</b> PVC		Surface				
A Attended	Q4#***	——————————————————————————————————————	17		4 -	☐ Steel	Other	Weight		[7]	,jo	
4. CUTTING	onnt'LES:	☐ Yes	☑ No		0	in. to <u>45</u>	feet depth	Drive Shoe?	☐ Yes		No	
Geophysic	al Loos:	□ Yes	₩ Mo		11. SCREEN	u1. EU	ाळ्टा वस्त्रीता					
			*Thickness of	Depth to	Туре:	PVC	<del></del>	Diam.:	4º		_	
Fo	mation Descri	tption	Stratum	Bottom of Stratum	Slot/Gauge Set Betwee		ft. and 10	Length: ft.	20'			
_		An m= : *			7		ft. and	_ ft.			_	
Red/l	brown claye	y sand	27'	27'	Sieve Analy 12. STATIC W	ATER I EVE	☐ Yex	s (please enclos	50)		N	No
Yellow to	gray clayey	sand (wet)	18'	45'	l			ft. below land	surgace after 24 t	tours		_
							Land Surface hrs. Pumping		G.P.M.			
			<del>[</del>	<del> </del>	Pumping T		uo. runpang ☐ Yes	s (please enclos		ì		No
				\	Yield:				<del></del>			
				!	Chemical /	Analysis 🗇	Yes 🛂 No	Bacteriai A	nalysi Yes	No.	1	
	<del> </del>			1		close lab result	ts					
			<del> </del>	<del> </del>		LL FILTER (IIII) Om	<b>er pack)</b> 44	Yes ft. to	☐ No 45	ft.		
		**************************************			Effective si	ize		Uniformity Co		-		
<del></del>	_ <del>_</del>			Ţ	16. WELL GR		✓ Yes and Cement 🗆	☐ No Concrete ☐	Other			
	<del>- ·</del> -	<del></del>		<del>                                     </del>	Depth: Fro	om	10	fit to	40			
<del></del>	<del></del>			ļ	17. NEAREST		POSSIBLE CO ype well disinfect			_ `	direc	tion
							Impon comp	netion 2 No	Amount:			
					18. PUMP: Mfr. Name		l:	Model No.:	Not installed	Z		
			<del> </del>		H.P	Volts	Length of drop	pipe	ft. Capacity			<u>lþm</u>
<u> </u>	<del></del>			<b></b>	Type: 🔲	Submersible Jet (deep)	□ Jet (sha	allow)	☐Turbine ☐Centrifu			
					19. WELL DR	ILLER:	Robyn Barkler	y CERT. NO.:	Centru 934			
					Address:	2485 Watson Elgin, SC 290		<del></del>				
	nter Bearing Zo 2nd sheet if nee											
8. REMARK		· · · · · · · · · · · · · · · · · · ·		<del></del>	Telephone		(803)438-1331		L	name of		
	٠.						ACTOR'S CERTI ue to the best of		is well was drilled and belief.	under (	ny -	-
l					Signed: Re	an Bo	replem.	_ Date:	12/27/2006			_
						235 Rapreseriative						



### **Bureau of Water**

1450/03	OR MOTECL	PROBLEM									
1. WELL OW	NER INFORM	MATION:			6. PERMIT NU	MBER:	877				
Name:			tal Group, Inc	C. (first)			•••				
Address:	P. O. Box			(	7. USE:	<del></del>					
					□Reside	niiai	☐ Public S	uppiv	<b>☑</b> Process	ı	
City:	Elgin	State:	SC	Zip:29045	□ Irrigatio		☐ Air Cond		☐ Emerge		
Ouy.	-iAn:	Julio.	-	mh.wanda	☐ Test W			-		•	
Telephone: \			Home:	·		TH (completed		Date Started:	L. Nopiale		/2006
2. LOCATIO	N OF WELL:										
Name:	Handy Par		ud's Chevro			15	_ft	Date Complete		12/15	/2006
Street Add	-				9. Mud Ro	otary	□Jetted		<b>✓</b> Bored		
		•			□Dug		☐Air Rota	ry	Driven		
City:	Columbia,	SC	Zip:		□Cable 7	<b>Fool</b>	☐ Other	-			
	Richland		v		10. CASING:		<b>Z</b> Welded				
		Longitude:	81°00 97		Diam.:		10	Height: Above	/Below		
3. SYSTEM		SYSTEM NU				<b>☑</b> PVC		1 ~			
V. UIUIEMII		VIOLEN NU	ms della		уры:	Steel	☐ Other				
4 OUTTING	DAMIN ITO.	☐ Yes	Z No		- i			Weight			
a. Cui iing	SAMPLES:	□ Y96	ME NO		1 —			Drive Shoe?	☐ Yes	☑ N	10
			F3			in. to	feet depth	ł			
Geophysic	ai roge:	☐ Yes	☑ No	David La	11. SCREEN	BM (C)		Diam	An		
En	rmation Descri	infion	*Thickness of	Depth to Bottom of	Type: Slot/Gauge	PVC .020	<del></del>	Diam.:	<u>4"</u> 20'	<del></del>	
	unur urugul	-go-wine c	Stratum	Stratum	Set Between		ft. and 10	_			
		· <del>************************************</del>			1		ft. and	n.			
Red/t	prown claye	y sand	27'	27'	Sieve Anal	ysis	☐ Yes	(please enclos	ie)	<b>T</b>	Z No
Yellow to	gray clayey	sand (wet)	18'	45'		IATER LEVEL		ft. below land	surgace after 24 f	tours	
							Land Surface				
		·			J	fl. after	hrs. Pumping		G.P.M.		
					Pumping 1 Yleid:	Test:	☐ Yes	(please endos	ie)	Į	Z) No
	<del></del>		<del> </del>		14. WATER O	NALITY	<del></del>		·		
			<u> </u>		Chemical	Analysis 🗆	Yes 🛂 No	Bacterial A	nalysi⊟ Yes	No.	
					Please en	ciose lab result	8	أستنا والمواجعة			
		<del></del>	<u> </u>		175. ARTIFICIA	L FILTER (版	er pack)	✓ Yes	□ No	_	
					Installed fr	om Ize	44	ft. to Uniformity Cod		ft.	
	<del>:</del>				16. WELL CR	OUTED?	Yes Yes	No	PINCHELIS.		
							and Cement 🗆	Concrete 🔲	Other		
					Depth: Fr	om	10	ft. to	40		
		*			17. NEAREST	SOURCE OF	POSSIBLE CO	TAMINATION:	: ft.	a	irection
				,			pe well disinfect	ed Yes T	ype:	····	
					18. PUMP:	Date installed:	्र प्राकृत्या द्यागा	etion 🔽 No	Not installed		
					Mfr. Name	·		Model No.:	i teo n miningli	ŒĬ	
	······································	<del></del>			Н.Р	Volts	Length of drop	pipe	ft. Capacity		gpm
						Submersible	☐ Jet (sha	ilow)	□Turbine		
						Jet (deep)	Recipro		Centrifu		
<b></b>		<del></del>			19. WELL DR	ILLER: 2485 Watson	Robyn Barkley	CERT. NO.:	934		
					AMILESS.	Elgin, SC 200	<b>M</b> 5				!
Indicate Wa	nter Bearing Zo	onee (Use			1		=				
	nd sheet if ne		] ]								
5. REMARKS	B:			<del></del>	Telephone		(803)438-1331				
									s well was drilled	under m	ıy
					direction and t	inis report is tru	e to the best of r	ny knowiedge a	and belief.		
					100	1 1.	. 11				
					Signed:	30 13h	eller	Date:	12/27/2006		
					Authory	ged Representative					



				<del></del>	<del></del>					
1. WELL OW Name:	NER INFORM Palmetto E	Environment	ai Group, Ind	<b>C.</b>	C. PERMIT NU	MBER:	877	•		
		(last)	• •	(first)	7 1100			<del></del>		
Address:	P. O. Box	427			7. USE:	wiei	□ Public S	temple	Process	
<b>734</b>	Cinic	Clate	00	71 <sub>m</sub> /200.4 <i>0</i>	☐ Residen		☐ Public 8	•••		
City:	Eigin	State:	SC :	Zip:29045	☐ Test We		☐ Monitori			•
Telephone: \	Nork:		Home:		8. WELL DEP			Date Started:		9/28/2006
	N OF WELL:				1	\	•			
Name:		ntry #65/Clo	ud's Chevro			5	ft.	Date Complete		12/15/2006
Street Add	ress:	2367 Taylo	r St/1600 T	wo Notch	8. Mud Ro	tary	□Jetted		<b>☑</b> Bored	
					□Dug		☐Air Rota	ity	□Driven	1
City:	Columbia,	SC	Zip:		☐Cable T		☐ Other	- <sub>1</sub>		
	Richland		04900 07		10. CASING:	DebaenfT L⊔	_	Linkship About	Bolow	
		Longitude:		<del>,</del>	Diam.:	[7]m m	10	Height: Above/		
3. SYSTEM I	name:	SYSTEM NU	MBER:		Type:	PVC		Surface		
4. CUTTING	CAMBI EC.	☐ Yes	Z No		4 ^	□ Steel	Other	Weight Drive Shoe?		- <b>2</b> No
a. Cui iing	oampled:	€J 168	BET MO		I	in. to <u>45</u> in. to		DING STORY	<b>□</b> 158	40 TA
Geonhuein	zi Loge:	□ Yes	₩ No		11. SCREEN	ul W	ies depin	<u> </u>		
				Depth to	Type:	PVC		Dlam.:	4" 20'	
For	rmation Decor	iption	*Thickness of Stratum	Bettom of	Slot/Gauge:	.020		Dlam.: Length:	20'	
ļ	<del></del>			Stretum	A Set Betwee	n: <u>1</u>	ft. and 10 ft. and	_ ft. ft.		1
Red/I	brown claye	y sand	27'	27'	Sieve Analy	rete	☐ Yes	(please enclose	s)	☑ No
Valley 4-		and Amel	18'	AEI						1. d. a. a. d. d.
reliow to	yray clayey	sand (wet)	10	45'	13. PUMPING	LEVEL Below	V Land Surface	TL DEIOW LAND S	urgace after 24	TOUTS
						10 G1001	- inter company		OH 440	
					Pumping T		☐ Yes	s (please enolose	9)	<b>☑</b> No
				<del>-</del>	Yield:	UALITY		· · · · · · · · · · · · · · · · · · ·		
					Chemical A	Analysis C	Yes 🗹 No	Bacterial An	alysi⊡ Yes	No
					Please end	doee lab resul	is		Li No	
<u> </u>	······································				netelled fo	om	ен раск) 44	Yes ft. to	LI NO 45	1.
					Effective si	Z0		Uniformity Coe		
					16. WELL GR	OUTED?	✓ Yes and Cement □	□ No	Wher	
<u> </u>		<del></del>			Depth: Fro	om	10	ft. to	40	ñ.
					17. NEAREST	SOURCE OF	POSSIBLE CO	NTAMINATION:	ft.	direction
[		——	[		<u> </u>		ype well disinfect	ted□ Yes Ty letion ☑ No	pe:	<del></del>
		<del></del>	<del> </del>		18. PUMP:	Date Installed	:uipon camp	TOWN IN THE PROPERTY OF THE PR	Not installed	<b>2</b>
					Mfr. Name:	:		Model No.:		
						Volts Submersible	Length of drop Jet (sha		ft. Capacity  Turbine	gpm
					7 ï ō.	Jet (deep)			☐ Centrifu	
					19. WELL DR	LLER:	Robyn Barkley		934	
						2485 Watson Eigin, SC 29				
Indicate Wa	iter Bearing Z	ones (Use		<del></del>	7		<del></del>			
a 2	and sheet if ne				]					
6. REMARK	<b>8:</b>				Telephone		(803)438-1331			
ł							ACTOR'S CERTI ue to the best of a			under my
ł					3	abar a n	,_ ,_ ,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		
[					An A	l h	10			
					Signed:		afley/	_ Date:	12/27/2006	
			<del></del>		Authorit	d Representative				



4 1-41-4-41	112 Landithar's (	MITAN C.N								
1. WELL OW	NER INFORM	ATION:			6. PERMIT NU	MBER:	877			
			al Group, Inc	C. (first)						
Address:	P. O. Box	• •		(	7. USE:			<del> </del>		
, mei 699.					□Residen	tiai	☐ Public S	upply	Process	
Claur	Clain	State:	SC :	Zio:29045	☐ Irrigation		☐ Air Cond		☐ Emerge	
City:	Elgin	Justo.	-	en-couts	☐ Test We		☐ Monitoria	-	Replace	
Telephone: V	Vork:		Home:		8. WELL DEP			Date Started:		9/28/2006
2. LOCATION		AS-30			7					l
			ud's Chevro	n/Site	4	5	ft.	Date Complete		12/15/2006
Street Addr	_		r St./1600 T		9. UMud Ro		□Jetted		<b>☑</b> Bored	
					□Dug		☐Air Rota	гу	□Driven	ĺ
City:	Columbia,	SC	Zip:		□Cable T	'ool	□Other			
COUNTY:					10. CASING:	☐ Threaded	Welded			
		Longitude:	81°00.97		Diam.:		1"	Height: Above	/Below	1
3. SYSTEM N		SYSTEM NU				Zipvc	☐ Galvanized			
woleien k		21915M NU	re sufficie No		, ,,,,,,,,,	□Steel	Other	Weight		
4. CUTTING	ealin ce.	☐ Yes	☑ No		۰ ۱	in. to 45		Drive Shoe?		☑ No
a cui img i	ormeled:	<b>≟ 19</b> 6	<b>651 140</b>			in. to	feet depth	Ditte Silve?	i 169	
Geophysica	al Logs:	☐ Yes	No No		11. SCREEN	~*** har	40041			
				Depth to		PVC		Diam.:	4" 20'	····
Fon	mation Descri	ption	Thickness of Stratum	Bottom of	Slot/Gauge			Length:	20'	
				Stratum	Set Betwee	n: <u> </u>	ft. and 10	. ft. ft.		
Red/b	rown claye	v sand	27'	27'	Steve Analy	rais		_ ir. i (please encice	9 <b>e</b> )	☑ No
			·		12. STATIC W	ATER LEVEL	<u> </u>			
Yellow to	gray clayey	sand (wet)	18'	45'	13. PUMPING	TEVEL Balow	Land Surface	TL below lend	surgace after 24	nours
							hrs. Pumping		G.P.M.	
					Pumping T		☐ Yes	(please enclo		☑ No
					Yield: 14. WATER Q	UALITY				
					Chemical /	Analysis 🔲	Yes 🛂 No	Bacterial A	nalysi□ Yes	No.
					Please end	dose lab result	a			
					18. ARTIFICIA			✓ Yes	□ No	n.
[					Effective s	om  ze	74	ft. to Uniformity Co	45 efficient	11.
	*	<del> </del>					Z Yes	□ No		
					Neat Co	ement 🗆 Se	and Cement 🔲	Concrete	Other	i
					Depth: Fro	m		ft. to	40	
<u> </u>					17. NEAREST		POSSIBLE CO			direction
			[				ype well disinfect	letion 🛂 No	Amount:	<del></del>
			-	<del> </del>	18. PUMP:	Date Installed	:	The Inches	Not installed	Z
					Mfr. Name	:		Model No.:		
						Volts	Langth of drop		ft. Capacity	gpm
						Submersible	☐Jet (sha		Turbine	
					10 WELL DR	Jet (deep)	☐Recipro Robyn Barkley		☐Centrifu 934	
			<del>                                     </del>			2485 Watson		,	-	
						Elgin, SC 290	<b>)45</b>			
	ter Bearing Zo nd sheet if ne									
5. REMARKS	3:				Telephone		(803)436-1331			
							ACTOR'S CERTI Le to the best of 1		is well was drilled and belief.	under my
								,		
•					An A	1 h	1.0			
					Signed: Land	ma Ba	rhen	_ Date:	12/27/2006	<u> </u>
						Representative				



#### **Bureau of Water**

THE PARTY OF	OUR AMOUNT	PRIMERE M									
1. WELL OW	MER INFORM	MATION:			C. PERMIT NU	JMBER:	877	,			
Name:	Palmetto I	Environment (last)	ial Group, In	C. (first)			- • •				
Address:	P. O. Box			(	7. USE:						
	<u>_</u> , <u>_</u>				☐ Reside	ntiai	□ Public 8	viggui	<b>☑</b> Process	1	
City:	Elgin	State:	sc	Zip:29045	☐ Irripatio		☐ Air Cond		☐ Emerge		
Oily.	amples :	Cano.	90	Z.th.20040	☐Test W		☐ Monitori		Replace		,
Telephone: \			Home:		8. WELL DEP			Date Started:			8/2006
2 LOCATIO	N OF WELL:				1						
Name:	Handy Pa	ntry #65/Clo					ft.	Date Complete	d:	12/1	5/2006
Street Add	iress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted		Z Bored		
					□Dug		☐Air Rota	iry	□Driven		
City:	Columbia,	SC	Zip:		☐Cable 1	<b>Fool</b>	□Other				
COUNTY:	Richland		-		10. CASING:	☐Threeded	Welded				
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1 <sup>st</sup>	Height: Above/	Below		
3. SYSTEM		SYSTEM NU		····		<b>☑</b> PVC	☐ Galvanized	Surface			
					1 .,,,	□ Steel	Other	Weight			
4 CHITTING	SAMPLES:	☐ Yes	Z No		٠ ١		feet depth			· 🛛	No.
T. 0011810	Grunt LEG.	L 169	21 KO			in. to		Dille Shoer	L 196		NO
Geophysic	cal Logs:	☐ Yes	₩ No		11. SCREEN	U. W	leat dobiii		<del></del>		
			*Thickness of	Depth to	Туре:	PVC		Diam.: Length:	4" 20'		
Fa	rmation Descri	iption	Stratum	Bottom of	Slot/Gauge			Length:	20'		
		<b></b>	Code	Stratum	Set Betwee	en: <u>1</u>		_ ft.			
Red/	brown claye	y sand	27'	27'	Sieve Anal	yeis	ft. and	_ft. 3 (please enclos	e)		IZI No
Yellow to	grav clavev	sand (wet)	18'	45'	12. STATIC W	ATER LEVEL			urgace after 24 l	hArm's	
	g.u, c.u,c,			- 70	13. PUMPING	LEVEL Below	Land Surface	IL DOLOW HOLD O	Mane and EAS	HUQ10	
						ft. after	hrs. Pumping		G.P.M.		
					Pumping 1 Yield:	Test:	☐ Yes	(please enclos	9)		☑ No
					14. WATER C				<del></del>		
						Analysis 🔲 close lab recult	Yes 🗹 No	Bacterial An	alysi□ Yes	No	3
			1		15. ARTIFICIA			✓ Yes	l'I No		
	<del></del>		<del>                                     </del>					ft. to	45	ft.	
			<u> </u>		Effective a	om ize		Uniformity Cos	flicient		
					16. WELL GR	OUTED?	Z Yes	□ No			
		<u> </u>					and Cement 🖂	Concrete	Other		
					Depth: Fr	oni Rollber of	POSSIBLE CO	ft to	40	R.	direction
<del></del>	· · · · · · · · · · · · · · · · · · ·	<del></del>	<del> </del>								
						······································	unpon compl	letion 🔽 No	Amount:		
					18. PUMP:	Date Installed	pe well disinfect unpon compl		Not installed	Z	
			ļ		T taur tationer	·		MOGG! 140			
Ì			<u> </u>		H.P.	VoltsSubmersible	Length of drop □Jet (she		ft. Capacity		gpm
		100.00				Jet (deep)	□Recipro		∐ Centrifu		
					19. WELL DR		Robyn Barkley		934		······································
					Address:	2485 Watson Elgin, SC 290					:
	nter Bearing Z				1						
5. REMARK	<b>9:</b>				Telephone		(803)438-1331				
							CTOR'S CERTI to the best of r			under	my
					Signed: R	la B	ahlen	Deter	12/27/2006		
						con the proper defive		_ LAGIU	IZIZIIZUUQ		
							-				



### **Bureau of Water**

1. WELL OW	NER INFORM	IATION:			6. PERMIT NU	MBER:	877	7			
Name:	Palmetto E	Environment (Isat)	tal Group, in	C. (first)							
Address:	P. O. Box	• •		• •	7. USE:	,				<del></del>	
					Resider	ntial	☐ Public S	tupply	Process	3	
City:	Eigin	State:	SC	Zip:29045	☐ irrigatio		☐ Air Cons		□Emerge		
		_ <del>,</del>			☐ Test We		☐ Monitori	•	□Replace	•	
Telephone: V			Home:		8. WELL DEP	<del></del>		Date Started:			/2006
	N OF WELL:						_			<b>.</b> -	
Name:	•		ud's Chevro			15	ft.	Date Complet		12/15	/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	1	tary	☐ Jetted	_	Bored	_	
1					□Dug		☐Air Rota	nry	□ Driven		
City:	Columbia,	SC	Zip:		☐Cable T		Other	-			
	Richland				10. CABING:		Welded	1.		. =-	
		Longitude:			Diam.:		1"	Haight: Above			
3. SYSTEM N	VAME:	SYSTEM NU	MBER:		Туре:	PVC	☐ Galvanized	Surface			
	<del></del>		-		_	□ Steel	☐ Other	Weight		<b>-</b>	
4. CUTTING	SAMPLES:	☐ Yes	✓ No		0	in. to45		Drive Shoe?	☐ Yes	Z N	o
			-			in. to	feet depth	<u></u>		<del> </del>	
Geophysic	al Logs:	☐ Yes	₩ No		11. SCREEN						
p	mollen Dasa-*	milion	*Thickness of	Depth to		PVC		Dlam.:	4" 20'		_
i -01	metion Descri	MAIN!	Stratum	Bottom of Stratum	Slot/Gauge Set Between	: .020	ft and 10	i.ength:	<u> </u>		<del>-</del>
		****	<u> </u>		1 ~~ ===	····	ft. and	_ n.			
Red/t	prown claye	y sand	27'	27'	Sieve Analy	reis	☐ Yes	(please enclo	66)	<b>F</b>	/ No
Vallous to	nrov olo	eand AA	18'	AEI	12. STATIC W	ATER LEVEL					
I SHOW TO	gray clayey	(18W) DIES	75"	45'	13. PUMPING	TEVEL Pales	I and Curfore	π. below land	surgace after 24	nours	
				1			_ hrs. Pumping		G.P.M.		
	<del></del>				Pumping T			(please enclo			Z] No
		·			Yield:						
			<u> </u>	1	14. WATER Q		Van 1772	Dante - 1 - 1	noh-17	A1	
				<del></del>	Chemical /	Anaiysis □ close lab result	Yes 🔽 No	Bacterial A	∖nalysi⊡ Yes	No₩	
				<b>!</b>	18. ARTIFICIA	L. FILTER (Mis	er pack)	Y Yes	□ No		
				1	installed fro	om	44	ft. to	45	ft.	
	<del></del>	w			Effective si	ize		Uniformity Co	efficient		
				·	18. WELL GRO		✓ Yes and Cement □	☐ No Concrete ☐	Other		
<del></del>			<del>                                     </del>		Depth: Fro	om	10	ft. to	40	) ft.	
		<del></del>		<b></b>	17. NEAREST	SOURCE OF	POSSIBLE CO	NTAMINATION	i: ft.		irection
	·····			1		Ty	ype well disinfect	ed Yes 1	ype:		
<del></del>	****			ļ	18. PUMP:	Data Installed	unpon compl	euon 🔽 Ni	Not installed		
				ļ	Mfr. Name:		•	Model No.:	Degitives is some	CK.J	
					H.P	Volts	Length of drop	pipe	ft. Capacity		gpm
						Submersible	Jet (sha	illow)	Turbine		
		1		<u> </u>	19. WELL DRI	Jet (deep)	Recipro		☐Centrifu		
			<b>—</b>	<del></del>		LLERC 2485 Wetson	Robyn Barkley	veri. Nu.:	934	•	1
		· İ				Eigin, SC 290					
	ter Bearing Zo nd sheet if nee										
5. REMARKS				<del></del>	Telephone	No.:	(803)438-1331			_	_ 1
					20. WATER W	ELL CONTRA	CTOR'S CERTI to the best of r	FICATION: Th	nis well was drilled and belief.	under m	У
					Signed: Ro	g B	ukley	_ Date:	12/27/2006	<u> </u>	
			N-1-1-1	******************	1 Authorit	7. Sprand		•			



#### **Bureau of Water**

2170,44	777 7770001										
1. WELL OW	NER INFORM				6. PERMIT NU	JMBER:	877	,			
Name:	Palmetto E	Environment (last)	tal Group, Ind	C. (first)							
Address:	P. O. Box	• •		-	7. USE:						
					□Reside	ntial	☐ Public S	upply	Process	3	
City:	Elgin	State:	SC :	Zip:29045	☐ Irrigatio	ท	☐ Air Cond	ditioning	□ Emerge	ency	
					☐ Test W		☐Monitoria	ng Well	☐ Replace		
Telephone: \			Home:		8. WELL DEP	TH (completed	1)	Date Started:	:	9/2	8/2006
	N OF WELL:		redict Car	- 60°'s		1#		_ =			
Name:	-		ud's Chevroi			45	ft.	Date Comple		12/1	5/2006
Street Add	1ess:	230/ 12yk	or St/1600 T	wo Notch		OWLY	□ Jetted		Bored		
C#-	Columbia	90	71		□ Dug	Tool	☐Air Rotar	u <b>y</b>	□Driven		
City:	Columbia, Richland	GC .	Zip:		Cable 1	Tool  Threaded	☐Other ☑ Welded				
		Longitude:	81 <sup>0</sup> 00 07				₩elded	Hotela At	n/Pole:		
Latitude:		Longitude: SYSTEM NUI		···	Diam.:			Height: Abov			
a 0101 <b>2M</b>	······································	orotest NU	moefi		Туре:	☑PVC □Steel	☐ Galvantzed ☐ Other	Surface Weight			
4. CUTTING	SAMPI FO.	☐ Yes	✓ No		٠ ا			Drive Shoe?		- - IZI :	No.
mg		1 <del>0</del> 5	±1 N0			in. to			<u> —</u> 168	ord i	·~
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN		empli	<del></del>			
		***************************************	Thickness of	Depth to	Туре:	PVC		Dlam.:	4"		
For	rmation Descri	ption	Stratum	DOMON OF	Stat/Gauge	.020	n and	Length:	20'		_
	<del></del> -			Stratum	7	en: <u>1</u>	ft. and	fL.			1
Red/t	prown claye	y sand	27'	27'	Steve Anal	yala	☐ Yes	please endo	) <u> </u>		No.
		sand (wet)		45'	12. STATIC W	VATER LEVEL	•		surgace after 24 h		
				T		LEVEL Below	/ Land Surface				
			<del></del>		Branches T	, fl. after	_ hrs. Pumping	s (please enclo	_ G.P.M.		
		ļ.	[ ]	Ţ	Yield:	Test:	T98	· (presse ench	vs6)		₩o
	V 12 1				14. WATER Q						
	<del></del>	**************************************	<del></del>	1		Analysis 🗀	Yes 🛛 No	Bacterial /	Analysi Yes	No.	1
		ļ	ļ ļ	!	16. ARTIFICIA	AL FILTER (title	er pack)	✓ Yes	□ No		
					Installed fr	rom Size	44	ft. to	45	fL.	
			<b></b>	}	Effective s	ize		Uniformity Co	oefficient		
		ļ	į l	1		OUTED? ement 🗆 Se	✓ Yes and Cement □	☐ No Concrete ☐	Other		
			<del>                                     </del>	<del></del>	Depth: Fro	om	10	fit to	40	jt.	
<del> </del>			<b></b>	<b>.</b>	17. NEAREST	SOURCE OF	POSSIBLE CON	NTAMINATION	N: π.		direction
		<u> </u>	<b>(</b> )	l		<u>π</u>	ype well disinfecte	edil Yes	Type:		
			<del>  </del>	<del></del>	18. PUMP:	Date Installed	ype well dieinfecte unpon compli :	- MIN	Not installed	7	
						,		_ MIUUISH 14U			
_	· <del>-</del>		ļ]	1		Volts_	Length of drop	pipe	ft. Capacity		gpm
·····		· · · · · · · · · · · · · · · · · · ·	<del>                                     </del>			Submersible Jet (deep)	☐Jet (shal		☐Turbine ☐Centrifus		
				<u> </u>	19. WELL DR	ILLER:	Robyn Barkley				
•						2485 Watson Elgin, SC 290					
a 21	iter Bearing Zo nd sheet if nee				}	)					
S. REMARKS	3:				Telephone		(803)438-1331				
							ACTOR'S CERTIF ue to the best of m		his well was drilled and belief.	under	ny
					1)	1 h.	LA .	<b></b>	40 mm =====		
					Signed: Milhoria	tod Roprosontizitvo		_ Dete:	12/27/2006		
							————				



	OIR LEGIST I	* *******	<u> </u>							
1. WELL OW	MER INFORM	IATION:			6. PERMIT NU	IMBER:	87	7		
Name:			tal Group, Inc	C. (first)						
Address:	P. O. Box	•		-	7. USE:					
	. =				☐ Resider	rtiai	☐ Public	Supply	Process	3
City:	Elgin	State:	SC .	Zip:29045	☐ Irrigation			onditioning	☐ Emerge	
	<b>-</b>			, <del>- • • •</del>	☐ Test We			oring Well	□ Replace	•
Telephone: \	Work:		Home:			TH (completed		Date Started:		9/28/2006
	N OF WELL:			•		- <del>-</del>				_
Name:			ud's Chevro	n/Site	4	45	_ ft.	Date Comple	ted:	12/15/2006
Street Add	-		or St./1600 T				Jetted		<b>☑</b> Bored	
[		- ·			□Dug		□Air Ro	tary	□Driven	
City:	Columbia,	SC	Zip:		☐Cable T		□Other □	-		
	Richland		-		10. CASING:		Welded			
Lattude:	34°00.77	Longitude:	81°00.97		Diam.:		1"	Height: Above	e/Below	
3. SYSTEM		SYSTEM NU				<b>☑</b> PVC	☐ Galvanize	1 -		
			<del></del>		.,,,	□ Steel	☐ Other	Weight		_
4. CUTTING	SAMPLES:	☐ Yes	Z No		┥			1 -		
		198			<del></del>	in. to				
Geophysic	rai Logs:	☐ Yes	✓ No		11. SCREEN				<u>L.: #57.</u>	
			*Thickness of	Depth to	Туре:	PVC		Diam.:	4"	· · · · · · · · · · · · · · · · · · ·
Fo:	rmation Descri	iption	Thickness of Stratum	Bottom of	Slot/Gauge	.020		Length:	20'	
	·			Stratum	Set Betwee	sn:1	ft. and <u>10</u> ft. and	<u>_ n.</u>		
Red/	brown claye	y sand	27'	27'	Sieve Analy	vsis		1t. 'es (please enclo	ISB)	[7] No
					12 STATIC W	VATER LEVEL	•			
Yellow to	gray clayey	send (wet)	18'	45'				ft. below land	surgace after 24 i	hours
1	_		[	1		fl. after			G.P.M.	
<del> </del>			<del></del>	<del> </del>	Pumping T		_ 188. rumpik 	es (please encid		₽ No
					Yield:			- G		
				<u> </u>	14. WATER Q				\	A 1 - PRINCE
ļ	<del></del>		-	<u> </u>	Chemical /	Analysis 🔲 close lab result	]Yes 🛂 N	No Bacterial /	Analysi□ Yes	No
			1	1		Close Iad result AL FILTER (Tib		✓ Yes	∐ No	
				<del></del>	Installed fo	rom		ft. to	45	ft.
<u> </u>					Effective a	ize		Uniformity Co	efficient	
			1			COTED?		□ No	Officer	
<del></del>			<del>                                     </del>	<b></b>	Depth: Fro	anigat 🗀 St	anu Cement C	Concrete 1		n.
L_					17. NEAREST	r source of	POSSIBLE C	ONTAMINATION	N: fi.	director
				\						
<u> </u>		···	<b></b>	<u> </u>	40 200	Data be-	unpon con	ected Yes npletion N N	o Amount:	T2
				1	18. FUMP: Mfr. Name	THE INSTRIBU	<b>-</b>	Model No.:	Not installed	نكا
-				<del></del>	H.P.	Volts	Length of dro	14144441 14444	ft. Capacity	дрл дрл
					Type: 🗆	Submersible	☐ Jet (si	hallow)	Turbine	)
		_ <del></del>		1		Jet (deep)		rocating	☐Centrifu	
			+	<del></del>	19. WELL DR	ILLER: 2485 Watson		ley CERT. NO.:	934	₹
			<u> </u>	<u> </u>		Eigin, SC 290				
	nter Bearing Zo									
a 2	and sheet if ne				_					
S. REMARK	S:				Telephone		(803)438-13		ria mell	l males
								ITIFICATION: TI of my knowledge	his well was drilled and belief.	under my
					- DITE HOUSE	report 15 (f)	w vid <b>DES</b> I (	y MIUWIUGJ9	was a second of the seco	
					1	1 -				
					Signed:	6m 1	able -	Date:	12/27/2006	<b>L</b> .
					Authoris	ang Representative	- war			<del></del>
<u> </u>										



4 14/21 : 614	NER INFORM	ATION	\		6. PERMIT NU	WEED.	877	<del>,</del>	<del></del>		
1. WELL OW Name:			al Group, Inc	1	- remaint	singer:	011				
Address:	P. O. Box	• •			7. USE:				<del></del>		
		<del>-</del>		,	Resider	ntial	☐ Public S	inbbla	Process	1	
City:	Elgin	State:	SC 2	Zip:29045	☐ Irrigatio		☐ Air Cond		□Emerger		
Cay.	-12·1		(		☐ Test We		☐ Monitori		☐ Replace		
Telephone: \			Hame:			TH (completed		Date Started:			28/2006
	N OF WELL:			apa.e.		16		<b>.</b>	1	40.	EMAGA
Name:	•		ud's Chevror		4	45	ft.	Date Complet		12/1	5/2006
Street Add	iress:	2367 Taylo	or St./1600 To	wo Notch		otary	□ Jetted		Bored		
ļ					Dug	Ya 8	□Air Rota	ягу	□Driven		
City:	Columbia,	SC	Zip:		□Cable 1		Other	<del></del>			
	Richland		- · <b>-</b>		10. CASING:	☐ Threaded					
		Longitude:			Diam.:		1"	Height: Above			
3. SYSTEM!	NAME:	SYSTEM NUI	MBER:		Туре:	<b>☑</b> PVC		Surface			
		<del></del>	<del></del>		4 -	☐ Steel	Other	Weight		- <sub>[]</sub>	Ne
4. CUTTING	SAMPLES:	☐ Yes	☑ No			in. to <u>45</u>		Drive Shoe?	☐ Yes	Ø	No
	uni i	<b>,</b>	<b>[28</b>		44 665	in. to	feet depth	<del></del>	<del></del>		
Geophysic	cal Logs:	☐ Yes		Donald An	11. SCREEN Type:	PVC		Diam.:	4"		
Fee	metion Descri	ption	Thickness of	Bottom of	Slot/Gauge	.020		Length:	4" 20'		_
L			Stratum	Stratum	Set Betwee	3n: <u>1</u>	ft. and 10	_ ft			
B		y cond	277		1		ft. and	_n.	real		[7] A1-1
Ked/	brown claye	y serid	27	27'	Stave Anal	lysis VATER LEVEL		s (piesse encio	,ouj		No.
Yellow to	gray clavev	sand (wet)	18'	45'				ft. below land	i surgace after 24 i	hours	
				· · · · · · · · · · · · · · · · · · ·			v Land Surface				
						. ft. after	_ hrs. Pumping	a (places and	_ G.P.M.		["B) bla
		-		1	Pumping 1 Yield:	1 425C	☐ Ye	s (please enclo			No No
<del></del>			<del>                                     </del>	<del></del>	14. WATER C						-
<u></u>					Chemical a		]Yes ☑ No	) Bacterial	Analyei□ Yes	No₩	1
l		ļ	1	1	18. ARTIFICIA	AL FILTER (間	ter pack)	<b>✓</b> Yes	□ No	-	
				<del></del>	Installed fr	rom	_44	ft. to	45	ft.	Ì
				<u> </u>	Effective s	size		Uniformity Co	oefficient		
		1		•	TO WELL GR	COUTED?	✓ Yes and Cement □	☐ No Concrete ☐	Other		
<del> </del>			<del>                                     </del>	<del></del>	Denth: Fr	rom	10	Oft. to	40	) ft.	
	-			<u></u> .	17. NEARES	T SOURCE OF	POSSIBLE CO	NTAMINATION	N: ft.		direction
				1		1	Type well disinfect	πed∐ Yes '	rype:		
<del> </del>	<del></del>		<del> </del>	<del></del>	18 DITUB.	Date Installed	umpon comp d:	pletion Z N	lo Amount:  Not installed	T.	<del></del>
<u></u>			<u> </u>		Mfr. Name	o:		_ Model No.: _		لتب	
				Ţ	H.P.	Volts	Length of drop	p pipe	ft. Capacity		gpm
<b>}</b>		<del></del>	<del></del>	<b></b>		Submersible Jet (deep)	□Jet (sha	,	☐Turbine		
			1	<b>!</b>	19. WELL DR	ULLER:	Robyn Barkle	ociting by CERT. NO.:			
<u> </u>						2485 Watson Elgin, SC 29	า				
Indiana 14/	ater Beering Z	iones (Use	<del> </del>	<del> </del>	┪	لگ نبان رانس					
	ater bearing 2. 2nd sheet if ne		· [	1							
S. REMARK		<u> </u>	<del>, </del>	<del></del>	Telephone		(803)438-1331			_	
					20. WATER V	WELL CONTR		IFICATION: T	his well was drilled and belief.	d under	my
					M	1 1.	10		g an annual co		
1					Signed: <u>///</u> Author	Tay Representative	nen	Date:	12/27/2006	<b></b>	
						<del></del>		<del></del>			



					Y		<del></del>		<del></del>		
	NER INFORM		-1.0		6. PERMIT NU	IMBER:	877	<i>r</i>			
Name:	(last) (first)								W.		
Address:	P. O. Box	<b>42</b> 7			7. USE:		<u></u>				
					Residen		☐ Public 8		Process		
City:	Elgin	State:	SC .	Zip:29045	□Irrigatio		□ Air Con	•	☐ Emerge	•	
T-1	Alama		11		☐ Test W		☐ Monitor		☐ Replace		9/2000
Telephone: V	Nork: N OF WELL:		Home:		8. WELL DEP	ın (completed	y	Date Started:		9/2	8/2006
2. LOCATION Name:			ud's Chevro	n/Site	4	45	_ ft.	Date Complete	d:	12/14	5/2006
Name: Street Add	•		or St./1600 T				_ IL.	Para Comprete	:0: ✓ Bored	1 1 1 1	
		iajil	Jur 1990 I	as itulii	Dug	,	□Air Rota	9TV	Driven		
City:	Columbia,	SC	Zip:		□Cable 1	<b>Tool</b>	□Other	· ••			i
	Richland				10. CASING:			T			
		Longitude:	81°00.97		Diam.:		1"	Height: Above/	Below		
3. SYSTEM N		SYSTEM NU				<b>☑</b> PVC		Surface			1
					]	☐ Steel	Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	☑ No		0			Drive Shoe?	☐ Yes	Z	No
		- <del></del>	_			in. to	-		·		
Geophysic	zi Logs:	☐ Yes	Z No		11. SCREEN						
			*Thickness of	Depth to	Type:	PVC		Diam.:	<u>4"</u> 20'		
For	mation Descri	pron	Stratum	Bottom of Stratum	Stot/Geuge Set Betwee		ft and 10	Length:	<u> </u>		
			<del>                                     </del>		1		ft. and	_ ft.			
Red/t	orown claye	y sand	27'	27'	Sieve Analy		☐ Ye	e (please enclos	e)		<b>V</b> No
Yellow to	grav clavev	sand (wet)	18'	45'	12. STATIC W	ATER LEVEL		ft. below land	turgaçe after 24 i	toure	
	M-~1141		<del>                                     </del>			LEVEL Below					
			<u> </u>	·			hrs. Pumping		G.P.M.		
_				1	Pumping T Yield:	esc	☐ Ye	e (please enclos	e)		☑ No
				· · · · · · · · · · · · · · · · · · ·	14. WATER Q						
	, <del></del> , , , , , , , , , , , , , , , , , ,	<del></del>			Chemical	Analysis 🗆	Yes 🛂 No	o Bacterial An	nalysi Yes	No	]
		1	1	1	1 APTIENT	close lab result	at Deck)	☑ Yes	□ No		
			<del> </del>	<del> </del>	Installed fr		44 44	ft. to	45	ft.	
			<u> </u>	<u> </u>	Effective s	ize		Uniformity Coe	fficient		
			]	1		OUTED?		☐ No Concrete ☐ (	Ther	_	
<del></del>	<del></del>		<del>  </del>		Depth: Fro	om	10	Õ ft. to	40		
					17. NEAREST	SOURCE OF	POSSIBLE CO	NTAMINATION:	ft.		direction
				1		T <sub>3</sub>		zed□ Yes Ty			
	· · · · · · · · · · · · · · · · · · ·		<del> </del>	<del> </del>	18. PUMP:	Date Installed	: uspon com	oletion 2 No	Amount: Not installed		
				<u> </u>	Mfr. Name	):		Model No.:			
					H.P	Volts	Length of drop		ft. Capacity		gpm
·			<del> </del>	<del></del>		Submaratble Jet (deep)	☐Jet (she		☐Turbine ☐Centrifu		
			I	<u></u>	19. WELL DR	ILLER:	Robyn Barkle	y CERT. NO.:	234		
						2485 Watson Eigin, SC 290	•				
a 21	iter Bearing Zo ind sheet if nee					•					·
S. REMARKS	<b>5</b> :				Telephone		(803)438-133°	TERRATIONS TO	) well was Jahl 1		PON-
								TRICATION: This my knowledge at		urider i	198 <b>y</b>
					Signed: Ru		aplen	Date:	12/27/2006		
				<del></del>		cog/Representative					



1. WELL ON	MER INFORM	ATION:	<del></del>	*	6. PERMIT N	UMBER:	87	7	<del>,, </del>	····	
Name:			zai Group, In	C. (first)							
Address:	P. O. Box	427		,	7. USE:		· · · · · · · · · · · · · · · · · · ·			<del></del>	
					☐ Reside	intial	☐ Public	Supply	Process	}	
City:	Elgin	State:	SC	Zip:29045	□Imigati	on	☐ Air Cor	editioning	□ Emerge	ncy	
					☐ Test W	/eli	☐ Monitor	ring Well	Replace	ement	
Telephone: \			Home:		8. WELL DEF	TH (complete	d)	Date Started:		9/28	3/2006
2. LOCATIO	N OF WELL:				1						
Name:	Handy Par		ud's Chevro			45	_ ft.	Date Complete		12/18	/2006
Street Add	iress:	2367 Taylo	or St/1600 T	wo Notch	9. Mud R	otary	□Jetted		<b>✓</b> Bored		
ļ	_	-			□Dug		☐Air Rot	ary	☐ Driven		
City:	Columbia,	SC	Zip:		☐ Cable		□Other	-9	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		
	Richland				10. CASING:	☐Threaded	<del></del>	1			
		Longitude:			Diam.:		19	Height: Above			
3. System	NAME:	SYSTEM NU	MBER:		Туре:	<b>☑</b> PVC		Surface			
		·		·····	_	☐ Steel	☐ Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	☑ No		g	in. to45	feet depth	Drive Shoe?	☐ Yes	Z I	ło
İ							feet depth		·		
Geophysic	zai Logs:	☐ Yes	<b>☑</b> No		11. SCREEN				40		
For	rmation Descri	ntion	*Thickness of	Depth to Bottom of	Type: Stot/Gauge	PVC 8: .020	<del></del>	Diam.: Length:	20'		
'~		paul	Stretum	Stratum	Set Betwe	en: <u>1</u>	ft. and 10				
					1		ft. and	Īt.			
Red/	brown claye	y sand	27'	27'	Stave Ana			s (please enclos			V No
Yellow to	gray clayey	sand (wet)	18'	45'	12 SIANCE	AVIEK TEAE	<b>-</b>	ft. below land	surgace after 24 l	ionire.	
					13. PUMPING	LEVEL Belo	w Land Surface				
						. IL GIDDI	···· · · · · · · · · · · · · · · · · ·		Out alse		
ł			ł i		Pumping Yield:	Test:	☐ Ye	s (piezae enclos	<b>18</b> )	ļ	Z No
		· · · · · · · · · · · · · · · · · · ·			14. WATER C	YTUALITY					
					Chemical	Analysis [	Yes 🔽 N	D Bacterial A	nalyst⊡ Yes	No	
					Pieese en	ciose isb resu	its		· · · · · · · · · · · · · · · · · · ·		
<del></del>					inetelled f	AL FILTER (fi	ter pack)	✓ Yes ft. to	LI NO 45	ft.	
						***/A C		Uniformity Cos	efficient	16.	
					16. WELL GI	OUTED?	Yes Yes	☐ No			
					Depth: F		and Cement	Concrete □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Other40		
					17. NEARES	SOURCE O	POSSIBLE CO	NTAMINATION:			firection
							Type well disinfec	ted⊡ Yes T	ype:		
		· · · · · · · · · · · · · · · · · · ·					unpon comp d:	pletion 🔽 No	Amount:		
i					Mfr. Name		d:	Model No.:	Not installed	M	
	······				H.P.	Volts	Length of drop		ft. Capacity		gpm
	-, -,,,				Type:	Submersible	☐Jet (sh	ellow)	□Turbine		
ļ					19. WELL DE	Jet (deep)	☐Recipro	ocating w CERT. NO.:	☐ Centrifu		
						uller: 2485 Watsor		y CERI. NO.:	934	•	
	·					Elgin, SC 29					
a 2	nter Bearing Zo and sheet if nee										
S. REMARK	S:				Telephon		(803)438-133	1			
· .							ACTOR'S CERT rue to the best of		s well was drilled	under n	ny
ł					Tom Order I STING	ana iahoi(12) ji	oo w ure post of	my monescase a	ual voiti.		
					A	1.					
Ì					Signed:	Inn B	unt lens	Date:	12/27/2006		
1						izacji tepresentativ			12.00		
					<del>'</del>						



	ord restrict	1 (40-01 DA								
1. WELL OW	NER INFORM	ATION:			6. PERMIT NI	JMBER:	877			
Name:	Palmetto E	Environment (last)	al Group, In	C. (firet)						
Address:	P. O. Box	427		•	7. USE:					
					Reside	ntial	☐ Public 8	upply	Process	1
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio	m	☐ Air Cond		□Emerge	
•	•	•			☐ Test W		☐ Monitori	-	□ Replace	-
Telephone: \		40.55	Home:			TH (completed		Date Started:		9/28/2006
	N OF WELL:		n <i>a</i> .	##D04	Ī		_			
Name:	•		ud's Chevro			15	ft.	Date Complet		12/15/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud R	otary	□Jetted		Bored	
	<b></b>				□Dug	_	☐Air Rota	ry	Driven	
City:	Columbia,	SC	Zip:		□Cable 1	·	Other			
	Richland		_		10. CASING:	☐Threaded	Welded	Į.		
		Longitude:			Diam.:		1"	Height: Above	Below	
3. System i	NAME:	SYSTEM NU	MBER:	·	Туре:	<b>☑</b> PVC	☐ Galvanized		<del></del>	
			<del> <u> </u></del>			☐ Steel	☐ Other	Weight	····	<u> </u>
4. CUTTING	SAMPLES:	☐ Yes	☑ No		]		feet depth	Drive Shoe?	☐ Yes	☑ No
Geophysic	ai Loos:	☐ Yes	🗹 No		11. SCREEN	in. to	reer deprin	<u> </u>	<del>, , </del>	
				Depth to	Туре:	PVC		Diam.:	4" 20'	
For	metion Descri	ption	Thickness of Stratum	Bottom of	Slot/Gauge			Length:	20'	
·····	Red/brown clayey sand			Stratum	Set Betwee	en: 1	ft. and10_	_ft.		
Red/t	orown clave	v sand	27'	27'	Sieve Anai	vsis =====	fl. and	_ft. 5 (please enclos	se)	IZI No
						ATER LEVEL				
A GIIOM 10	alay ciayey	sana (wet)	18'	45'	44 DINERIO	LEVEL Below	I and Combon	R. below land	surgace after 24	hours
							_hrs. Pumping		G.P.M.	
	**** * · · · · · · · · · · · · · · · ·	<u>-</u>				lest:	☐ Yes	(piesse encios	se)	<b>☑</b> No
		······································			14. WATER C				<del></del>	
<del></del>		<del> </del>			Chemical /	Anziyeis 🔲 close lab result	Yes 🔽 No	Bacterial A	nalysi Yes	No.
					15. ARTIFICIA	L FILTER (file		✓ Yes	□ No	
					installed fr	om	44	ft. to	45	ft.
	<del></del>				Effective s	ze		Uniformity Con	efficient	
					16. WELL GR		✓ Yes and Cement 🗆	□ No	Other	
		******		-	Depth: Fr			ft. to	40	<b>n</b> .
					17. NEARES	SOURCE OF	POSSIBLE CO	VIAMINATION	i ft.	
					]	Ty	pe well disinfect	ed Yes T	уре:	
					de Parami	Data Ind-0-3	pe well disinfect	etion 🗸 No	Amount:	
					Mfr. Name	: Pair il <b>eistane</b> d:		Model No.:	Not installed	<b>12</b>
	· · · · · · · · · · · · · · · · · · ·				H.P	Volts	Length of drop	pipe	ft. Capacity	gpm
				····	—	Submersible	☐Jet (she	liow)	□Turbine	
					19. WELL DR	Jet (deep)	☐Recipros Robyn Barkley		☐Centrifu 934	
		*** ** ****		· · · · · · · · · · · · · · · · · · ·		2485 Watson Eigin, SC 290	•	viitti NV:i	834	'
	ter Bearing Zo nd sheet if nee				1					
S. REMARKS					Telephone	No.:	(803)438-1331			
					20. WATER W	ELL CONTRA			is well was drilled and belief.	under my
1					10	l n	- 60			
_					Signed: ///		ukley	Date:	12/27/2006	
·		<del></del>				The same of the sa			<u> </u>	



4 1001 1 01	NER INFORM	ATION-	<del></del>		6. PERMIT NU	MRFR-	877			,
Name:			al Group, In	C. (first)	e. PERMINE	rideri.	011			;
Addrage	P. O. Box	• •		(mar)	7. USE:					
AMUI DOG.	<del></del>	T I			□Reside	ntial	☐ Public S	upply	Process	. 1
City:	Elgin	State:	SC	Zip:29045	□irrigatio		☐ Air Cond	•••	□Emerge	
ouj.	Bu+	willy.			☐ Test W			ng Well	Replace	•
Telephone: \			Home:		8. WELL DEP			Date Started:		9/28/2006
	N OF WELL:			****			~			451454555
Name:	•		ud's Chevro			15	_ft	Date Completed		12/15/2006
Street Add	iress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	ntary	☐Jetted		Bored	
	0-1	00			Dug	Paul	□Air Rota □Other	гу	□Driven	
City:	Columbia,	SC	Zip:		☐Cable 1			1		
	Richland		04800 07			☐Threaded		Lielmini, Albania	Tolone.	
		Longitude:			Diam.:		<u>1"</u>	Height: Above/E		
3. SYSTEM	NAME:	SYSTEM NU	MSER:		Type:	PVC		Surface		
4 64 5	A 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		Far		4 ^	□ Steel	Other	Weight		[2] No
4. CUTTING	SAMPLES:	☐ Yes	☑ No		[ ——		<del></del>	Drive Shoe?	⊔ T96	
A			[7] No.		44 0000000	in. to	feet depth	<u> </u>	<del></del>	
Geophysic	mi roßs:	☐ Yes		Depth to	11. SCREEN Type:	PVC		Diam.:	<b>4</b> "	
Fo	rmation Descri	ption	*Thickness of	Bottom of	Slot/Geuge	: 020		Diam.: Length:	20'	
		-	Stratum	Stratum	Set Betwee	:n: 1	ft. and 10	ft.		
Redi	brown claye	v sand	27'	27'	Slave Anal		n. and	_ft. i (piease enclose	1	IZI No
I NOUI	womii oraje	y conta			12. STATIC W	ATER LEVEL				
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land su	irgace after 24 i	iours
							Land Surface			
	<del></del>	·			Promine 1	, n. anor [est:	_hrs. Pumping	(piesse enclose	13.F.M. 1	<b>⊠</b> No
					Yield:		L. 100	Annual Middle		(M.) 140
		****			14. WATER C					
	···········		<u> </u>		Chemical .	Analysis 🗀 close lab resull	Yes 🗹 No	Bacterial And	alysi∐ Yes	No.
					15. ARTIFICIA	L FILTER (M	er pack)	✓ Yes	□ No	
	<del></del>				Installed fi	rom		ft. to	45	fi.
		····			Effective s	ize		Uniformity Coef	ficient	···
					19. WELL GR	CUIEDY ement Fi 9:	Yes	Concrete C	Mer	
					Deoth: Fr	om	16	ft. to	46	n.
		·			17. NEARES	SOURCE OF	POSSIBLE CO	NTAMINATION:		direction
					]	T	ype well disinfect	ted Yes Typeletion Mo	pe:	
ļ		<del></del>	<del></del>		18. PLIMP:	Date Installed	широп соптр	erron 2 No	Not installed	IA .
					Mfr. Name	):		Model No.:		
					H.P	Volts	Length of drop		ft. Capacity	gpm
			<del> </del>	<del></del>		Submersible Jet (deep)	□Jet (she □Recipro		☐Turbine ☐Centrifu	
					19. WELL DR	ILLER:	Robyn Barkler		934	
					Address:	2485 Watson Elgin, SC 290				
Indicate W	ater Bearing Zo	ones (Use			1	<u> </u>				
a 2	and sheet if nec			<u> </u>	J					
5. REMARK	<b>3</b> :				Telephone		(803)438-1331		weell seems delited	a madaya wasa
	-							FICATION: This my knowledge an		uncer my
					h	1 4	10			
ĺ					Signed:	m 130	eller	_ Date:	12/27/2006	<u> </u>
					Auther	zay Ropresentative				



	45.000		· · · · · · · · · · · · · · · · · · ·		Ta =======			<del></del>			
	MER INFORM				6. PERMIT NU	IMBER:	877				
Name:	Palmetto E	Environment (lest)	zai Group, In	C. (first)							
Address:	P. O. Box	427		· •	7. USE:						
					Resider	ntial	☐ Public S	upply	Process	ı	
City:	Elgin	State:	SC	Zip:29045	□Irrigatio		☐ Air Cond		☐ Emerge		
Ouy.	8n₁	view.	-	enhicona.	☐ Test W		☐ Monitori	•	Replace	•	
Telephone:	Work:		Home:		8. WELL DEP			Date Started:	LI (G)ISC	9/28/2	006
2 LOCATIO	N OF WELL:	AS-40	······································		7	· ·					
Name:	Handy Par	ntry #65/Clo	ud's Chevro	n/Site	4	15	_ ft.	Date Complete	xd:	12/15/2	006
Street Add	-		or St./1600 T				□Jetted		Bored		
					□Dua	-	☐Air Rota	īV	Driven		
City:	Columbia,	SC	Zip:		☐Cable 7	Fooi	☐Other	•			-
	Richland	<del></del>	anip.		10. CASING:		Welded	1			
1		Longitude:	94900 07			1104406Q	1º	Height: Above	Dalow		
					Diam.:	[7]m/c		1 -			
3. SYSTEM	NAME:	SYSTEM NU	mber:		Туре:	<b>☑</b> PVC		Surface			
					4 _	□ Steel	Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	☑ No		0			Drive Shoe?	☐ Yes	Z No	
						in. to	feet depth	<u> </u>			
Geophysic	zal Logs:	☐ Yes	₩ No		11. SCREEN					·	
_			Thickness of	Depth to		PVC		Dlam.: Length:	4" 20'	<del> </del>	
F0	rmation Descri	pcon	Stratum	Bottom of Stratum	Slot/Gauge Set Between		6 and 46		20.	<del></del>	
<del> </del>				SUBILLIN	- Set permet	## <u> </u>	ft. and 10 ft. and	.ft. ft.			
Red/	brown claye	y send	27'	27'	Sieve Analy	vais		please enclos	e)	<b>[7</b> ]	No
						ATER LEVEL					
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land a	urgace after 24 l	tours	
			]	1	13. PUMPING						
	· · · · · · · · · · · · · · · · · · ·						hrs. Pumping	(rlance engles		_	<b>L</b> P
Ì			1	ļ	Pumping T Yield:	CSE	☐ Yet	(please enclos	e)	$\square$	No
<b></b>		<del></del>	<del></del>	ļ	14. WATER Q	UALITY					
				<u> </u>	Chemical /	Analysis 🗆	Yes 🔽 No	Bacterial Ar	naiyai□ Yes	No.	
					Please en	ciose lab result	8				
					18. ARTIFICA	IL FILTER (MA		✓ Yes	□ No	_	
ŀ				ļ		om	44	ft. to Uniformity Cos	45 Walant	ft.	
<del></del>			<del> </del>	<del> </del>	Effective s	OUTED?	DI Yes	☐ No	INGIOTIL		
			<b>i</b>	1	Neat C	ement 🗆 Sa	and Cement 🗆		Other		
					Depth: Fre	om	10	ft. to	40		
		···			17. NEARES		POSSIBLE CO	NTAMINATION:	ft.		ction
	<u> </u>					T	ype well disinfect	ed□ Yes Ty	/pe:		
<del></del>		<del></del>		<b></b>	18. PUMP:	Data Installed	unpon comp	letion 🗾 No	Amount: Not installed		
				Ţ	Mfr. Name		•	Model No.:	NOT REPRESE!	2	
					H.P.	Volts	Length of drop		ft. Capacity		gpm
					Type: 🗆	Submersible	☐Jet (sha	llow)	□Turbine		
						Jet (desp)	□Recipro		☐ Centrifu		
				ļ	19. WELL DR	iLLER: 2485 Watson	Robyn Barkley	CERT. NO.:	934		
			[	Ţ	Amoress:	Elgin, SC 290	<b>145</b>				
Indicate W	ater Bearing Zo	ones (Use		<u> </u>	1						
	nd sheet if ne		ł l	]							
S. REMARK					Telephone		(803)438-1331				
							CTOR'S CERTI	FICATION: Thi	s well was drilled	under my	
	•						ie to the best of i			,	
					M	[ s					
					Signed: 10	Mr. B	arklen	Date:	12/27/2006		_
						Representative					_
				-		<del></del>					



1. WELL OW	NER INFORM				C. PERMIT N	UMBER:	877			
Name:	(last) (first) ddress: P. O. Box 427									
Address:	P. O. Box	427			7. USE:					
					□Reside		☐ Public S		Process	
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio		Air Cond		□Emerge	•
					☐ Test W		☐ Monitori		Replace	
Telephone: \		AC 44	Home:		8. WELL DEF	TH (completed	)	Date Started:		9/28/200
	N OF WELL:		ud's Chevro	n/Cito		45	ft.	Data Camulate	ul.	12/15/2000
Name: Street Add	_		or St./1600 T		9. LiMud R		_ 11. □Jetted	Date Complete	au:  Z Bored	IZI IOIZUU
Oliect Mil	1600:	2301 Tayiu	0 OL 1000 1	WO NOIGH	Dug	otal y	☐Air Rota	~	□Driven	
Ctty:	Columbia,	SC	Zip:		□Cable	Tool		••		
	Richland					☐Threaded	Welded			
		Longitude:	81°00.97		Diam.:		1"	Height: Above	/Below	
3. SYSTEM		SYSTEM NU		<u></u>	Туре:	<b>☑</b> PVC	☐ Galvanized	1 -		
						☐ Steel	Other	Weight		_
4. CUTTING	SAMPLES:	☐ Yes	☑ No	· · ·	1	in. to _45		Drive Shoe?	☐ Yes	☑ No
			- 200			in. to	feet depth			
Geophysic	al Logs:	☐ Yes	₩ No		11. SCREEN					
			*Thickness of	Depth to	Type:	PVC	<del></del>	Dlam.:	4" 20'	
F01	rmation Descri	haou	Stratum	Bottom of Stratum	Stot/Gauge Set Between		ft. and 10	Length:	<u> 20</u>	
					1		ft. and	ft.		
Red/	prown claye	y sand	27'	27'	Sieve Ana			(please enclos	e)	Z N
Yellow to	gray clayey	sand (wet)	18'	45'	<u> </u>	VATER LEVEL		ft. below land a	surgace after 24 l	tours
				····		LEVEL Below				
					Pumping '		hrs. Pumping	(please enclos		<b>2</b> N
					Yield:			Presso airios	~,	
					14. WATER C					· =
	<del></del>				Chemical Please en	Analysis   close lab result	Yes 🔽 No	Bacterial A	nalysi□ Yes	No.
					18. ARTIFICE	AL FILTER (filt		✓ Yes	□ No	
						rom	44	ft. to	45	ft.
	····	· · · · · · · · · · · · · · · · · · ·			Effective	SIZE COUTED?	✓ Yes	Uniformity Cos	miclent	
							and Cement 🛄		Other	
					Depth: Fr	rom	10	ft. to	40	
		···			17. NEARES		POSSIBLE COM pe well disinfect			directio
							Immon compl	etion <b>2</b> No	Amount:	<del></del>
		****			18. PUMP:	Date Installed	:		Not installed	Ø
		···			Mfr. Namu	e: Voits		Model No.:	- A C	
			<b>j</b>		H.P.	Vons Submersible	Length of drop □Jet (sha		ft. Capacity	gpr
					1 <u> </u>	Jet (deep)	□Recipro	cating	☐ Centrifu	gal
			<u></u>		19. WELL DR	ILLER: 2485 Watson	Robyn Barkley	CERT. NO.:	934	
			[		AUDIESS:	Elgin, SC 290	<b>145</b>			•
Indicate Wa	iter Bearing Zo	onee (Use			1					
22	nd sheet If ne				J					
6. REMARK	<b>3</b> :				Telephon		(803)438-1331			
							CTOR'S CERT! In to the best of i		s well was drilled nd helief	uncer my
					Tan control and	THE INDUSTRIBUTION	-, w up wat VI I	y	end tracket.	
					m	1				
					Signed: 1/4	lan Ba	Elen	Date:	12/27/2006	<u> </u>
						izer Representative		·· <del> •</del>		



			<u> </u>		To be seen to the						
	MER INFORM				6. PERMIT NU	MBER:	877	•			h
Name:	Palmetto Ł	Environment (last)	tai Group, Ind	(first)					-		
Address:	P. O. Box	• •			7. USE:						
<u></u>	<b>-</b>				☐ Residen		☐ Public 8		Process		
City:	Elgin	State:	SC :	Zip:29045	☐ irrigation		☐ Air Con	• • • • •	□Emerge	•	
	•				☐ Test We		Monitor		□ Replace		7. 200
Telephone: V			Home:		8. WELL DEPT	TH (completed	1)	Date Started:		9/21	B/2006
	N OF WELL: Hendy Per		ude Cha	1/8#=		15	_ ft.	Date Committee	wi•	1914	5/2006
Name:	-		oud's Chevroi or St./1600 T		9. DMud Ro		_ Tt. □Jetted	Date Complete	ed:  Bored	1211	-/ #.UUO
Street Add	al <b>1785</b> .	ZJUI I BYK	. GU 1000 l	אט ואטנכוו	Dug	t y	□Jetted □Air Rota	314	M∑i boreci □Driven		
City:	Columbia,	SC	Zip:		□Cable T	'col	□Other		أ 1970 الراميو		
	: Richland	,	colp*.		10. CASING:		Welded	<b>T</b>			
		Longitude:	81º00 97		Diam.:		4a Al Assertan	Height: Above	/Below		
3. SYSTEM!		SYSTEM NUI				<b>☑</b> PVC		d Surface			
	_ <del></del>	III ITU	W		.مرر.	©Steel	☐ Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	✓ No		ا ــــــــــــــــــــــــــــــــــــ						No
		198			L	in. to	feet depth			·	
Geophysic	al Logs:	☐ Yes	☑ No		11. SCREEN						
		<del></del>	Thickness of	Depth to	Type:	PVC		Diam.:	4"		
Fa	imetion Descri	iption	I nickness of Stratum	BOROLL OL	Slot/Gauge:	.020	A cond	Length:	20'		_
		<del></del>	<del></del>	Stratum	Set Between	## <u>1</u>	ft. and <u>10</u> ft. and	- ft.			
Red/L	brown claye	y sand	27'	27'	Steve Analy		☐ Ye	s (please enclos	ie)		No No
		y sand (wet)	1	45'	12 STATIC W		1		surgace after 24 h		
· SILVE (O	Bray Hayes	Sairt (MCI)	10	-+0	13. PUMPING	LEVEL Below	v Land Surface	IL DOICH ISING !	ज्यानुकान सासि 24	-:u15	
				<u> </u>	J	ft. after	_ hrs. Pumping		G.P.M.		_
		i			Pumping To Yield:			e (please enclos		Į.	No No
			1	· · · · · · · · · · · · · · · · · · ·	14. WATER Q						
	•		<b></b>	<u></u>	Chemical A	Analysis 📮	] Yes 🔽 No	o Becterial Ar	neiysi Yes	No	1
ļ		i	1	•	Please end	close lab result LL FILTER (fills		✓ Yes	□ No		
ļ	· · · · · · · · · · · · · · · · · · ·		<del> </del> i	<del></del>	installed fro	rom	44	ft. to	45	ft.	
		<del> </del>	<b></b>	<u> </u>	Effective si	ize		Uniformity Coe	efficient		
_	_		1	•	16. WELL GR		✓ Yes and Cement □	☐ No Concrete ☐	Other		
			<del> </del>	<del></del>	Depth: Fro	om	10	Off. to	40		
	********		[]		17. NEAREST	SOURCE OF	POSSIBLE CO	NTAMINATION	i ît.		direction
				1			LIDRAN ARTIL	cted Yes Ty			
<del> </del>	<del></del>		<del> </del>	<del></del>	18. PUMP:	Date Installed	unpon comp	MEGUNT ME NO	Amount: Not installed	Į,	
	-				_ Mfr. Name:	:		Model No.:			
	<del></del>			1	H.P	Volts	Length of drop	p pipe	ft. Capacity		gpm
<b></b>			<del> </del>	<del></del>		Submersible Jet (deep)	□Jet (sh		☐Turbine ☐Centrifu		
				<u> </u>	19. WELL DR	ILLER:	Robyn Barke	ocaung by CERT. NO.:	UCentinu 934		
		- <del></del>			Address:	2485 Watson Elgin, SC 290	1		334		
	ater Bearing Zo 2nd sheet if nec				1	and					
5. REMARK					Telephone		(803)438-133				
					20. WATER W	VELL CONTRA	ACTOR'S CERT		is well was drilled and belief.	l under i	my
					h	l m	1 11		<b>.</b> - · ·		
		_	_		Signed: //	zo Representative			12/27/2006	<u> </u>	
-				<del></del>	<del></del>				<del></del>		



#### **Bureau of Water**

Yield:  14. WATER QUALITY Chemical Analysis ☐ Yes ☑ No Becteriel Analysi☐ Yes No☑ Piease enclose (ab results  18. ARTHFCIAL FILTER (filter pack) ☑ Yes ☐ No Inetalled from 44 ft. to 45 ft. Effective size ☐ Uniformity Coefficient  16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other Depth: From 10 ft. to 40 ft.  17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction Type well disinfected ☐ Yes Type: ☐ unpon completion ☑ No Amount:  18. PUMP: Date Installed:	HOX	OIE PROIBLE	LIGINALEN	<u></u>								
Name: Palmetto Environmental Group, Inc. (Inc.) (Inc.) Address: P. O. Box 427  CB; Bigh State: SC Zp;25045  Name: Handy Pentry #65/Cloud's Chevron/Site Street Address: 2387 Taylor St./1600 Two Notch CB; Columbia, SC Zp; COUNTY: Richland Lathate: 34*00.77 Longitude: 81°00.97  3. Vertical Medic: 34*00.77 Longitude: 81°00.97  3. Vertical Medic: 34*00.77 Longitude: 81°00.97  4. CUTTING SAMPLES: 9'Ver Inc. Geographical Logs: 9'Ver Inc. Geographical Logs: 9'Ver Inc. Geographical Logs: 9'Ver Inc. Redifferown clayey sand 27' 27' Yellow to gray clayey eard (wet) 18' 45'  Yellow for gray clayey eard (wet) 18' 45'  13. FURPHIOL LEVEL, Bisser Land Surface  14. STATE WARTER LEVEL  15. End of the ph. Two Purchage (Science enclose) Inc. The County of the Surface of the Surfac	1. WELL OW	MER INFORM	MATION:			6. PERMIT NU	JMBER:	877	,			
Address: P. O. Box 427   Chy: Eigh State: SC Zip:28046   Readderfield   Public Supply   Process   Emprency	Name:	Palmetto I		tal Group, In								1
CRy:   Bigh   State:   SC   Zip:28045	Addringes:	P. O. Box			(mod)	7. USE:						
City:	1 44.0.0						-Mai	FID: No.	h made	(7) Danasa		
Telephone: Werk:   Hume:		Eleie	Charles.	00	77-00040					_		
Telephone: West: AS-43	City:	eigin	Sine:	SC	Zip:29045	_			•	_	•	1
2. LICATION OF WELL I. AS-43  Name: Handly Pantry #86/Cloud's Chevrory/Site Street Address: 2387 Taylor St/1600 Two Notch City: Columbia, SC Zp: COLUMTY: Richland Lattude: 34700.77 Longitude: 81°00.97  3. SYSTEM NAMIE: 818°00.97  3. SYSTEM NAMIE: 818°00.97  3. SYSTEM NAMIE: 818°00.97  3. SYSTEM NAMIE: 818°00.97  3. SYSTEM NAMIE: 818°00.97  3. SYSTEM NAMIE: 818°00.97  4. CUTTING SAMIPLEB: 948  4. CUTTING SAMIPLEB: 948  4. CUTTING SAMIPLEB: 948  4. CUTTING SAMIPLEB: 948  4. CUTTING SAMIPLEB: 948  5. Mail Russys  1. Steel 100her	Tolonhone: 1	Marke		Umma						☐ Replace		10000
Name: Handy Pantry #85/Cloud's Chevron/Site			AC.42	riume.	<del></del>	- WELL DEP	in (compaac	<b>9</b>	Date Statisti:		9/20/	
Street Address:   2367 Taylor St./1600 Two Notch   City:   Cotumbia, SC   Zip:   Cotumbia, Sc   Zip:   Zip:   Cotumbia, Sc   Zip:					e de la companya de l	1		_				
City: Columbia, SC Zip: COUNTY: Richland Lathace: 34°00.77 Longitude: 81°00.97  3. SYSTEM NAME: 8YSTEM NUMBER:  4. CUTTING SAMPLEB:   Yes   No   Geophysical Logs:   Yes   No   Formation Description   Thickness of Stratum   Red/brown clayery sand   27   27   Steve Analysis   1. and	-								Date Complet		<u> 12/15/</u>	<u>/2006</u>
COUNTY: Richiand Lattude: 34°00.77 Longitude: 81°00.97 3. \$YSTEM NAME: SYSTEM NUMBER:	Street Add	irees:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary			<b>☑</b> Bored		
COUNTY: Richland   Lettude: 34*00.77   Longitude: 81*00.97   Lon	1					□Dug		☐Air Rota	ry .	☐ Driven		
Letitude: 34°00.77 Longitude: 61°00.97  3. SYSTEM MAME: SYSTEM MUMBER:  Type:	City:	Columbia,	SC	Zip:		☐Cable 7	<b>Foot</b>	☐Other				
Letitude: 34°00.77 Longitude: 81°00.97  3. SYSTEM MUMBER: Type:   Type:   Stool   Other   Othe	COUNTY:	Richland		•		10, CASING:	DebaardT	Welded	T	<del> </del>		
3. SYSTEM NUMBER:  4. CUTTING SAMPLES:	Latturie	34°00 77	I onaltude:	81°00 97		1		_	Height Ahous	/Rojew		
Siese   Other   Othe							[Alman		_			
A CUTTING SAMPLES:	3. 910 IEM I	VI-MILES	9191EM NU	MDER:		i ype:						
Seaphysical Logs:   Yes   Z   No												
Seaphyeical Logs:	4. CUTTING	Samples:	□ Yes	₩2 No		<del></del>			Drive Shoe?	□ Yes	M/ No	0
Triticioness of Stratum   Stream   Stratum   Stream   Stratum   Steam of Stratum   Steam of Stratum   Steam of Stratum   Steve Analysis   1. e. and   1. ft. an	Geophysic	ati Logs:	☐ Yes	Øi No		11. SCREEN	III. TO	19et deput	<u> </u>			
Sett/Gaugo: Q20   Setter   S					Death to		PVC		Diam ·	<b>∆</b> °		
Streature   Stre	For	mation Descri	iption					<del></del>	Length:	20'		
Red/brown clayey sand   27				Stratum		Set Betwee	en: 1	fil. and 10			·····	
Yellow to gray clayey sand (wet)  18' 45'  11. FUNEPING LEVEL Below Land Surface						1						
Yellow to gray clayey sand (wef)   18'   45'   18.	Red/k	prown claye	y sand	27'	27			☐ Yes	(please enclos	se)		7 No
13. FUMPING LEVEL Below Land Surface   1. sfer   Ins. Pumping   G.P.M.	Yellow to	gray clayev	sand (wet)	18'	45'	12. STATIC W	ATER LEVEL		ft heldw land	kurosca after 24 l	iria mik	
Pumpting Test:						13. PUMPING	LEVEL Below	Land Surface			10010	
Pumping Test:							ft. after	hrs. Pumping		G.P.M.		
14. WATER QUALITY   Chemical Analysis   Yes   No   Bacteriel Analysis   Yes   No   Please enclose lab results	·					Pumping T	est:	☐ Yes	(please enclos	<b>10</b> )		☑ No
Please eraclose lab results   R. ARTHFICIAL FILTER (litter pack)   Yes   No   Installed from						14. WATER O					==	
18. ARTHFCIAL FILTER (litter pack)   Yes   No   Installed from   44   ft. to   245   ft.									Bactenes A	nalyelli Yes	NOT	
Installed from 44 ft. to 45 ft. Effective size Uniformity Coefficient  16. WELL GROUTED? Yes No Neat Cement Sand Cement Concrete Other Depth: From 10 ft. to 40 ft.  17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction Type well disinfected Yes Type: unpon completion Not installed Mir. Not installed Mir. Name: H.P. Voits Length of drop pipe ft. Capacity gpn Type: Submaretible Letefallow) Trumbine Jet (deep) Reciprocating Contribugal  18. WELL DRILLER: Robyn Barkley CERT. NO.: 934 Address: 246 Watson Eigh, SC 29045  Telaphone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.									L/I Yes	□ No		
Effective size									ft. to	45	fL.	
16. WELL GROUTED?   Yes						Effective s	ize		Uniformity Co	efficient		
Depth: From 10 ft. to 40 ft.  17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction  Type well disinfected   Yes Type:									☐ No			
Type well disinfected   Yes Type:								nd Cement 🗆	Concrete 🔲	Other		
Type well disinfected Yes Type:  unpon completion No Amount:  18. PUNP: Date Installed:  Mir. Name:  H.P. Volts Length of drop pipe ft. Capacity gpm Type: Submarsible Jet (shallow) Iturbine  Jet (deep) Rectprocating Centrifugal  19. WELL DRILLER: Robyn Barkley CERT. No.:  Address: 2485 Watson Elgin, SC 29045  Indicate Water Bearing Zones (Use a 2nd sheet if needed)  8. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Lally Date: 12/27/2006						Depth: Fro	om	10	ft. to	40		
Indicate Water Bearing Zones   Leg hate	<del></del>					17. NEAREST	SOURCE OF	POSSIBLE CON	HOITANINATION	: ft.	di	rection
18. PUMP: Date Installed:   Not installed     Mfr. Name:   Model No.:     Model No.:     Model No.:     Model No.:						I ——		pe wen districci	euli 166 T	ype:		
Mfr. Name: Model No.:  H.P. Volts Length of drop pipe ft. Capacity gpm Type: Submersible Jet (shallow) Turbine  Jet (deep) Reciprocating Centrifugal  19. WELL DRILLER: Robyn Barkley CERT. NO.: 934  Address: 2486 Watson Eighn, SC 29045  *Indicate Water Bearing Zones (Use a 2nd sheet if needed)  5. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Lalley Date: 12/27/2006		*				18 FILE.	Date Installed	u.pon comp	EMAI MO		1.7	
H.P. Volts Length of drop pipe ft. Capacity gpn Type: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal  19. WELL DRILLER: Robyn Barkley CERT. NO.: 934  Address: 2486 Watson Eigin, SC 29045  Indicate Water Bearing Zones (Use a 2nd sheet if needed)  5. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Delay Dete: 12/27/2006									Model No.:	IVA II PROMOLI	لك	
Type: Submersible Section Submersible Section						H.P.	Volts	Length of drop		ft. Capacity		gpm
Jet (deep)   Rectprocating   Centrifugal     19. WELL DRILLER: Robyn Barkley CERT. NO.: 934     Address: 2486 Watson     Eighn, SC 29045     Indicate Water Bearing Zones (Use a 2nd sheet if needed)     E. REMARKS:   Telephone No.: (803)438-1331     20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.     Signed:												96
Address: 2486 Watson Elgin, SC 29045  Indicate Water Bearing Zones a 2nd sheet if needed)  Telephone No.: (803)438-1331  WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Lally Barbley Date: 12/27/2006						7 0	Jet (deep)	□ Reciproc	cating		gai	
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)  5. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed:   Signed:   Signed:   Date: 12/27/2006	<u> </u>							Robyn Barkley	CERT. NO.:	934		
Indicate Water Bearing Zones (Use a 2nd sheet if needed)  5. REMARKS:  Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Laley Date: 12/27/2006								<b>45</b>				
Telephone No.: (803)438-1331  20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed: Landley Date: 12/27/2006						1	• • •					
20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed:     Contractor's CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.  Signed:   Contractor's CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.			eded)		: L	J						
direction and this report is true to the best of my knowledge and belief.  Signed: Rankley Date: 12/27/2006	S. REMARKS	3:										
Signed: Roley Date: 12/27/2006											under my	1
						direction and t	his report is tru	e to the best of n	ny knowledge a	nd belief.		
							a	•				
						10.	1. h.	. hl.		40.00		
ALCHOTEGGIAGNOTISCIA								MINERY	Date:	12/27/2006		
	<u> </u>				····	ALISTOTE	A CONTRACTOR OF THE PARTY OF TH		<del>,</del>			



#### **Bureau of Water**

PHO S	OIR MOIECT I	PROSPER									
1. WELL OW	NER INFORM	IATION:			6. PERMIT NU	IMBER:	877	7			
Name:	Palmetto E	Environment (last)	bal Group, Ind	C. (first)							
Address:	P. O. Box			. •	7. USE:						
					Reside	ntial	☐ Public S	upply	Process	3	
City:	Elgin	State:	SC	Zip:29045	☐ irrigatio		☐ Air Cond	illioning	☐ Ernerge:		
					☐ Test W		☐ Monitori	ng Well	☐ Replace		
Telephone: V			Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/2	28/2006
2. LOCATION	N OF WELL:				1	•					
Name:			ud's Chevro			45	ft.	Date Complete		12/1	15/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	otary	□Jetted		<b>✓</b> Bored		
					Dug	_	□Air Rota	ny .	□Driven		ļ
City:	Columbia,	SC	Zip:		☐Cable T		Other				
	Richland		A 40			Threeded	_	L			
		Longitude:			Diam.:		1*	Height: Above/i			
3. System A	NAME:	SYSTEM NU	MBER:		Туре:	<b>☑</b> PVC		Surface			
		<del></del>		<del></del>	4	□ Steel	□ Other	Weight		٠ ـــــ	
4. CUTTING	SAMPLES:	☐ Yes	<b>☑</b> No		]o			Drive Shoe?	☐ Yes	Z	No
						in. to	feet depth	<u>L</u>			
Geophysic	al Logs:	☐ Yes	Z No		11. SCREEN			D1-	<b>4</b> 0		
E	rmation Descri	otion	*Thickness of	Depth to Bettern of	Type: Slot/Gauge	PVC 3: .020	<del></del>	Diam.: Length:	4" 20'		
ror			Stratum	Stretum	Set Between	on· 4	ft. and 10	A			
							ft. and	n.			_
Red/t	prown claye	y sand	27'	27'	Sieve Angi	ysis	☐ Yes	ît. 5 (please enclose	9)		<b>√</b> No
Yellow to	gray clayey	sand (wet)	18'	45'	TZ STATIC W	ATER LEVEL	•	ft holes land	urgace after 24 h	App men	
			<del>  '`</del>	<del>-~</del>			v Land Surface			~45	
					<u> </u>	ft. after	hrs. Pumping		G.P.M.		
					Pumping T	Test:	☐ Yes	(please enclose	9)		☑ No
	<del></del>		<del> </del>		Yield:	UALITY					
				!	Chemical /	Analysis 🔲	Yes 🔽 No	Bacterial An	alysi□ Yes	No.	2
					Please end	close lab result	ts —				_
	<del></del>		<b> </b>			AL FILTER (AM		✓ Yes ft. to	□ No 45	ft.	
			1 1	1	Effective si	ize	44	TL to Uniformity Cost	ficient	ít.	
					16. WELL GR	OUTED?	✓ Yes	☐ No			
					☑ Neat Co	ement 🔲 Sa	and Cement 🗆	Concrete	Other		
			1	1	Depth: Fro	ON SOLIEGE AS	10 POSSIBLE COR	ft to	40	ft.	direction
			<del>                                     </del>			T\	ype well disinfect	ledi∐ Yes Ty <sub>l</sub>	pe:		
			l				unpon compl	letion Z No	Amount:		
						Date Installed	t	Madel No.	Not installed	Z	
<u> </u>			<del>  </del>		Mfr. Name H.P.	: Volts	Length of drop	Model No.:	fl. Capacity	<del></del>	gpm
			[I			Submersible	Leading to the le				
					1	Jet (deep)	□Reciproc		☐ Centrifu	gal	
			<del> </del>	\	19. WELL DR	LLER: 2485 Watson	Robyn Barkley	VERT. NO.:	934	, -	]
						Elgin, SC 290					ì
	iter Bearing Zo		ļ		1						İ
a 21	nd sheet if nee		<u> </u>	<u> </u>	1		<b>4</b>				
6. REMARKS	3: 				Telephone		(803)438-1331		well		
							ACTOR'S CERTH ue to the best of r			under	m <b>y</b>
						reptst 15 TU	w un vest 011	y rakweedge al	wala.		Ì
						1 -	. *				į
					Signed:	Cyn Ba	rollen	_ Date:	12/27/2006	_	
					Authorie	Representative	-				
L											



1. WELL OW	MER INFORM				6. PERMIT NU	MBER:	877	,		
Name:	Palmetto E	Environment (last)	tal Group, Inc	C. (first)						
Address:	P. O. Box	• •		. •	7. USE:					
ļ					□Residen	ıtlai İ	☐ Public 8	upply	Process	)
City:	Elgin	State:	SC	Zip:29045	□Irrigation		☐ Air Cond		□Emerge	
	_			••	☐ Test We		☐ Monitori	•	☐ Replace	ement
Telephone: \		4.2.4.	Home:		8. WELL DEPT	TH (completed		Date Started:	<del></del>	9/28/2006
	N OF WELL:		سالہ کا	\$6414 -		<u>.</u>	A	<b></b>		40400000
Name:	-		ud's Chevro		4	5	ft.	Date Complete		12/15/2006
Street Add	1 <b>7883:</b>	250/ Faylo	or St./1600 T	wo Notch	L	usry	☐Jetted ☐Air Beto	m.	Bored	į
OH	Calimate	90	71		□Dug □Cable To	inal	□Air Rota □Other	u y	☐ Driven	
City:	Columbia, Richland	•	Zip:		10. CASING:		LIOther Welded	T		
		Longitude:	84º00 0=				<b>Welded</b> 1n	Holyhe &	Raine	
Lafftude: 3. SYSTEM I				<del></del>	Diam.:			Height: Above/		
015 EM	www.	SYSTEM NU	nosic		Type:	☑PVC		Surface		
A CHITTING	SAMPLES:	☐ Yes	√2 No	<del></del>	۰ ا	□Steel in to 45	☐ Other	Weight		_ ☑ No
- Sui ing	mrLES:	⊔ Yes	MELI NO			in. to <u>45</u>		Drive Shoe?	⊔ T96	₩ No
Geophysic	al Lone.	☐ Yes	₩ Mo		11. SCREEN	ut. W	feet depth	1		
- South Marc		⊔ TØ\$	1	Danill An	Type:	PVC		Diam.:	4"	
For	rmation Descri	iption	Thickness of Stratum	Bottom of	Siot/Gauge:	.020		Length:	4" 20'	
<b></b>			OUGKUN	Stratum	Set Between		ft. and 10	_n		
Rode	brown claye	y sand	27	27'	Stave Analy	mia	ft. and	_ft. s (piesse encice	3)	<b>⊘</b> No
					12. STATIC W	ATER LEVEL				
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land s	urgace after 24 i	tours
[	<del></del>			1	13. PUMPING		Land Surface			
<del></del>			<del></del>	<del></del>		n. aner est:	_hrs. Pumping 171 Yes	(please enclos	IJ.୮.M. 9}	<b>⊠</b> No
				<b>!</b>	Yleid:		LJ 196		-,	
					14. WATER Q					
<del> </del>			<del></del>	ļ	Chemical A	Analysis 🔲 ziose lab resulb	Yes 🗹 No	Bacterial Ar	waysi⊡ Yes	No.
<u>L</u> .				Į	18. ARTIFICIA			✓ Yes	□ No	<del></del>
<u> </u>				1	installed fro	om		ft. to	45	ft.
<del></del>	<del></del>				Effective si	Z8	✓ Yes	Uniformity Cos	flictent	
ł				·	10. WELL GR	Ment [] Se	yes und Cement □	☐ No Concrete ☐ (	<b>Other</b>	;
		<del></del>			Denth: Fro	YM	10	ft. to	40	ft.
<b></b>					17. NEAREST	SOURCE OF	POSSIBLE CO	NTAMINATION:	ft.	direction
Ī		<del>_</del>	[	1			ype well disinfect	edion Caller	pe: Amount	
		<del> </del>	<del>                                     </del>	<del> </del>	18. PUMP:	Date Installed	/pe well disinfect unpon compl	WIND INC.	Amount: Not installed	[2]
						•				
		<del></del>			1	Volts_	Length of drop		ft. Capacity	gpm
			<del>                                     </del>	<del> </del>		Submersible Jet (deep)			☐Turbine	
	****				19. WELL DRI	LLER:	Robyn Barkley		934	
					Address:	2485 Watson Elgin, SC 290		- <del></del> -		!
	nter Bearing Zo				]					!
S. REMARKS		/	<u> </u>	<u> </u>	Telephone	No.:	(803)438-1331			1
					20. WATER W	ELL CONTRA	CTOR'S CERTI	FICATION: The		under my
				•			e to the best of r			-
										•
					1	1 h	-11		46.000.000.000.000	,
					Signed:	entratinaentativa	orhlen	_ Date:	12/27/2006	
<u> </u>					1 Aurunta	- Property Cont				



#### **Bureau of Water**

0 Helicology	OTE TRUTES	T HUNGI GA								
1. WELL OW	NER INFORM	MATION:			6. PERMIT NU	MBER:	877	7		
Name:	Palmetto E	Environment (last)	tal Group, In	C. (first)	 					
Address:	P. O. Box	427		•	7. USE:		· · · · · · · · · · · · · · · · · · ·	·····		······································
					□Resider	ntial	☐ Public 8	Supply	Process	<b>)</b>
City:	Elgin	State:	SC	Zip:29045	☐imigatio	n	☐ Air Con		□Emerge	
					☐Test W		☐ Monitori		☐ Replace	
Telephone: \			Home:		8. WELL DEP			Date Started:		9/28/2006
2. LOCATIO	N OF WELL:				1					
Name:	Handy Par		ud's Chevro			5	_ft.	Date Complete		12/15/2006
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch	9. Mud Ro	stary			<b>✓</b> Bored	
					☐ Dug		☐Air Rote	ıry	□Driven	
City:	Columbia,	SC	Zip:		☐Cable 1	[ool				
COUNTY:	Richland				10. CASING:	Threaded	Welded	1		
Latitude:	34°00.77	Longitude:	81°00.97		Diem.:		1 <sup>11</sup>	Height: Above	Below	
1. SYSTEM		SYSTEM NU				<b>☑</b> PVC	☐ Gelvanized	1		
		010121110			1300.	□ Steel	Other	Weight		
4. CUTTING	SAMBI PS-	☐ Yes	Z No		10			Drive Shoe?		☑ No
- COLING	water with	m (60						Duve Subes	LJ 165	Mo IN
Construir	al Lagor	☐ Yes	[7] st.		44 000000	in. to	feet depth	<u> </u>		
Geophysic	as Loge:	LI 165	☑ No	Depth to	11. SCREEN Type:	PVC		Diam.	<b>4</b> "	
For	mation Descri	ntion	Thickness of	Bottom of	Slot/Gauge			Diam.:	<del>- 7</del> 0'	
-	.,,		Stratum	Stratum	Set Betwee	n: 1	ft. and 10	ft.		<del></del>
	_				7		ft. and	n.		!
Red/k	prown claye	y sand	27'	27'	Sieve Analy		☐ Yes	(please enclos	e)	No.
Yellow to	gray clayey	sand (wet)	18'	45'	12. STATIC W			ft. below land s	urgace after 24 h	idurs
							Land Surface			
					J	ft. efter	_ hrs. Pumping	<del></del>	G.P.M.	
					Pumping T Yield:	'est:	☐ Yes	(please enclos	<b>B)</b>	<b>⊠</b> No
					14. WATER Q					
						Analysis 🗀 close lab recult	lYes 🔽 No	Bacterial Ar	aiysi⊟ Yes	No☑
					18. ARTIPICIA			Y Yes	□ No	
					Installed fo	om	44	ft. to	45	ft.
	· · · · · · · · · · · · · · · · · · ·				Effective s	ize		Uniformity Coe	flicient	
					16. WELL GR			□ No	•••	
	<del></del>	······································			Depth: Fro		and Cement []	fl. to	Ther40	
					17. NEAREST	SOURCE OF	POSSIBLE CO	TAMINATION:	<del></del>	II. direction
				<del></del>						
		<u> </u>					umpon comp	letion 🔽 No	Amount:	
					18. PUMP:	Date Installed	ype weli disinfect unpan comp :		Not installed	W
			ļ		_ mu. None	•		_ mouel Ru		
			!			Volts Submersible	Length of drop □Liet (sha		ft. Capacity  Turbine	- Ghw
						Jet (deep)				nei len
					19. WELL DR		Robyn Barkley		934	
					Address:	2485 Watson Elgin, SC 290				
	ter Bearing Zo nd sheet if nee	•				<b>4</b> -4-2	· •			
S. REMARKS	3:				Telephone	No.:	(803)438-1331			-
					20. WATER W	ELL CONTRA	CTOR'S CERT	FICATION: This	well was drilled	under my
							e to the best of I			-
					10.	l s	1.10		40.000.00	
					Signed: 160	m 1	rupleny	_ Date:	12/27/2006	
		<del></del>			I Aumona	egi Representative				



1. WELL ON	NER INFORM	ATION:	·		6. PERMI	T NUI	HBER:		877					
Name:	lame: Palmetto Environmental Group, Inc. (isst) (first)						·						-	
Address:	P. O. Box	• •			7. USE:									
					□Re	sideni	tiel		J Public 9	upply		Process		
City:	Elgin	State:	SC	Zip:29045	☐ limit	-			JAir Cond	•		□ Emerge	•	
-	=				□Te				⊒ Monitori			□ Replace		احب بسيبي
Telephone: \			Hame:		a. WELL	DEPT	H (complete	d)		Date Starte	d:		9/2	8/2006
	N OF WELL:		odla Obasas	- 1634-	Į.	41	<b>.</b>	_		Data Asses	latad.		12/1	5/2006
Name:	•	ntry #65/Clos	ua's Chevro or St./1600 T	ivo Notab	9 [7]4:		5	<u> ft.</u>	Jetted	Date Comp		Bored	12/1	3/2000
Street Add	iress:	236/ Tayio	I SL/1600 I	WO MOICH			aly	_	□Seiteo □Air Rota	<b>~</b>		□ Driven		
<b>~</b>	Columbia,	90	Time			e ble To	no!		□Other	a <b>y</b>				
City:	Richland	30	Zip:				☐ Threaded		/elded	1				
		Longitude:	94900 07		1			40	reausu	Height: Abo	wolflolm	•		
3. SYSTEM		SYSTEM NU		<del></del>	Diam.:		<b>Z</b> PVC		alambad	Surface				
7 21215W	NAME:	STEE NU	MBER:		Type:	_	ZiPVC □Steel			Weight				
4. CUTTING	CAMPI ED.	☐ Yes	☑ No	·······	1					Drive Shoe				No
UI (ING	gairle);	LJ 168	<u>⊄1</u> 140				in. to	_		Dire Sine		. 40		
Combania	zal Loge:	☐ Yes	☑ No		11. SCRE		ai. to		oot dishni	<u> </u>				
Geophysa	AL LUGO.	168		Depth to	Type:		PVC			Diam.:	4"			
For	rmation Descri	iption	*Thickness of Stratum	Bottom of	Slot/G	auge:	.020		<del></del>	Length:	4" 20'			
<u></u>			Sustain	Stratum	Set Be	dweer	<u>: 1</u>	ft. aan	d 10	_ft.				
Red/	brown claye	v sand	27'	27	Steve	Anaha	rde	ft. an		_ft. s (please end	denk			☑ No
					12. STAT	IC W	ITER LEVE	L			· · · · · · · · · · · · · · · · · · ·			
Yellow to	gray clayey	sand (wet)	18'	45'	1				* -	ft. below la	nd surgac	e after 24 i	tours	
					13. PUMF		LEVEL Belo				G.P	M		
<del> </del>	<del></del>	<del></del>			Pumn		it. eiter est:	+UU.		(please en	_	.ret.		☑ No
į					Yield:	:		****						
					14. WATE									<b>-</b>
					Chem	tical A	nalysis ( lose lab resu	☐ Yes	K) NO	Bacteria	i Analysi.	_ Yes	No	4
					18. ARTH	FICIA	CFILTER (6	ter pec	k)	✓ Yes		No		
					Inetall	led fro	vn	44		ft. to	45		ft.	
					Effect				V	Uniformity	Coefficier	đ		
			į		TO. WELL	L WIRL Set Co	OUTED?	Send Ca	ment 🗆	☐ No Concrete ☐	l Other			
					7 Denth	r: Fro	7R		10	1 17. to		40	ft.	
					17. NEAF	EST	SOURCE O		IBLE CO	NTABENATE		ft.		direction
[			[					1.00	e distribution	ted Yes tetion 2	Type:	ound.		
<del></del>		<del></del>			18. FUM	7.	Date Installe	at.	Pour court	SCHOOL M.	Ne	t installed	7	<del></del>
					Mir. N	une:				Model No.:				
					H.P.		Volts		ith of drop		a.c	apacity		gpm
					-  Type:		Submersible Jet (deep)		□Jet (she □Recipro			☐ Turbine ☐ Centrifu		
			]		10. WELL					CERT. NO		934		
					Addre		2485 Watso Eigin, SC 2	n		-				
	ater Bearing Z				1		<b>-</b>	-						
	and sheet if no	909d)	<u> </u>	<u> </u>	4	<b>.</b>	No ·	/nn=	M20 4224	1				
5. REMARK	<b>»</b> :					hone ER W			)436-1331 78 CERT	FICATION:	This well	was drilled	under	mv
										my knowledg				
]														
[					1 .	n	1 1							
1					Signed:			and the	200/	_ Date:	12	/27/2006		
		···			1^	Witoria	Representati	<b>10</b>		<del> </del>				



## Water Well Record Bureau of Water

770.4	OIC PROISE!										
1. WELL OV	MER INFORM	SATION:			6. PERMIT NU	MBER:	877				
Name:	Palmetto I	Environment (last)		C. (Brai)							
Address:	P. O. Box	427		- <del>-</del>	7. USE:						
					☐ Reside	ntial	☐ Public 9		<b>☑</b> Process		
City:	Eigin	State:	SC	Zip:29045	□irrigatio		☐ Air Cond		□Emergen	•	
					☐ Test W		☐ Monitori		Replacer		10000
Telephone:			Home:		S. WELL DEP	TH (completed	)	Date Started:		9/28	/2006
	N OF WELL:			<i>18</i> 14 –		· e		Data 0 1-1	4.	40ME	Mane
Name:	=	ntry #65/Clo				15	ft.	Date Complete	1: ZBored	12/10	/2006
Street Add	ireos:	236/ 18yl0	or <b>St./1600</b> T	MO MOICH	1	HEIT	□Air Rotz	m.	☐Driven		
AL-	Calumbia	80	7		☐Dug ☐Cable 1	Toni	□ Other	45	to the last (		
City:	Columbia, Richland	, 00	Zip:		10. CASING:		Welded	1			
		Longitude:	81º00 07			11202000	40	Height: Above/	Selme		
3. SYSTEM		SYSTEM NU			Diam.:	<b>☑</b> PVC		Surface			
a. 3131EM		GIOICE NU	MCETE		Туре:		☐ Other	Weight			
A CHITTING	SAMPLES:	☐ Yes	☑ No		1 0			Drive Shoe?	☐ Yes	<b>Z</b> N	ho
- 001 1MG	والترامل السمام	+69	27 14h		<del></del>	in to	feet depth			'	_
Gennhvei	cal Loge:	☐ Yes	☑ No		11. SCREEN			<del>5</del> ,	<del></del>		
		~	Thickness of	Depth to	Туре:	PVC		Diam.:	4" 20'		
Fo	rmation Descr	iption	Inickness of Stratum	Bottom of	Stot/Gauge		<b>A</b> 45	Length:	20'		-
				Stratum	Set Between	ac <u>1</u>	ft. and 10	.fl. fl.			
Red	brown claye	ey sand	27'	27'	Steve Anal	ysis		(please encios	e)	1	Z No
						ATER LEVEL					
Yellow to	gray clayer	eand (wet)	18'	45'	48 1114111	11575-25-	Land Surface	π. below land a	urgace after 24 h	DATES	
							_thrs. Pumping		G.P.M.		
					Pumping 1		☐ Yes	(please enclus		1	<b>7</b> No
					Yield:				<del></del>		
l					14. WATER C Chemical		Yes 🔽 No	Bacterial An	elvaii Yes	No.	
<b></b>	<del> </del>				Please en	close lab resul	ls —				
						AL FILTER (OIL		V Yes	□ No	_	
į					inetailed fi	rom	44	ft. to Uniformity Cos		R.	
<b></b>	<del> </del>			<del></del>	16. WELL GR	OUTED?	Yes	☐ No			
	.=				Neat C	coment 🛛 Si	and Cement 🔲	Concrete []	Other	_	
					Depth: Fr	om	10 POSSIBLE CO	ft. to	40		firection
<b> </b>	<del></del>	····			- NEAKES		ype well disinfed			°	الالتوس
							LIBINAN COMA	letion 📝 No	Amount		
						Date installed	:	10-4-12	Not installed	<b>Z</b>	
	·				Mfr. Nerne H.P.	Volis	Length of drop	Model No.:	ft. Capacity		gpn
						Submersible	Langur or or or or or or or or or or or or or	***	Turbine		_ ar
	<del></del>				7 " 0	Jet (deep)	□Recipro		☐ Centrifug	gai	
				ļ	19. WELL DR	HILLER: 2485 Watson		y CERT. NO.:	934		
1			1	l	Andress.	Elgin, SC 29					
Indicate W	later Bearing 2	ones (Use			1	<del>-</del> ·					
<b>!</b>	2nd sheet if ne	eded)	<u> </u>	<u> </u>							
5. REMARK	CS:				Telephon		(803)438-1331		well was drilled	mdor -	704
1							ue to the best of			www I	-ı <b>y</b>
1						one interes of a		,			
1					M		6 1 4				
1					Signed: 16	(m 1	Barkley	Date:	12/27/2006		
					Author	ized Representative					
						<del></del>					



## Water Well Record Bureau of Water

1. WELL OW	NER INFORM	EATION:			6. PERMIT NU	MBER:	877	,			
Name:	Palmetto E	Environment (last)	al Group, In	C. (first)							
Address:	P. O. Box	427		_	7. USE:					<del> </del>	
					Reside	ntiei	☐ Public S	upply	✓ Process	1	
City:	Eigin	State:	SC	Zip:29045	☐ irrigatio		☐ Air Cond	•	☐ Emerge	ncy	
					☐ Test W	'eli	☐ Monitori	ng Weil	Replace		
Telephone: \		AC 40	Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/28/20	06
	N OF WELL:		ude Chara	m/Cibe	] .	1E	_	Duta 0	<b></b> .	40142100	00
Name:	-		ud's Chevro		9. Mud R	15	ft.	Date Complete		12/15/20	UÖ
Street Add	1662.	2301 12910	or <b>St./1600</b> T	MO MOTCH	Dug	nuty	□Air Rota		<b>⊘</b> Bored □Driven		
City:	Columbia,	sc	7in-			Fool		, y			
_	Richland	<del>5</del> 0	Zip:		10. CASING:		Z Welded	T	<del></del>		-
		Longitude:	81 <sup>0</sup> 00 07		1		4n Wianasa	Height: Above	Bolow		
1. SYSTEM I		SYSTEM NU			Diam.:	[7]DVC		_			i
* 619   <u>CU</u>	unite:	0131EE NU	MOEK.		Type:	☑PVC □Steel	☐ Galvanized				
4. CUTTING	QAMDI EQ.	☐ Yes	Z No		1 ^		Other	Weight	D V	[2]	ı
- 001 IIII	orunt LED;	<b>□</b> 708	2ZJ 1/10		[ — ·	in. to _45	-	Drive Shoe?	☐ Yes	No No	ļ
Geophysic	all one	☐ Yes	☑ No		11. SCREEN	in. to	feet depth	<u> </u>		<del></del>	
- Conjulyani	- rARO	<u> </u>		Donath to	Type:	PVC		Diam.:	4"		
For	metion Descri	ption	Thickness of Stratum	Bottom of	Slot/Gauge	.020		Length:	20'		
			Onsumu	Stratum	Set Between	n: <u>1</u>	ft. and 10	n.			
Redik	prown claye	v sand	27'	27'	Sleve Anal	verie	ft. and	_fl. : (pisase enclos	a)	173	
				<u> </u>		yes Ater Level		Chagas surios	<del>5)</del>	<b>7</b> 1	NU
Yellow to	gray clayey	sand (wet)	18'	45'				ft. below land s	surgace after 24 l	OUTS	
							Land Surface		004		
					Pumping 1		hrs. Pumping	(please enclos	G.P.M.	<b></b> 2	No.
_					Yield:			Choese elegas	<del>-</del>	Z	
	<del></del>				14. WATER C						_
					Chemical		Yes 🖸 No	Bacteriai Ar	nelysi□ Yes	No.	
						close lab result VL FILTER (186		✓ Yes	□ No		-
					Installed fr		44	ft. to	45	ft.	
					Effective a	ize		Uniformity Coe	fficient		
					16. WELL GR		Z Yes	□ No			
					Depth: Fr		and Cement 🗆 10	Concrete Li	Otner	<b>n</b> .	-
							POSSIBLE CON				ton
						T	ype well disinfect	ed□ Yes Ty	/pe:		_
					18. PUMP:	Date Installed	unpon compl	etion Z No	Amount: Not installed	Ta	
					Mir. Name	_	<u> </u>	Model No.:	Pantigin juri	<b>C</b>	
					H.P	Volts	Length of drop	pipe	ft. Capacity	g	рm
						Submersible	☐Jet (sha		☐ Turbine		- 1
					19. WELL DR	Jet (deep)	☐Reciprod Robyn Barkiey		☐Centrifu 934		
						2485 Watson	i marya i Gentaldy		904		-
*					4	Elgin, SC 290	<b>M</b> 5				1
	ter Bearing Zo										1
a 21 5. REMARKS	nd sheet if nee	(DEC)	<u> </u>	l	Talanka	. Alm .	(B000 400 400 4				
o. Remarks	<b>3.</b>				Telephone		(803)438-1331 CTOR'S CERTI	FICATION: THE	s wall was drillad	under my	4
							e to the best of n			unice illy	
					M		611				
					Signed: 1	My 1	Barkley	Date:	12/27/2006		_
					Authori	eed Supresentative	- /				



## **Bureau of Water**

7777	***********		<u> </u>								
1. WELL OW	NER INFORM	LATION:			S. PERMIT N	MBER:	877	,			
Name:	Palmetto E	Environment (lest)	tal Group, in	C. (first)							
Address:	P. O. Box	427			7. USE:				<del></del>		
					☐ Reside	ntial	☐ Public S	kanniv	Process	:	
City:	Elgin	State:	sc	Zip:29045	☐ Irricatio		□ Atr Cons		☐ Emerge		:
Ony.	Californi	oute.	<b>SC</b>	<b>Zp:28</b> 045	☐ Test W						
Talanhana, l	Almele		Home:						CIKehas		3/2006
Telephone: \ 2. LOCATIO	N OF WELL:	AS-50	riunips.		8. WELL DEP	in (complete)	1)	Date Started:		8120	# <b>Z</b> UU0
Name:			ud's Chevro	n/Site	1 2	15	TL.	Date Complete	et·	19/15	5/2006
Street Add	_		x St/1600 T					Mana Campion	<b>✓</b> Bored		
		~~~	, ob 1000 i	mo 140001	Dun	-uby	☐Air Rota	~	□ Driven		
~~	Columbia.	ec	74		□Cable 1	Page		<b>4y</b>	iiL/recal		
City:	Richland	30	Zip:					<del></del>			
					10. CASING:	LI Threaded	Welded	1			
		Longitude:	81°00.97		Diam.:		1"	Height Above	Below		
3. System i	NAME:	SYSTEM NU	MBER:		Туре:	PVC	☐ Galvanized	Surface			
					1 "	☐ Steel	Other	Weight			
4. CUTTING	SAMPLES:	☐ Yes	Z No		1 1	in. to 45		Drive Shoe?	☐ Yes	Z	in
			<b>2</b>			in. to	feet depth	DIME GIVE	L 169	SEA I	₩.
Geophysic	aliona:	☐ Yes	☑ No		11. SCREEN	#E (Q)	mer debut	<u> </u>			
Goophijos	ui cogui		ſ	Depth to	Type:	PVC		Diam.:	4"		
For	mation Descri	otion	Thickness of	Bottom of	Slot/Gauge		<del></del>	Length:	20'		_
			Stretum	Stratum	Set Betwee		ft. and 10	t.			-
		<del></del>					ft. and	n.			
Red/t	prown claye	y sand	27'	27'	Sieve Anal		☐ Yes	(please enclos	e)		7 No
Yellow to	grav clavev	sand (wet)	18'	45'	12. STATIC W	ATER LEVEL			urgace after 24 i		
		(			13. PUMPING	LEVEL Below	Land Surface	TO DODON HAIR O		10010	
			i i			ft. after	_hrs. Pumping		G.P.M.		
					Pumping 1			(please enclos		Į	Z No
					Yield:	77.7.					
					14. WATER Q Chemical		Yes 🛂 No	Bacteriel An	alvsi⊡ Yes	No.	:
						close lab result		DOGGORD PE	myatti toa	(ACION)	,
			f 1		18. ARTIFICIA			✓ Yes	□ No		
						om		ft. to	45	ft.	
					Effective s	ize		Uniformity Coe	flicient		
					16. WELL GR	OUTED?	Z Yes	□ No			
							and Cement 📋		Other		
			ļ		Depth: Fro	OTTS	10	ft. to	40		
<del></del>							POSSIBLE CO				frection
							ype well disinfect unpon compl	EULI TES TY	pe:		
····					18 9/105	Date Installed	· unpon compi	ERRI MO	Not installed	121	·
					Mfr. Neme			Model No.:		ليك	
						Volts_	Length of drop		ft. Capacity		gpm
			li		Type: 🖸	Submersible	☐Jet (sha		□Turbine		
						Jet (deep)	□Recipro		☐ Centrifu		
					19. WELL DR		Robyn Bankley	CERT. NO.:	934		
						2485 Watson Elgin, SC 290	NAE .				
*Imal?	Ann Dennier - 7				1	cigui, 80 29(	MÜ				
	ter Bearing Zo nd sheet if nee	• •									
8. REMARKS		uduj				Ma s	(000)400 4004				
o. REMARKS	) <del>,</del>				Telephone	NO.:	(803)438-1331	EMATION TO			
							CTOR'S CERTH			under m	īý
					CRECTOR SING	ins i <b>chail is ar</b>	e to the best of n	ny Kradwiedge 81	iu detet.		
						a					i
					10	# 16	- h1				i
					Signed: //	m 13	vrivey/	Date:	12/27/2006		
					Authoriz	ed fapracentative					



## **Bureau of Water**

Page 1	OIE PROJECT	PRODUCE	<u> </u>								
1. WELL ON	MER INFORM	SATION:			6. PERMIT NU	MBER:	877				
Name:	Palmetto I	Environment	tal Group, in	C. (first)							
Arkiraca-	P. O. Box			fragel	7. USE:				<del>,</del>		
, man 6200.	<del></del> . DUX	-v&1			Resider	ntial	□ Public S	umply	Process	ı	
Car	Elgin	State:	SC	Zin:29045	Dirrigatio		☐ Air Cons		□ Emerge		
City:	Cyli	SIME.	•	ap.20040	☐ Test W			_		_	
7-ln-b	Maria		Unmer		8. WELL DEP			Date Started:	-i Kohatte		/2006
Telephone: \		AC E4	Home:		ie. Well Dep	ru (combien)	<del>'</del> '	Pare Statted:		<b>VIZE</b>	MZUUU
	N OF WELL:			IPS4	1 .		_			4014-	
Name:	_		ud's Chevro			5	<u>ft.</u>	Date Complete		12/15	/2006
Street Add	1786S:	236/ Taylo	T 000817.76 TC	wo Notch	9.	<b>EXIY</b>	□Jetted		<b>☑</b> Bored		
					Dug		☐Air Rota	ry	□ Driven		
City:	Columbia,	SC	Zip:		☐ Cable T		Other				
COUNTY:	Richland				10. CASING:	☐ Threaded	<b>☑</b> Welded				
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:		1*	Height: Above	/Below		
3. SYSTEM	NAME:	SYSTEM NU			Type:	<b>☑</b> PVC	☐ Galvanized	Surface			
l					1	☐ Steel	Other	Weight		_	
4. CUTTING	SAMPLES:	☐ Yes	Z No	<del></del>	10			Drive Shoe?	☐ Yes		to
						in to	feet depth				
Geophysic	al Loca:	☐ Yes	₩ IZI No		11. SCREEN			<del>4</del>			
				Depth to		PVC		Diam.:	4"		
For	rmation Descri	iption	Thickness of Stratum	Bottom of	Slot/Gauge			Length:	20'		_
			SOME	Stratum	Set Betwee		ft. and 10				
Deve			271	O.23			ft. and	î.		_	
Red/	brown claye	y sano	27'	27'	Sieve Anat		☐ Yes	(please enclos	<b>10)</b>		√ No
Yellow to	gray claves	sand (wet)	18'	45'	I Z SIAIR N	IN IER LEVEL	•	ft helms lend o	surgace after 24 h	WHIS	
	,, o <sub>j</sub>		<del></del>		13. PUMPING	LEVEL Below	Land Surface	THE RESIDENCE AND PARTY OF	THE RESERVE AND PARTY.		
					I	ft. after	_ hrs. Pumping	<del></del>			
					Pumping T			(please enclos		1	Z No
					Yield:		· · · · · · · · · · · · · · · · · · ·				
					14. WATER Q		1 Van   178 At-	Onetrolal &	nahadi Vaa	الاستاري الاستاري	
					Chemical /	Analysis <u>L</u> close lab resuli	] Yes 🔯 No	Becterial A	naiyal□ Yes	No [2]	
			[		18. ARTIFICE			✓ Yes	□ No		
	· · · · · · · · · · · · · · · · · · ·					om		ft. to	45	ft.	
					Effective a			Uniformity Cos	efficient		
					16. WELL GR		✓ Yes	□ No	<del></del>		
<del></del>		<del></del>			Depth: Fro		and Coment	Concrete 🖂	Other40	•	<del></del>
I			] 1				POSSIBLE CO				frection
					1		ype well disinfect			— `	
					1			letion 🔽 No			
					B.	Date installed			Not installed	Z	
<u> </u>		<del></del>	1		Mifr. Name		lamet at de-	Model No.:	A 0		
l						Valts	_ Length of drop Jet (sha		ft. Cepecity  Turbine		_ gpm
						Jet (deep)				oal	
					19. WELL DR		Robyn Barkley		934		
						2485 Watson					
ļ					4	Elgin, SC 291	045				
	ster Bearing Zo										
	nd sheet if ner	aced)	<u> </u>		4	A1- ·	/man /ma /m				
S. REMARK	<b>p</b> :				Telephone		(803)438-1331	EMATION. TH	المساورة والمساورة		***
ł							ACTOR'S CERTI ue to the best of I		is well was drilled and helief	ander N	ıry
l					Coccess and t	ing ichwirib #(	un in ura Masi (il i	ny romandra s	ed War.		
l					1 4	1.					
1					Signed:	Kan M	Sa blan	Date:	12/27/2006		
I					Signed: VLZ		anavey_	_ LAKS:	IZIZIIZVVO		
L				***	) Austonia	- Commence of the second			<del></del>		



## Water Well Record Bureau of Water

4 14077 1 414		ATOM-	<del></del>		o DEPART AN	MDED-	877	,		··
	MER INFORM		-I O !-	_	6. PERMIT NU	JRIDER:	0//			1
Name:		(last)	el Group, Ind	C. (first)						
Address:	P. O. Box	427			7. USE:				_	1
					□Reside		☐ Public S		Process	
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio		☐ Air Cont		☐ Emerger	· ·
					☐ Test W		☐ Monitori		Replace	
Telephone:	Work: N OF WELL:		Home:		a. WELL DEP	TH (completed	1)	Date Started:		9/28/2006
			ud's Chevro	n/CHn	1 .	15	_ft.	Date Complete	d.	12/15/2006
			or St./1600 T			15	_ IL.	Date Complete	u.  Bored	12/10/2000
Street Add	F628:	2307 Taylo	1 000 I	MO MOIGH	DDug	ner y	□Air Rota	una	□ Driven	1
<b></b>	Columbia,	60	7		□Cable 1	Fant		uy		į
City:	Richland	30	Zip:			Threaded		1		
		Longitude:	94 <sup>0</sup> 00 07		Diam.:	- 11506060	4*	Height: Above/	Rolew	•
3. SYSTEM		SYSTEM NU			Type:	Z PVC		Surface		
3. 9191EM	PLP-WALES	91916M NO			Type.	□ Steel	☐ Other	Weight		
A CULTUMO	SAMPLES:	☐ Yes	☑ No		۸ ۲		feet depth			Z No
4. CO 1 1816	CHPURE INDICATA	L 165				in. to		Ditter Cime:	_ 105	<u></u>
Goonhyeir	cal Logs:	☐ Yes	☑ No		11. SCREEN		TOCK GODGE	<u> </u>		
Geophysic	en Lugo.	F3 160		Donth to	Type:	PVC		Diam.:	4 <sup>n</sup>	
Fo	rmation Descri	ption	Thickness of Stratum	Bottom of	Slot/Gauge	: .020		Diam.: Length:	20	
		· · · · · · · · · · · · · · · · · · ·	SCHIMA	Stratum	Set Betwee	en: 1	ft. and 10	_ft.		1
Red/	brown claye	w sand	27'	27'	Siave Anal		ft. and	_ fi. s (please enclos	e)	Ø No
		<del></del>			12 STATIC V	VATER LEVEL			<del></del>	
Yellow to	gray clayey	sand (wet)	18'	45'			Land Surface	ft. below land s	urgace after 24 h	ours
					13. PUMPING	LEVEL Below	Land Surface hrs. Pumping		CDM	į
					Pumping '	, ii. ailoi Test:	_ по. гопфид П Үе	s (please enclos	9.F.M. B)	₽ No
					Yield:					
		-			14. WATER C			D1-1-1 A-	ot with Man	A4-1731
						Analysis E close lab resuli	] 168 ( <b>7</b> ] 140	Bacterial An	aysul tes	NoZ
					18. ARTIFICE	LL FILTER (tit	er pack)	✓ Yes	□ No	
					Installed f	rom	44	ft. to	45	ft.
			<b> </b>		Effective s	ize	✓ Yes	Uniformity Coe	nicient	
					WELL GR	ement ITS	and Cement	Concrete (	Other	
	- 4				Depth: Fi	OFFE CATO	10	) ft. to	40	ft.
					17. NEARES	F SOURCE OF	POSSIBLE CO	NTAMINATION:	ft.	direction
						<del></del>	LIDDOD COME	ted□ Yes Ty letion ☑ No	Amount	
····				<b></b>	18. PUMP:	Date Installed	i milani estiti	HEROTI ME 140	Not installed	127
					Mir. Name	£		Model No.:		
				l	H.P	Volts	Length of drop		ft. Capacity ☐Turbine	gpm
				<del> </del>		Submersible Jet (deep)	□Jet (sha			
				<u> </u>	19. WELL DR	ILLER:	Robyn Barkle	y CERT. NO.:	934	
	<del> </del>				Address:	2485 Watson Elgin, SC 29				
Indicate W	ater Bearing Zo	ones (Use			1	-9-,	··· -··			
	2nd sheet if ne		<u> </u>	<u> </u>						
6. REMARK	8:				Telephon		(803)438-1331			
								IFICATION: This my knowledge as	s well was drilled nd belief.	under my
					Simulation of the	la 1	alley	Date:	12/27/2006	
					Signed: 1/2	tzacj representative		_ 58(8:	<u> </u>	
							· · · · · · · · · · · · · · · · · · ·	* * * * * * * * * * * * * * * * * * * *		



## **Bureau of Water**

1. WELL OW	MER INFORM	IATION:			8. PERMIT NU	IMBER:	877	,	<u></u>		
Name:		Environment (last)									
Address:	P. O. Box			-	7. USE:	<del></del>					
•					Reside		☐ Public S		Process		
City:	Eigin	State:	SC .	Zip:29045	☐ trrigatio		☐Air Cont	•	□Emerge	-	
L.					☐ Test W		☐ Monitori		Replace		
Telephone: \			Home:		8. WELL DEP	TH (completed	9	Date Started:		9/28/2	2006
8	N OF WELL:		unille 🙉	_ 15574	1	16				# 8% 2.A ==	<b>10</b>
Name:	-	ntry #65/Clos				15	ft.	Date Complete		12/15/2	2005
Street Add	n. <b>622</b> .	ZOOT TRYIC	or <b>St./1600</b> T	MO MO(CI)	9. Mud Ro	ALE À	□Jetted □Air Rota	Was	☑ Bored ☐ Driven		
City:	Columbia,	SC	Zip:			lao!		<b>-</b> y			
	Richland		<del>∠y</del> .			☐ Threaded		<del></del>			
		Longitude:	81°00 97		Diam.:		1º	Height: Above	Below		
3. SYSTEM		SYSTEM NU				<b>☑</b> PVC		Surface			
			<del></del>		.,,,,,	☐ Steel	□ Other	Weight		_	
4. CUTTING	SAMPLES:	☐ Yes	☑ No		1		feat depth			Z No	ı
						in. to		<u></u>			
Geophysic	zai Logs:	☐ Yes	Z No		11. SCREEN		<del></del>				
	melicu P	intles	Thickness of	Depth to		PVC	<del></del>	Diam.: Length:	4" 20'		-
. Fo	mation Descri	ibreni	Stratum	Bottom of Stratum	Slot/Gauge Set Between	: .020 en: 1	ft. and 10		<u> </u>		•
					1		ft. and	_ft.			_
Red/L	brown claye	y sand	27'	27'	Sieve Anat		☐ Yes	s (placae enclas	9)		No
Yellow to	grav clavev	sand (wet)	16'	45'	IL SIATIC W	VATER LEVEL	•	(), helow land o	surgace after 24 l	hours	
	<u>,,-)</u>					LEVEL BROW					
ļ							_hrs. Pumping	- (-l		_	
			[	_	Pumping 1 Yield:	1 <b>6</b> 8E	☐ Yes	s (please enclos	<b>B</b> )	$\mathbf{Z}$	No
<b> </b>	<del></del>	-	<b> </b>		14. WATER O					<del></del>	
<b></b>					Chemical /		Yes 📝 No	Bacterial Ar	natysi□ Yes	No	
1			1			close lab resuit AL FILTER (fin		✓ Yes	□ No		
					installed fr	rom	44	R. to	45	A.	
<del></del>			ļ	<del></del>	Effective a	ize KOUTED?	72 V2	Uniformity Coe	allicient		-
1			[				Martes and Cement □		Other		
					Depth: Fr	om	10	) ft. to	40	12.	
<b></b>			<b> </b>				POSSIBLE COL ype well disinfect		TD:	din	ection
L							INDON CORNE	letion <b>2</b> No	Amount:		
					1	Date installed	l:		Not installed	Ø	
<del> </del>					Mfr. Name H.P.	Volts	Length of drop	Model No.:	it. Capacity		
<u> </u>			<u></u>			Submersible	_ Lengsn or orop Liet (sha		_ ir. Capacky □Turbine		gpm
						Jet (deep)	□Recipro	cating	☐ Centrifu	gal	
<b></b>			<b></b>		19. WELL DR	ILLER: 2485 Watson	Robyn Barkley	y CERT. NO.:	934	1	_
						Eigin, SC 290					
	ater Bearing Zo				1						
	and sheet if nee	eded)			1	. No -	(800) 400 400				
5. REMARKI	<b>5</b> :				Telephone 20. WATER W		(803)438-1331 ACTOR'S CERTI		g wall was delited	Under m.	
							ue to the best of i				
					1			<b>u-u-</b>			
					n	1 4	LA				
					Signed: 19	1gr 13	arkley	_ Date:	12/27/2006	<u> </u>	
			····	<del></del>	Author	zogikoprocentativo					



## Water Well Record Bureau of Water

			·			<del></del>		<del>,</del>		
1. WELL OW Name:	MER INFORM Palmetto E	MATION: Environment	al Grown Inc		S. PERMIT NU		877	7		
		(izsi)		c. (first)						
Address:	P. O. Box	427			7. USE:					
					Resider				Process	
City:	Eigin	State:	SC :	Zip:29045	☐ trigatio		☐ Air Con ☐ Monitor		☐ Emerge ☐ Replace	
Telephone: \	Morie		Home:	•	8. WELL DEF			Date Started:	TI LODING	9/28/2006
	N OF WELL:		- 40/4574J.		1	fourthwes	<del>-,</del>	بهوي ويست ويورد		
Name:		ntry #65/Clo			4	5	_ft.	Date Complete		12/15/2006
Street Add	-				9. Mud Ro	itary	□Jetted		<b>☑</b> Bored	
					□Dug		□Air Rota	ary	□Driven	
City:	Columbia,	SC	Zip:		☐Cable 7		Other	<del></del>		
	Richland	Longitude:	94 <sup>0</sup> 00 07		10. CASING:	□ IMeaded	✓ Welded	Height: Above	iRolow	
Latitude:		SYSTEM NUI			Diam.: Type:	<b>☑</b> PVC		Surface		
a. 9101EM	<del> </del>	JIJIEM NU	mDEST.		ישקעי.	□ Steel	□ Other	Weight		
4. CUTTING	SAMPLES:	☐ Yes	Z No		10		feet depth			_ Z No
			<del></del>			in. to				
Geophysic	cal Logs:	☐ Yes	<b>☑</b> No		11. SCREEN					
Fa	rmation Descri	inting	*Thickness of	Depth to Bettom of	Type: Stot/Gauge	PVC .020	<del></del>	Diam.: Length:	4" 20'	
F0		rgerasije t	Stratum	Stratum	Set Between	r: .020 en: 1	ft. and 10	_ft		
Che ale	hannes ales-	w cord	271				_ ft. and	_ n.	\	
Kear	brown claye	A SQUO	27	27'	Sieve Anal	ATER LEVE		s (please enclos		Z No
Yellow to	gray clayey	sand (wet)	18'	45'	I			ft. below land	surgace after 24 l	hours
							w Land Surface hrs. Pumping		GPM	
					Pumping 7			s (please enclos		Z No
					Yield:		<del></del>	-		****
					14. WATER O		JYes ☑ N	) Becterial A	natval⊟ Yes	No.
					Piease en	close lab resul	its			
	· · · · · · · · · · · · · · · · · · ·				16. ARTIFICIA	TOTAL		Yes ft to	□ No 45	£.
					Effective s	ize		Uniformity Co		16.
					16. WELL GR	OULEDS.	✓ Yes	□ No		
		<del></del>	<del>                                     </del>		Death: Fr	om	Sand Cement   1	O fl. to	An	ft.
					17. NEAREST	SOURCE OF	F POSSIBLE CO	NTAMINATION	t ft.	direction
						¹	Type well disinfed	zted□ Yes T pletion ☑ No	ype:	
					18. PUMP:	Date installer	d:		\$1.4	Ø
					Mfr. Name	£	_	Model No.:		
			1		H.P.	Volts_ Submersible	Length of drop let (sh		_ ft. Capecity ☐Turbine	gpr
	<del> </del>				1 " 0	Jet (deep)	□Recipra	ocating	☐ Centrifu	gal
			<b> </b>		19. WELL DR	ILLER: 2485 Wateon	Robyn Barkle 1	y CERT. NO.:	934	
					1	Elgin, SC 29				
	ater Bearing Zo									
a 2 5. REMARK	2nd sheet if nee S:	<del></del>			Telephone	No.:	(803)438-133	1		
THE MEASURE	<del></del>				20. WATER W	VELL CONTR	ACTOR'S CERT	TFICATION: Th	is well was drilled	under my
					direction and t	his report is tr	rue to the best of	my knowledge t	and belief.	
						1				
					Signed:	m B	ablez	_ Date:	12/27/2006	<u>.                                    </u>
					Authori	Representative				_ <del></del>
				<del></del>					<del></del>	



## **Bureau of Water**

THUM	OIC MODIECT	TRUSPE II	1							
1. WELL ON	NER INFORM	MATION:		<del></del>	6. PERMIT NO	MBER:	877		<del></del>	
Name:			tal Group, in	C. (first)		<del></del>	<b>311</b>			
Address:	P. O. Box				7. USE:			<del></del>		· ·
					Reside	ntial	☐ Public S	unolv	Process	<b>.</b>
City:	Elain	State:	SC	Zin:29045	☐ Imigatio		☐ Air Cont		☐ Emerge	
Cuy.	<b>ு</b> து	Seals.	<del></del>	~th.c2040	☐ Test W		☐ Monitori			
Telephone: \	Work:		Home:		8. WELL DEP			Date Started:	<del></del>	9/28/2006
2. LOCATIO	N OF WELL:	AS-55			1					
Name:	Handy Par	ntry #65/Clo	ud's Chevro	n/Site		5	ft.	Date Complet	ted:	12/15/2006
Street Add	lress:	2367 Taylo	or St./1600 T	wo Notch			□Jetted		<b>☑</b> Bored	
		-			□Dug		CIAir Rota	ry	□ Driven	
City:	Columbia,	SC	Zip:		☐Cable 1	[ool	☐Other	•		
COUNTY:	Richland		_		10. CASING:	☐ Threaded	Welded	1	<del></del>	
Lathude:	34°00.77	Longitude:	81°00.97		Digm.:		19	Height: Above	Bolow	
3. SYSTEM		SYSTEM NU				☑PVC	☐ Gaivanized			
<del></del>					. ,,,	□ Steel	☐ Other	Weight		
4. CUTTING	SAMPI FQ.	☐ Yes	Z No		1 ^	in. to 45		Drive Shoe?		☑ No
~ -0: IMG	eruss lejädő:	168	ON THE			in. to	-	LAIVE 20067	L 186	
Geophysic	zi Loge:	☐ Yes	☑ No		11. SCREEN			<del></del>		
			Thickness of	Depth to	Туре:	PVC		Diam.:	4" 20'	
For	mation Descri	ption	Stratum	Bottom of	Slot/Gauge			Length:	20'	
			Gedens	Stratum	Set Betwee	n: <u>1</u>	11. and 10	, fl.		
Red/k	orown claye	w sand	27'	27'	Sieve Analy	ecio ———		ft. (please enclo	ce).	IZI No
					12. STATIC W	ATER LEVEL	<u> </u>	Ancorae entre	aej	<b>O</b> 140
Yellow to	gray clayey	sand (wet)	18'	45'	45 10 1140 0140	LEVEL Dolou	Land Surface	ft. below land	surgace after 24 h	nours
							_ hrs. Pumping		GPM	
					Pumping T	est:	☐ Yes	(please encio	se)	☑ No
					Yield: 14. WATER Q		<del></del>			
							Yes 🔽 No	Rectarial A	nehmil Voc	No.
						tiusen deal esot				THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE S
					18. ARTIFICIA	L FILTER (M)	er pack)	✓ Yes	☐ No	
					installed fr	om	44	ft. to	45	ft.
					Effective s		Z Yes	Uniformity Co	enicient	
					₩ Neet C	ement FIS	ind Coment 🗌	Concrete []	Other	
					Depth: Fro	am an	10	ft. to	40	
					17. NEAREST	SOURCE OF	POSSIBLE CON	ITAMENATION	EfL	direction
						T)	pe well disinfect	ed□ Yes T	ype:	
_			-		140 PHIMB-	Date Installed	pe well disinfect unpon compl	eacu 🔀 No	Not installed	131
					Mfr. Name		•	Model No.:	tare nightings	
					H.P	Volts	Length of drop	pipe	ft. Capacity	gpm
			<b></b>			Submersible	☐ Jet (shal		□Turbine	
					19. WELL DR	Jet (deep)	☐Reciproc Robyn Barkley		☐Centrifu 934	
						2485 Watson	INDIGHT DESKRIEY	vent. nv.:	834	
		· · · · · · · · · · · · · · · · · · ·				Eigin, SC 290	<b>M</b> 5			
	iter Bearing Zo nd sheet if nee									
S. REMARKS					Telephone	No.:	(803)438-1331			
					20. WATER W	ELL CONTRA	CTOR'S CERTI		is well was drilled	under my
							e to the best of n			-
						0				
					10	h	. he			
					Signed: LU	m 131	arkleg	Date:	12/27/2006	
L					Authoriz	Representative			-	



## **Bureau of Water**

			<u> </u>	<del></del>	Y		·····				
	WER INFORM				6. PERMIT NI	UMBER:	877	ī			
Name:	Palmetto E	Environment (last)	rai Group, In	C. (first)							-
Address:	P. O. Box	427			7. USE:						
					□Reside	ntial	☐ Public S	jabby	✓ Process	<b>;</b>	
City:	Elgin	State:	8C	Zîp:29045	☐ trrigatio	ກ	☐ Air Cont		□Emerge		
	-			- "	☐ Test W	feli	☐ Monitori	ng Well	☐ Replace	ment	
Telephone:			Home:		8. WELL DEF	TH (completed		Date Started:	<del></del>		3/2006
1	N OF WELL:			AF514	1	45		<b>_</b>		,	
Name:	_	ntry #65/Clo				45	<u>ft</u>	Date Complet		12/18	/2006
Street Add	<b>#66</b> \$:	250/ Taylo	# 31./1600 T	wo Notch	9.   Mud Ro	oury	□Jetted □		Bored		
	O-11 *	00			□ Dug	Taa!	☐Air Rota	σy	□Driven		
City:	Columbia,	30	Zip:		☐Cable 1		Other	<del>1</del>			
	Richland		D40cc			☐ Threaded	<b>☑</b> Welded		- <b>m</b> -*		
Latitude:		Longitude:			Diam.:		1"	Height: Above			
3. SYSTEM	NAME:	SYSTEM NUI	MBER:		Type:	<b>☑</b> PVC	☐ Galvanized		<del></del>		
					4	☐ Steel	Other	Weight		· —	
4. CUTTING	SAMPLES:	☐ Yes	☑ No		0	in. to 45		Drive Shoe?	☐ Yes		lo ol
		<b>W</b>	-		46.55=	in. to	feet depth	1			
Geophysic	zer Logs:	☐ Yes	☑ No	Fig. 4	11. SCREEN	DA/O		Diam -	Дn		
En	mation Descri	ption	*Thickness of	Depth to Bottom of	Type:	PVC		Diam.: Length:	4" 20'		-
· <b>`</b>			Stratum	Stratum	Set Between		ft. and10	ig.	<del></del>		-
	h				1		ft. and	î.	_		_
Red/	brown claye	y sano	27'	27'	Sieve Anal			s (please enclo	se)		V No
Yellow to	gray clayey	sand (wet)	18'	45'		VATER LEVEL		, ft. below land	eurgace after 24 t	10urs	
					ь	LEVEL Below					
			ļi				_hrs. Pumping		G.P.M.	-	<b></b>
			<b>[</b>		Pumping 1 Yield:	1 <b>66(</b> .	☐ Yes	s (please enclo	15C)	į	Z No
	<del></del>				14. WATER C						
			<u> </u>		Chemical	Analysis 🗀	Yes 🛂 No	Bacteriai A	Ves Yes	No	
				_		close lab result AL FILTER (fib.		✓ Yes	□ No		
	<del></del>				installeri fi	AL PILIER (IIII IOM	erpack) 44	R. to	LI NO 45	ft.	
					Effective s	size		Uniformity Co			
	-				16. WELL GR		Z Yes	☐ No			
					Depth: Fr		and Cement []	Concrete   if. to	Other		
							POSSIBLE CO				frection
					1		ype well disinfect	ed∐ Yes 1	Гуре:	`	
					40 101111	Date Installed	unpon comp	letion 🛮 No	o Amount:		
		}			Mfr. Nome		· ——	Model No.:	Not installed	14	
	······································				H.P.	Volts	Length of drop		ft. Capacity		gpm
		<u></u>			Type: 🛘	Submersible	☐Jet (she	illow)			_
			]	1	19. WELL DR	Jet (deep)	☐Recipro Robyn Barkie		☐Centrifu 934		
	<del></del>					OLLERC 2485 Watson		y want. NU.	834	•	
·		*****			1	Eigin, SC 290					
	ster Bearing Zo				1						
	and sheet if nee	eded)	L		4	. 44.	<b>ADDRES</b>				
S. REMARK	<b>z</b> :		_ <del>_</del>		Telephone		(803)438-1331		in man day		10.4
							ACTOR'S CERTI to to the best of (		nis well was drilled and belief.	under fi	n <b>a</b>
						where is af	w um wast ui t	, minericulto (	wine statistics		
					1	0 -					Ì
					Signed: Lo	Com Br	replen	Date:	12/27/2006		
					Authori	Representative					
										-	



**Bureau of Water** 

1. WELL ON	WER INFORM	ATION:			6. PERMIT N	MBER	877	, , , , , , , , , , , , , , , , , , , ,		
Name:	Paimetto E	Environment (test)		C. (first)					<u>.</u>	
Address:	P. O. Box	427		•	7. USE:					
					☐ Reside	ntiel	☐ Public S	iupply	✓ Process	
City:	Elgin	State:	SC	Zip:29045	□trrigati	<b>ា</b>	☐ Air Cont	ditioning	☐ Emerge	ncy
					☐Teet W	felt	☐ Monitori	ng Weß	Replace	
Telephone:	Wark:		Home:		8. WELL DEF	TH (complete	ď)	Date Started:		9/28/2006
2 LOCATIO	N OF WELL:				1					
Name:	Handy Pai	ntry #65/Clo				45	_ ft.	Date Complete		12/15/2006
Street Add	iress:	2367 Taylo	r <b>St./1600</b> T	wo Notch	9. Mud R	otary	□Jetted		Bored	
					□Dug		☐Air Rota	ry	□Driven	
City:	Columbia,	SC	Zip:		☐Cable		☐Other			
	: Richland		_		10. CASING:	☐Threaded	<b>✓</b> Welded	1		
Latitude:	34°00.77	Longitude:	81°00.97		Diam.:			Height: Above/	Below	
3. SYSTEM	NAME:	SYSTEM NU	MBER:		Type:	<b>☑</b> PVC	☐ Galvanized	Surface	<del></del>	
					_	☐ Steel	☐ Other	Weight		• <u></u>
4. CUTTING	SAMPLES:	□ Yes	☑ No		0	in. to <u>45</u>	feet depth	Drive Shoe?	☐ Yes	☑ No
						in. to	feet depth			
Geophysi	cai Logs:	☐ Yes	☑ No		_11. SCREEN					
		t 44	Thickness of	Depth to	Туре:	PVC		Diam.: Length:	4" 20'	
1-0	rmation Descri	ption	Stratum	Bottom of Stratum	Stot/Gaug		ft. and10_		20	
	· · · · · · · · · · · · · · · · · · ·			Openin	4	<u> </u>	ft. and	- n.		
Red/	brown claye	y sand	27"	27'	Sieve Ana	lyeis		(please enclos	9)	No.
Vallow to	aray alaway	sand (wet)	18'	45'	12. STATIC V	VATER LEVEL		ft. below land s	uranna aftar 24 l	20100
I GROW IO	gray clayey	Sailu (Met)	- 10	40	13. PUNEPIN	LEVEL Below	w Land Surface	IL DERUM IZINA S	usyace also 24 i	With 2
						. ft. after	hrs. Pumping		G.P.M.	
					Pumping	Test:		s (please enclos	9)	₽Z No
					Yield:	WIAL PRO				
					Chemical		] Yes ☑ No	Bacteriel An	elvsi Tes	No.
					" Pieese er	iclose lab resul	its .			
					18. ARTIFIC	AL FILTER (N	ier pack)	V Yes	□ No	_
					Installed I	rom	44	ft. to Uniformity Coe	45	ft.
	· · · · · · · · · · · · · · · · · · ·			<u></u>			✓ Yes	□ No	III. SOIN	
					☑ Neat C	ement 🗆 S	and Cement [	Concrete	Other	
					Depth: F	rom	10	) ft. to	40	ft.
<b></b>					- 17. NEARES	T SOURCE OF	F POSSIBLE CO Type well disinfect	NTAMINATION: bodi'i Yee Tu	ft.	direction
· .						'	TUDOU COMO	letion <b>2</b> No	Amount:	
	· · · · · · · · · · · · · · · · · · ·	<del></del>			18. PUMP:	Date Installed			Not installed	$\mathbf{Z}$
<u> </u>					Mfr. Nam			Model No.:	A ()	
					H.P.	Volts	Length of drop ☐Jet (she		ft. Capacity  ☐Turbine	gpm
<del></del>					7 " 6	l Jet (deep)			☐ Centrifu	
					18. WELL DI	ULLER:	Robyn Barkle	y CERT. NO.:	934	
					Address:	2465 Watson Eigin, SC 29				
*Irreffeeder 14/	ater Bearing Z	nnoo Ale-			-		RFTI			
	ater bearing 2: 2nd sheet if ne					1				
5. REMARK					Telephon		(803)438-1331			
							ACTOR'S CERT			under my
					direction and	this report is tr	rue to the best of	my knowledge <b>a</b>	nd beilef.	
l					1 .					
1							Benkley		40.07.0000	•
ļ					Signed:	my L	Mariken/	_ Date:	12/27/2006	<u> </u>
L				·	1 ~~	THE REAL PROPERTY.				



## Water Well Record Bureau of Water

1. WELL OW	NER INFORM		<u>-</u>		6. PERMIT	NUMBER:	8	77		
Name:	Palmetto I	Environment (last)	al Group, In	C. (first)						
Address:	P. O. Box	427		-	7. USE:	··· -				
					□Resid	lential	☐ Publi	c Supply	<b>☑</b> Process	,
City:	Elgin	State:	SC	Zip:29045	□trriga	ion		onditioning	☐ Emerge	
	₩ **			Ţ	□Test			oring Well	☐ Replace	•
Telephone: \		A	Hame:	<del> </del>	8. WELL DE	PTH (complete		Date Started:		9/28/2006
	N OF WELL:				1		_			
Name:	•		ud's Chevro			45	_ ft.	Date Complet		12/15/2008
Street Add	ress:	2367 Taylo	or St./1600 T	wo Notch		Rotary	□Jette	_	Bored	
	0-1	00	_		□Dug		□Alr R	-	□ Driven	1
City:	Columbia,	SC	Zip:		☐ Cable		Other	·		
	Richland		0		10. CASING	: Threaded		1		
		Longitude:			Diam.:			Height: Above		
3. SYSTEM	NAME:	SYSTEM NU	MBER:		Туре:	☑PVC □Steel	☐ Gelvaniz	ed Surface Weight		
4. CUTTING	SAMDI EQ.	☐ Yes	☑ No		1					☑ No
~ 401 11110	Grin LEG.	F1 162	<b>21</b> ₩		l ——	0 in. to <u>44</u> _ in. to				451 140
Geophysic	zai Logs:	☐ Yes	☑ No		11. SCREE		seer dep	91 1		
			*Thickness of	Depth to	Type:	PVC		Diam.:	4" 20'	
For	rmation Descri	iption	Stratum	Bottom of	Slot/Geu	e: <u>.020</u>	)	Length:	20'	
				Stratum	Set Betw	een: <u>1</u>	ft. and 1	<u>)</u> 11. 11.		
Red/I	orown claye	y sand	27	27'	Sieve An	ziyais	ft. and	n. (es (piesse endo	<b>se)</b>	☑ No
	•	sand (wet)	18'	45'	12 STATIC	WATER LEVE	î.		surgace after 24 f	nount
· white it	g , via , 0 )	AND (MAR)	<del>- ``</del>	-70	13. PUMPIN	G LEVEL Bek	w Land Surface	TIL MOTOR RESIDE	omysou alon 24 l	IVÆ9
						_ ft. after	hrs. Pumpir	9		
					Pumpine Yield:			es (please enclos		<b>☑</b> No
					14. WATER		—		<del> </del>	
	<del></del>					il Analysis Inclose lab resi		No Bacterial A	neiyel Yes	No
						AL FILTER (F		✓ Yes	□ No	
					Installed	from		ft. to	45	ft.
	<del></del>				Effective	size		Uniformity Co	efficient	
					715. WELL G	KUUTED7 Cement C 1	Yes	☐ No ☐ Concrete ☐	Officer	
					Depth:			10 ft. to	40	ft.
					17. NEARE	ST SOURCE O	F POSSIBLE C	CONTAMINATION	: ft.	direction
					]			ected⊡ Yes T	уре:	
			-		18. PUMP:	Date Installe	unpon cor	npletion 🔽 No	Amount: Not installed	12
					Mfr. Nar		M	Model No.:	Densemble 1014	120
					H.P.	Volts	Length of dr		ft. Capacity	gpm
	W-47					Submersible			Turbine	
					19. WELL 1	] Jet (deep)		processing dev CERT. NO.:	☐Centrifu 934	
		···				roller: : 2485 Watso	•	my CERI. NU.:	934	•
						Elgin, SC 2				
	iter Bearing Ze				1					
S. REMARK				<u>.                                    </u>	Telepho	ne No.:	(803)438-13	31		
					20. WATER	WELL CONTI	ACTOR'S CEN	RTIFICATION: Th		under my
					direction an	i this report is t	rue to the best	of my knowledge a	and belief.	
					1		B. 11		40.000.000	
					Signed:	m	Burley	Date:	12/27/2006	
<u> </u>					I Auth	orizog/Representativ	~ /			



## Water Well Record Bureau of Water

	************						· · · · · · · · · · · · · · · · · · ·				_
1. WELL OW	MER INFORM	ATION:			6. PERMIT NU	MBER:	877	,			
Name:		Environment (last)	al Group, In	C. (first)							
Address:	P. O. Box	427			7. USE:					,	
					☐ Resider	ntial	Public S	Supply	Process	1	
City:	Eigin	State:	SC	Zip:29045	□Irrigatio	n	☐ Air Com	ditioning	☐ Emerge	•	
-	-			•	☐ Test W	elti	☐ Monitori	ing Weli	☐ Replace		
Telephone:			Home:		8. WELL DEP	TH (complete:	d)	Date Started:		9/28/20	006
2 LOCATIO	N OF WELL:				_	_	_				
Name:	Handy Par		ud's Chevro			5	_ ft.	Date Complete		12/15/20	<u> 106</u>
Street Add	drees:	2367 Taylo	r St/1600 T	wo Notch	L	otary	☐ Jetted		Z Bored		
					□Dug		☐Air Rotz	iry	□Driven		
City:	Columbia,	SC	Zip:		☐Cable 1		☐Other	<del> </del>			
COUNTY:	Richland		~ O A A Q -	9	10. CASING:	☐ Threaded		l			
Latitude:	34° 00.7			/ 	Diam.:		2"	Height: Above/			
3. SYSTEM	NAME:	SYSTEM NU	MBER:		Type:	<b>☑</b> PVC		Surface			
			· · · · · · · · · · · · · · · · · · ·		4 .	☐ Steel	Other	Weight		·	
4. CUTTING	SAMPLES:	☐ Yes	<b>☑</b> No		1		feet depth	Drive Shoe?	☐ Yes	☑ No	
			<b></b>			tn. to	feet depth				
Geophysic	cal Logs:	☐ Yes	☑ No		11. SCREEN	m.m		Diam.	-7#		
E_	mation Descri	nffon	"Thickness of	Depth to Bottom of	Type: Slot/Gauge	PVC .020	<del></del>	Diam.: Length:	10'		
i '`	arrangar poopi	poon	Strutum	Stratum	Set Betwee	m: <u>25</u>	ft. and 35	ft.	<u></u>		
	_	V			i		_ ft. and	_ft.			
Red/	brown claye	y sand	35	35	Steve Anal			s (please enclos	3)	[7]	No
					12. STATIC W	ATER LEVEL	-	A bolom land a		ha	
		· ···			13. FUMPING	LEVEL Below	v Land Surface	ft. below land s	uigate alter 24 i	INUI 0	
							hrs. Pumping		G.P.M.		
	<u> </u>				Pumping 1 Yield:		☐ Yes	s (please endose	a)	Z	No
					14. WATER O						
				ļ	Chemical	Analysis [ close lab resul	]Yes ☑ No	Bacteriai An	alysi⊡ Yes	No.	
1					15. ARTIFICIA	L FILTER	er peck)	☑ Yes	□ No		
		<del></del>	<del></del>		Installed fr	om	24	ft. to	35	ñ.	
<u> </u>					Effective s	ize		Uniformity Coe	flicient		
					16. WELL GR	OUTED?	✓ Yes	□ No	<b></b>		
	<del></del>				Depth: Fr	ement 🔲 S	and Cement 🗆	Concrete () (	74	#	
1			1		17. MEAREST	SOURCE OF	POSSIBLE CO	NTAMBLATION.	ft.	n. direc	tion
<b></b>					7		ype well disinfed	ted□ Yes Ty	pe:		
							IMPON COMP	letion 🗾 No	Amount		_
	· · · · · · · · · · · · · · · · · · ·				18. PUMP:		d:		Not installed	Z	
	···				Mfr. Name H.P.	voits	Length of drop	Model No.:	ft. Capacity		gpm
ł						Submersible	cerigin or drop ijet (she		n. Capacity ☐Turbine		Shu ()
					7 " 🗖	Jet (deep)	□Recipro	cating	☐ Centrifu	gai	
			<u> </u>		19. WELL DR			y CERT. NO.:	934		
					Address:	2485 Watson Eigin, SC 29					
Indicate W	ater Bearing Zo	mes (Use			1	-8-4-0					
	2nd sheet If nee		]		1						
S. REMARK		<del></del>			Telephone		(803)438-1331				
							ACTOR'S CERT ue to the best of			under my	
					Signed: R	by 1	Porpley	_ Date:	12/27/2006	<u> </u>	_
L		<del></del> -				9	<u> </u>				



# Water Well Record Bureau of Water

			<del></del>		1	72 575 575		7		
	MER INFORM		-1 A *	_	6. PERMIT N	TUSTOER:	877	τ		
Name:	raimetto E	Environment (lest)	tal Group, Ind	C. (first)						<u></u>
Address:	P. O. Box	<b>4</b> 27			7. USE:	. ——————				
					☐ Recid	ential	☐ Public S	Supply	Process	
City:	Elgin	State:	SC .	Zip:29045	☐ Irrigati	ion	□Air Con	ditioning	□Emerger	•
_	-				☐ Test V		☐ Monitori	ing Well	Replace	
Telephone: \			Home:		8. WELL DE	PTH (complete	<b>(D</b>	Date Started:		9/28/2006
	N OF WELL:			- 1644	ļ	0E	, ex	<b>.</b>		4014F####
Name:			ud's Chevro			35 Potoni	_ ft.	Date Complete		12/15/2006
Street Add	iresa:	2567 Taylo	or St./1600 T	wo Notch	4	KOGITY	☐Jetted	<b></b> .	Bored	
	O-1	00	_		□ Dug	Tool	☐Air Rotz	al <b>y</b>	□Driven	
City:	Columbia,	<b>3</b> U	Zip:		☐Cable		☐Other	<del></del>		
COUNTY:	Richland		10 AA O-		1	: Threaded			Meleu-	
	34°00.77				Diam.:	72	2"	Height: Above/		
3. SYSTEM	NAME:	SYSTEM NU	MBER:		Тура:	☑PVC		Surface		
	0415-		<del></del>		4	□Steel	Other	Weight		
4. CUTTING	SAMPLES:	☐ Yes	☑ No				feet depth	1	☐ Yes	No No
_					44. 55	in. to	feet depth			
Geophysic	cal Logs:	☐ Yes	T	Fare as	11. SCREEN	-		Diam ·	<b>7</b> 11	
E-	mation Descri	ption	Thickness of	Depth to Bottom of	Type: Slot/Gaur	PVC ge: .020		Diam.: Length:	10'	<del></del>
			Stratum	Stratum	Set Between	een: <u>25</u>	tt. and35	_ ft.		***
			_		7		ft. and	_ ft.		_
Red/	brown claye	y sand	35	35	Sieve And			s (please enclos	39)	✓ No
<u> </u>	<del></del>		]	!	12. STATIC	WATER LEVEL		f halamin-	fillulate age a.	)() (me
<del> </del>		•	<del>                                     </del>	ļ	13. PUMBIN	G LEVEL Rob-	w Land Surface	IL POICH BING	surgace after 24 h	,v410
L				<b>\</b>			hrs. Pumping		G.P.M.	
						) Test:	☐ Ye	s (please enclos	<b>)</b>	<b>☑</b> No
<del>                                     </del>	-			<del></del>	14. WATER					
ļ <u> </u>		<del></del>		L		al Analysis [	☐ Yes ☑ No	o Bacterial A	nalysi⊡ Yes	No.
1				1	15. ARTIFIC	enclose lab resur HAL FILTER (1)	ter pack)	✓ Yes	□ No	
<b> </b>		· · · · · · · · · · · · · · · · · · ·	<del>                                     </del>	<del></del>	installed	from	24	ft. to	35	R.
					I Effective	S   S   S   S   S   S   S   S   S   S		Uniformity Cos	efficient	<b>-</b>
l					18. WELL G	ROUTED?	Z Yes	□ No		
<del></del>		·	<del> </del>	ļ	Depth: F	cement □ &	Sand Cement 🔲	Concrete 🗀 (  Off. to	Other24	
ŀ				1	17. NEADER	T SOURCE OF	F POSSIBLE CO	NTANINATION.	<u>24</u>	n. direction
	·				-		Type well disinfec	ted Yes Ty	уре:	
			<u></u>				Impon come	nlation Di No	Amount	
				1			d:		Not installed	₩
<del>                                     </del>			<del> </del>		Mfr. Nam	ne: Volts	Length of drop	Model No.:	ft. Capacity	gpm
				<u></u>		Voits ☐ Submersible			_ nr. Capacity Turbine	
				T	7 r	☐ Jet (deep)	□Recipro	ocating	☐ Centrifu	<b>gal</b>
			4	<u> </u>	19. WELL D		Robyn Berkle	y CERT. NO.:	934	
		···			Address	: 2485 Watsor Elgin, SC 29				
	ater Bearing Zo				1					
	and sheet if nee	sucti)		<u> </u>	Talant.	na Na •	(B021498 400	1		
6. REMARK	<b>₩</b> .	•			Telephor		(803)438-133° ACTOR'S CERT		halith saw law g	under mv
ł							rue to the best of			
1						.,			-	
					M	1/ 1	7 1 4			
					Signed: 1	dryn I	sarbley	Date:	12/27/2006	
<u></u>						crized depresentative	7			
<del></del>									·	



## **Bureau of Water**

2 (24)	ole implext i	new ca								
1. WELL OW	NER INFORM	ATION:			6. PERMIT N	JMBER:	877	7		
Name:	Palmetto E	invironment (last)	al Group, in	C. (first)				1		
Address:	P. O. Box	• •		•	7. USE:					
					☐ Reside	ntial	☐ Public S	Supply	Process	1
City:	Elgin	State:	SC	Zip:29045	☐ Irrigatio		☐ Air Con	· · · •	□Emerge	
					☐ Test W		☐Monitor	ing Well	Replace	
Telephone: V			Home:		8. WELL DEP	TH (completed	1)	Date Started:		9/28/2006
	N OF WELL:						_			
Name:	•	-	ud's Chevro			35	ft.	Date Complet		12/15/2006
Street Add	17868:	2307 Taylo	r <b>St/1600</b> T	wo Notch	9. Mud Re	otary	☐ Jetted		<b>⊘</b> Bored	
<b>O</b> **-	Cali bi-	60	*****		□ Dug	Faat	☐Air Rota	uy .	☐ Driven	
City:	Columbia, Richland	30	Zip:		Cable 1		☐Other ☐	T	<del>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 </del>	
COUNTY:	74.4/10 7-7	I analtuda. (7	1°00.97	r		☐Threaded	✓ Welded 2"	Holeld About	/Rolm	
3. SYSTEM!		SYSTEM NUI		·	Diam.:	<b>☑</b> PVC		Height: Above Surface		
~ 4:4:5M !		A:4:20 MO	mPER.		Type:	Steel □	☐ Other	Weight		
4. CUTTING	SAMPLES.	☐ Yes	✓ No	<del></del>	٠ ٢	in. to25_			☐ Yes	- [2] No
11/1 <b>U</b>		<b>→ 162</b>	<b>₫₽</b> 140			in. to	feet depth	Dine Office	145	
Geophysic	ai Loos:	☐ Yes	☑ No		11. SCREEN		icer rebul	<u></u>	<del></del>	<del></del>
prijett				Don't An	Туре:	PVC		Diam.:	2" 10'	
For	rmetion Descrip	otion	*Thickness of Stratum	Bottom of	Slot/Gauge	.020		Length:	10'	
	<del></del>			Stratum	Set Betwee	en: <u>25</u>	ft. and <u>35</u> ft. and	_ft. ft.		
Red/t	brown claye	y sand	35	35	Sleve Anal	yels		_ 11. 5 (please encio	90)	☑ No
				7.7		VATER LEVEL	,			
					42 Millian	II BUEF BEI	I and Dad	ft. below land	surgace after 24 i	TOUTS
				ļ			v Land Surface _ hrs. Pumping		G.P.M.	
					Pumping 1			s (please enclos		☑ No
					14. WATER C		] Yes [☑] No	Bacterial A	nalvsi Yes	No.
					Please en	close lab result	ts			
						AL FILTER (all		V Yes	□ No	
			ļ l	1	Installed for Effective s	rom	24	ft. to Uniformity Co	35 efficient	ft.
	<del></del>	~			16. WELL GR	OUTED?		□ No	•	
<del></del>							and Cement 📮		Other	
			]		Depth: Fr	OTT SOLIDADA	POSSIBLE CO	) ft. to	24	ft. direction
· · · · · · · · · · · · · · · · · · ·							ype well disinfect	ted⊡ Yes T	ype:	wecton
							IMPAD CAMP	letion Z No	Amount	
_ <del></del>					1.0	Date Installed	l:		Not installed	Z
				<del></del>	Mfr. Name H.P.	Volts	Length of drop	Model No.:	ft. Capacity	gpm
					Type: 🛘	Submersible	☐Jet (sha	allow)	Turbine	
_ <del></del>						Jet (deep)	□Recipro	cating	☐Centrifu	
					19. WELL DR Address:	2485 Watson	)	y CERT. NO.:	934	' j
*Imallanda 184	ine D				4	Elgin, SC 290	D45			
a 2	iter Bearing Zo nd sheet if nee									
S. REMARKS	<b>5:</b>			· <del></del>	Telephone		(803)438-1331		is well was drilled	1 market mark
	٠						ACTOR'S CERTI ue to the best of i			uncer my
					Signed: <u>No</u>	13 B	arklen	_ Date:	12/27/2006	
<del>~~~</del>				·	Author	confraprimentalise				



# Water Well Record Bureau of Water

1. WELL OW	NER INFORM	ATION:			6. PERMIT	NUMBER:	:	****	877				•		
Name:		nvironment (last)	al Group, In	C. (first)											
Address:	P. O. Box 4	127			7. USE:							-			
					□Res	identia <del>l</del>			Public Si	прріу	1	Process	3		
City:	Elgin	State:	SC	Zip:29045	□lmig				Air Cond			☐ Emerge	•		
					□Tes		_			rg Well		Replace			
Telephone: V			Home:	- <del></del>	8. WELL D	EPTH (con	npleted	)		Date Start	ied:		9/2	28/2	800
	N OF WELL:				[			_							
Name:			ud's Chevro			35		.ft.		Date Com			12/	5/2	006
Street Add	ress:	236/ Taylo	or St./1600 T	wo Notch	1				Jetted			Bored			
-	Calumbia	00			□Dug □Cab				Air Rota	У		□Driven			
commercial and the second	Columbia, Richland		Zip:		10. CASING				Other						
Latibula: Z	4°00.77	i ameliuda. Ø	70M9	7	Diam.:	g; Link		5 <sub>11</sub>		Height: At	and Dalan				
1 GVOTEM	NAME:	SYSTEM NU	MRED.	<u></u>	Type:	<b>P</b> PVC				Surface					
		O I O I EM RU	miser.		Type.	□ Stee		Oth		Weight _					
A. CUTTING	SAMPLES:	☐ Yes	Z No		-					Drive Sho				Ma	
	<b>0/111 110</b> ;	Lat 199	<u> </u>		<u> </u>			feet		Dille Oil	01 II	169	(J.)	IW	
Geophysic	al Loga:	☐ Yes	☑ No		11. SCREE	N					· · · · · · · · · · · · · · · · · · ·				_
34553				Depth to	Туре:	PVC age: veen:				Diam.:	2°				
For	rmation Descrip	otion	Thickness of Stratum	Bottom of	Slot/Ga	rđe:	.020		<del>-</del>	Diam.: Length:	10'			_	
	<del></del>			Stratum	Set Bet	veen:	<u> 25</u>	11. and	_35_	ቤ					
Red/t	brown clayey	eand /	35	35		nalysis				(please er	nciose)			(7)	No
					12. STATIC	WATER	EVEL								
					13. PUMPI	Value	2012000			ft. below is	and surgec	e after 24	hours		
ĺ						ft. after					GP	M			
				<del></del>	Pumpin Yield:	g Test:		* 124. 1 ¢	☐ Yes	(please er	nciose)	.161.		Z	No
		***************************************			14. WATE				7			<del></del>			
	·····	<del></del>				ai Analysis englose iai		Yes	☑ No	Bacteri	al Analysii	] Yes	No	2	
1					15. ARTIF	CIAL FILT	ER (this	or pack)		✓ Yes	E	No			
					Installe	d from	•	24		ft. to	35	_	ñ.		
	<del> </del>				Effective 16. WELL	e size	<u> </u>	F3 (		Uniformity	Coefficier	ıt			-
ŧ	•				10. WELL	ercorent t Cement	r ⊓Se	nd Cem	es ent 🗀	Concrete I	7 Other				
					Denth:	From			0	ft to		24	ft.		_
					17. NEARE	ST SOUR	CE OF	POSSIB	LE CON	TANINAT	ION:	n n		dire	cton
1					]		_	10000	n comel	ed Yes	Ma Am	ount			
	<del> </del>	***********			18. PUMP:	Date in	stalled:				No.	t installed	7		_
		···			Mfr. Na	me:				Model No.	:		<del></del>		
					H.P.	Volts _ ☐ Submer	milio		of drop   Jet (shal		fl. C	apacity Turbine			gpm
<del> </del>	· · · · · · · · · · · · · · · · · · ·				ype:	☐ Jet (dea			Jex (anal Reciproc						
					19. WELL	DRILLER:	***			CERT. NO	).:	934			_
<u> </u>					Addres	e: 2485 V Eigin, S		45							
	iter Bearing Zo				1			· · <del>-</del>							
	nd sheet if nee	ded)			1	••									
5. REMARKS	<b>3:</b>				Telepho 20. WATE	one No.:	MITT		38-1331 CEDTI	TOATION	This	المعادة المعادة	- مامور	1000-	
ł					direction ar								under	m <b>y</b>	
ł						· •		wrw 1	W II	·. · · · · · · · · · · · · · · · · · ·					
ŀ						na	A		,						
					Signed: 1	som	13	<u>arh l</u>	m/	Date:	12	/27/2006			_
<u> </u>					Aut	horizes Repre									



#### Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment



CRAWFORD ENVIONMENTAL SERVICES MR CHARLES F. CRAWFORD, III 15 CHURCH AVENUE SW ROANOKE, VA 24011

MAY 2 7 2012

Re: Corrective Action Status Report Review

UST Permit # 07584, University Mart, 2367 Taylor St., Columbia, SC Release #1 reported January 30, 1991; CA#47811
Release #2 reported April 17, 1998; CA#47812
UST Permit # 07777, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 31, 1991; CA#47813
UST Permit # 12352, Clouds Chevron, 1600 Two Notch Rd., Columbia, SC Release reported December 30, 1991; CA#47814
Contract #IFB-5400007095-1/30/2014-EMW; PO # 4600322226
Richland County

Dear Mr. Crawford:

The Underground Storage Tank Management Division understands that corrective action commenced on May 16, 2014 when the former remedial system was placed back into operation. Therefore, the 36-month "Site Incentive Period" also commenced on May 16, 2014. As outlined in Specific Requirement #3 of the bid solicitation, a 10% incentive will be paid to Crawford Environmental Services provided that corrective action at the referenced facility is completed on or before midnight on May 17, 2017.

The next Corrective Action System Evaluation (CASE) Report is due on or before August 23, 2014.

On all correspondence regarding this site, please reference the UST Permit #07584, 07777, or 12352. If you have any questions, please contact me by phone at (803) 898-0606, by fax at (803) 898-0673, or via email at bryantjc@dhec.sc.gov.

Sincerely,

John Bryant, Hydrogeologist Corrective Action Section UST Management Division Bureau of Land and Waste Management

# Document Receipt Information

Hard Copy	(D	Emai	I
Date Received	2-19-15		
Permit Number	07584/0	7777/1	2352
Project Manager			
Name of Contractor	CRAW for	UTZ d Environ	nent
UST Certification Num			. = ,
Docket Number	07584)	185 kcs (07777)	120 tech (12352)
Seanned			

CASE -November 2014 (Sampling Date)





February 13, 2015

Ms. Sonya Utz
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action System Evaluation – November 2014 (Sampling Date)
Handy Pantry #65/University Mart & Cloud's Chevron
Intersection of Taylor Street and Two Notch Road
Columbia, South Carolina
UST Permit # 07584 / 07777 / 12352

Dear Ms. Utz:

Enclosed please find one copy of the November 2014 Corrective Action System Evaluation (CASE) report prepared by Crawford Environmental Services, Inc. (CES) for the referenced site. Should you have any questions regarding the enclosed material, or if additional information is required, please feel free to contact Charlie Crawford or myself at 540.343.6256.

Best Regards,

Daniel Fisher
Division Manager

Y. Fren

CC:



# **Corrective Action System Evaluation Report**

Handy Pantry #65/University Mart & Cloud's Chevron
Intersection of Taylor Street and Two Notch Road
Columbia, South Carolina
UST Permit # 07584 / 07777 / 12352
February 13, 2015
Revision 0

### CORRETIVE ACTION SYSTEM EVALUATION REPORT

Handy Pantry #65/University Mart & Cloud's Chevron Intersection of Taylor Street and Two Notch Road Columbia, South Carolina UST Permit # 07584 / 07777 / 12352

### **Submitted To:**

Ms. Sonya Utz
State of South Carolina
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

### Prepared For:

Ms. Sonya Utz
State of South Carolina
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

February 13, 2015 CES Job Number: 7.0547

Prepared By:

Y. Files

Daniel J. Fisher Division Manager Reviewed By:

Charles F. Crawford President / CEO Approved By:

B. Thomas Houghton

P.G. #2343



Site ID: 07584/07777/12352

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- Figure 3 Groundwater Chemicals of Concern
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- Appendix B Groundwater Sampling Data Sheets
- Appendix C Laboratory Data Reports, Chain of Custodies and Field Data Information Sheets
- Appendix D Data Verification Checklist



## 1.0 Facility Information

The subject property is located in a primarily commercial area of Columbia, South Carolina (Figure 1). The subject sites, operating as Handy Pantry #65/University Mart and former Cloud's Chevron, is bordered by light commercial properties in all directions. A site plan depicting pertinent features of the subject property is provided as Figure 2.

## 1.1 Project Information Summary:

### 1.2.1 Site Address

Handy Pantry #65 / University Mart / Clouds Chevron 2367 Taylor Street Columbia, South Carolina

## 1.2.2 Property Owner Information

Mr. Mahesh Patel 2367 Taylor Street Columbia, South Carolina

Mr. Andrew Diggins 1600 Block Two Notch Road Columbia, South Carolina

### 1.2.3 Contractor Information

Crawford Environmental Services 15 Church Avenue, SW Roanoke, Virginia 24011 1 (540) 343-6256 Contractor Number: UCC-0388

## 1.2.4 Laboratory Information

Access Analytical, Inc. (AA) 7478 Carlisle Street Irmo, SC 29063 1 (803) 781-4243 SC Certification: 32575001 Analytical Environmental Services Inc. (AES) 3785 Presidential Pkwy.
Atlanta, GA 30340
1 (770) 457-8177
SC Certification: 98016003



### 2.0 Corrective Action Activities

Corrective Action activities at the facility for this phase of work included the following:

- -Regular O&M of the Air Sparge / Soil Vapor Extraction Systems.
- -Bi-Annual Sampling Event

## 2.1 Water Sample Collection

A comprehensive groundwater sampling event, including; recording equilibrated static water levels, product thicknesses, and the collection of chemical samples was completed by CES personnel on November 10/11/12/13, 2014, CES personnel utilized an electronic water level indicator for water level measurements and an oil/water interface probe for free phase product measurements. Samples for the shallow wells were collected utilizing disposable polyethylene bailers. Shallow wells that exhibited groundwater above the screened bracket were purged of at least three well volumes or purged till dry before sample collection. Deep and intermediate wells exhibiting groundwater above the screened bracket were purged utilizing submersible pumps with dedicated tubing. For sample collection, disposable polyethylene bailers were lowered slowly to the top of the water column (after purging in some cases) allowed to fill one volume, then removed. Disposal records for the 105-gallons of purge water generated are included as Appendix A. Groundwater was then transferred to the appropriate sampling containers and was then placed in coolers, maintaining 4°C, and delivered to an independent laboratory. Groundwater chemical samples were submitted to Access Analytical, Inc., {SC Certification: 32575001} for analysis.

### 2.1.1 Groundwater Sampling

Equilibrated static water levels and free-product thicknesses were recorded for monitoring MW-2, MW-3, MW-4, MW-5AR, MW-6, MW-7, MW-8, MW-9, MW-11, MW-12, MW-13, MW-16, MW-17, MW-18, MW-19, MW-20, MW-22, MW-23, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-32, MW-33, MW-34, MW-35, MW-36, MW-37, MW-38, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, MW-46, MW-51, MW-53, MW-59, MW-62, MW-67, MW-70, PWR-1, DW-1, DW-2, DW-3, DW-4, DW-5, DW-6, DW-7 and DW-9 Samples were collected by CES personnel (B. Ewing / M. Price). Groundwater sampling data sheets are included as Appendix B.



During the referenced sampling event, CES was unable to access monitoring wells MW-48, MW-49, MW-50, MW-54, MW-55, MW-60, MW-63 and MW-65. Monitoring wells MW-10 and MW-15 maintained free phase petroleum and were not sampled. Monitoring wells MW-1 and MW-5 did not maintain sufficient water columns to collect groundwater samples. CES also utilized a metal detector to locate the wells, however, the overgrown site conditions did not permit the location of the aforementioned monitoring wells.

CES sampled the monitoring wells, as part of the November, 11/12/13, sampling events, for the following chemical analyses: Benzene/Toluene/Ethylbenzene/Xylenes (BTEX), naphthalene, Methyl Tert-Butyl Ether (MTBE), Tert-Amyl Methyl Ether (TAME), Tert-Butyl Alcohol (TBA), and Tert-Amyl Alcohol (TAA).

During the sampling event CES collected duplicate samples of MW-2, MW-25, and MW-MW-30 on November 11, 12, and 13, 2014, respectively. Review of the duplicate samples collected from aforementioned monitoring well samples did not yield significant data gaps.

In addition to duplicate samples, CES also collected field blank samples at the conclusion of the sample events on November 11, 12, and 13, 2014. The samples were collected at the conclusion of the day to be representative of all samples that were collected during that day.

Table 2 presents the laboratory data for the submitted groundwater samples collected as part of this assessment. The groundwater isoconcentration maps are included as Figure 3. The groundwater elevation map is included as Figure 4.

### 3.0 Summary

During the corrective action activities performed at the subject property, CES conducted a comprehensive groundwater monitoring event, in an effort to determine the effectiveness of the current corrective action plan. The qualitative and quantitative data collected from recent assessment activities indicates the following regarding current site conditions;

- 1. An SSTL reduction value of 65.17% has been calculated for the monitoring wells that were sampled during this sampling event.
- 2. Free-phase petroleum was observed at monitoring wells MW-10 and MW-15.
- 3. Based on the results of the previous sampling events, CES is scheduled to install injection wells proximal to MW-10 and MW-15 to perform limited surfactant injection / extraction events. CES estimates well installation will begin in early March 2015 with injections following as soon as the permit to operate is received.



## **Tables**

Table 1: Summary of Groundwater Elevation Data Table 2: Summary of Groundwater Analytical Data Table 3: Site Specific Target Levels Summary



Facility Name:				sity Mart & Cloud		ι	JST Permit I			777 / 12352
Address:	236			lumbia, South Ca truction and F			Project Nu Elevation		7.0	547
Monitor Well	Well Depth	Scre	ened	Top of Casing	Date	Depth to	Depth to	Product	Product	Groundwate
Monitor Well	(ft)	Inte	erval	(ft)	Measured	Product (ft)	Water (ft)		Elevation (ft)	Elevation (ft
MW-1	27	17	27	93.89	4/2/2014	NA	DRY	NA	NA	DRY
		1			11/4/2014 4/2/2014	NA NA	DRY 21.12	NA NA	NA NA	DRY 73.58
MW-2	30	20	30	94.70	11/4/2014	NA NA	23.03	NA NA	NA NA	71.67
5.00A/ O	00	40	00	04.45	4/2/2014	NA	21.40	NA	NA	73.05
MW-3	29	19	29	94.45	11/12/2014	NA	23.16	NA	NA	71.29
MW-4	28	18	28	94.85	4/2/2014	NA	21.31	NA	NA	73.54
					11/11/2014 4/2/2014	NA NA	21.76 DRY	NA NA	NA NA	73.09 DRY
MW-5	26	16	26	95.26	11/11/2014	NA NA	DRY	NA NA	NA NA	DRY
N 40 A / C	20	-00	20	04.00	4/3/2014	NA NA	22.61	NA NA	NA NA	72.35
MW-6	30	20	30	94.96	11/11/2014	NA	23.98	NA	NA	70.98
MW-7	30	20	30	95.93	4/3/2014	NA	23.02	NA	NA	72.91
		-			11/11/2014 4/3/2014	NA NA	24.12 19.95	NA NA	NA NA	71.81 74.84
MW-8	28	18.5	28	94.79	11/11/2014	NA NA	21.43	NA NA	NA NA	73.36
MW-9	30	20	30	92.30	4/2/2014	NA	20.60	NA	NA	71.70
1V1VV-9	30	20	30	9∠.30	11/11/2014	NA	21.69	NA	NA	70.61
MW-10	28	18	28	85.98	4/1/2014	NA Interferen	17.69	NA 1 25 Ft -f	NA December 1	68.29
			A	000000000000000000000000000000000000000	11/11/2014 4/2/2014	Interface F NA	robe Failure 18.61	e - 1.25-Feet of I	Product Observ	ed in Bailer 69.85
MW-11	30	Unk	nown	88.46	11/11/2014	NA	19.38	NA NA	NA NA	69.08
NAVA 40	24.65	Onk		72.00	4/2/2014	NA	4.20	NA	NA	68.60
MW-12	24.65	Unk	nown	72.80	11/11/2014	NA	4.63	NA	NA	68.17
MW-13	30.1			80.44	4/1/2014	NA	11.13	NA	NA	69.31
	177543	Unk	nown	(E)(T)(E)(E)	11/11/2014 4/1/2014	NA 16.60	12.15 16.00	0.60	NA 69.84	68.29 70.88*
MW-15	25	15	25	86.44	11/11/2014	10000000	N	e - 0.25-Feet of	7 2501(0)-210	1 2000
MW-16	25	15	25	88.19	4/2/2014	NA	17.54	NA	NA	70.65
IVIVV-16	25	15	25	88.19	11/12/2014	NA	18.98	NA	NA	69.21
MW-17	22	20	30	92.45	4/2/2014	NA	22.00	NA	NA	70.45
	15262	1989974	5355	5-50-50-30-0	11/12/2014 4/2/2014	NA NA	23.45 23.68	NA NA	NA NA	69.00 71.13
MW-18	30	20	30	94.81	11/12/2014	NA NA	25.08	NA NA	NA NA	69.73
MW-19	30	20	30	93.96	4/3/2014	NA	23.33	NA	NA	70.63
10100-19	30	20	30	93.96	11/13/2014	NA	24.56	NA	NA	69.40
MW-20	25	15	25	94.12	4/3/2014	NA	21.95	NA NA	NA NA	72.17
					11/13/2014 4/3/2014	NA NA	23.28 21.11	NA NA	NA NA	70.84 73.14
MW-22	30	20	30	94.25	11/11/2014	NA NA	22.68	NA NA	NA NA	71.57
MW-23	30	20	30	94.43	4/3/2014	NA	23.65	NA	NA	70.78
10100-20		20	- 50	54.45	11/13/2014	NA	24.98	NA	NA	69.45
MW-25	25.6	Unk	nown	93.09	4/1/2014 11/10/2014	NA NA	19.71 21.60	NA NA	NA NA	73.38 71.49
		+			4/3/2014	NA NA	20.01	NA NA	NA NA	75.95
MW-26	30	Unk	nown	95.96	11/11/2014	NA	22.95	NA	NA	73.01
MW-27	30	15	30	91.40	4/1/2014	NA	14.65	NA	NA	76.75
41				5,.46	11/13/2014	NA	18.85	NA NA	NA	72.55
MW-28	30	15	30	91.46	4/1/2014 11/13/2014	NA NA	15.63 19.75	NA NA	NA NA	75.83 71.71
1.004/ 22				04.55	4/1/2014	NA NA	15.75	NA NA	NA NA	75.58
MW-29	30	15	30	91.09	11/13/2014	NA	19.92	NA	NA	71.17
MW-30	30	15	30	92.77	4/1/2014	NA	20.50	NA	NA	72.27
					11/10/2014	NA NA	22.90	NA NA	NA NA	69.87
MW-31	35	20	35	95.20	4/2/2014 11/12/2014	NA NA	24.41 26.36	NA NA	NA NA	70.79 68.84
NAVA / 00	00	45		00.07	4/2/2014	NA NA	21.28	NA NA	NA NA	71.59
MW-32	30	15	30	92.87	11/12/2014	NA	23.16	NA	NA	69.71
MW-33	35	20	35	93.84	4/1/2014	NA	23.18	NA	NA	70.66
					11/12/2014	NA NA	24.65	NA NA	NA NA	69.19
MW-34	35	20	35	94.77	4/1/2014 11/12/2014	NA NA	24.06 25.49	NA NA	NA NA	70.71 69.28

Facility Name:				sity Mart & Clouds			JST Permit I	D:	07584 / 07777 / 12352			
Address:	236			lumbia, South Ca			Project Nu		7.0547			
7	Well Depth		II Cons	truction and H Top of Casing	listorical Gr Date	Oundwater  Depth to	Elevation Depth to	Summary	Product	Groundwater		
Monitor Well	(ft)	10-10-01	erval	(ft)	Measured	Product (ft)	Water (ft)	Thickness (ft)	Elevation (ft)	Elevation (ft)		
MW-35	35	20	35	93.71	4/1/2014	NA	21.35	NA	NA	72.36		
					11/12/2014 4/1/2014	NA NA	24.66 22.84	NA NA	NA NA	69.05 71.05		
MW-36	35	20	35	93.89	11/12/2014	NA NA	24.72	NA NA	INA	69.17		
MW-37	35	20	35	93.78	4/1/2014	NA	22.24	NA	NA	71.54		
2000000 28600 2000000000000	1088000 548704	2583000 0000000	5-865A	002402000	11/12/2014 4/1/2014	NA NA	24.87 24.61	NA NA	NA NA	68.91 70.92		
MW-38	35	20	35	95.53	11/12/2014	NA NA	26.17	NA NA	NA NA	69.36		
MW-39	35	20	35	96.19	4/2/2014	NA NA	25.59	NA NA	NA NA	70.60		
		-			11/12/2014 4/2/2014	NA NA	27.36 25.29	NA NA	NA NA	68.83 70.40		
MW-40	35	20	35	95.69	11/12/2014	NA	27.01	NA	NA	68.68		
MW-41	35	20	35	94.85	4/1/2014 11/11/2014	NA NA	24.70 26.99	NA NA	NA NA	70.15 67.86		
1817.40	6.5		05	05.04	4/1/2014	NA NA	25.35	NA NA	NA NA	70.46		
MW-42	35	20	35	95.81	11/12/2014	NA	27.22	NA	NA	68.59		
MW-43	40	20	40	95.15	4/2/2014 11/11/2014	NA NA	24.00 25.61	NA NA	NA NA	71.15 69.54		
NAV 44	24	40	31	04.57	4/1/2014	NA	24.42	NA NA	NA NA	70.15		
MW-44	31	16	31	94.57	11/11/2014	NA	24.23	NA	NA	70.34		
MW-45	30	15	30	92.51	4/1/2014 11/11/2014	NA NA	21.22 22.63	NA NA	NA NA	71.29 69.88		
MW-46	35	20	35	94.50	4/1/2014	NA NA	23.55	NA NA	NA	70.95		
IVIVV-46	ან	20	35	94.50	11/11/2014	NA	24.95	NA	NA	69.55		
MW-48	30	15	30	89.95	4/2/2014 11/11/2014	NA	19.70 Unabl	NA e to Access - Lo	NA cked Gate	70.25		
MW-49	30	15	30	88.18	4/2/2014			e to Access - Lo				
14144-40	50	10	- 50	00.10	11/11/2014		Onabi	e to Access - Lo	cked Oate			
MW-50	30	15	30	84.09	4/2/2014 11/11/2014		Unabl	e to Access - Lo	cked Gate			
MW-51	35	20	35	93.91	4/2/2014	NA	21.23	NA	NA	72.68		
	19475		-		11/11/2014 4/3/2014	NA NA	24.29 9.60	NA NA	NA NA	69.62 70.00		
MW-53	20	5	20	79.60	11/11/2014	NA	11.02	NA	NA NA	68.58		
MW-54	20	5	20	77.58	4/1/2014	NA	11.31	NA .	NA .	66.27		
					11/11/2014 4/3/2014	NA	2.51	to Locate - Ove	NA	68.71		
MW-55	14	4	14	71.22	11/11/2014			to Locate - Ove		L'O Control Control Control		
MW-56	20	5	20	76.39	4/3/2014 11/11/2014	NA	5.12	NA to Locate - Ove	NA Farour Field	71.27		
MM/ 50	40		40	70.07	4/2/2014		Unable					
MW-58	19	4	19	76.37	11/11/2014			Abandoned				
MW-59	17	2	17	68.02	4/2/2014 11/11/2014	NA NA	6.05 6.69	NA NA	NA NA	61.97 61.33		
MW-60	14	4	14	67.94	4/2/2014	INA	0.00	Unable to Loc	- 100 - 100	01.00		
10100-00	1.7		1.7	07.54	11/11/2014	NA	1 22 22	Notice of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the se	All towards	71.72		
MW-62	35	20	35	94.05	4/1/2014 11/12/2014	NA NA	22.32 24.75	NA NA	NA NA	71.73 69.30		
MW-63	35	20	35	94.65	4/2/2014	NA	23.07	NA	NA	71.58		
			- 55	0.1.00	11/12/2015 4/2/2014			Unable to Loc	ate			
MW-65	35	20	35	94.04	11/11/2014		Unab	le to Locate - Pa	aved over			
MW-67	35	20	35	96.10	4/1/2014	NA	24.44	NA	NA	71.66		
	5 <u>8</u> 82	CORNERS CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTRO	TELES	22022	11/12/2014 4/2/2014	NA NA	27.28 24.70	NA NA	NA NA	68.82 70.79		
MW-70	35	20	35	95.49	11/11/2014	NA	26.22	NA	NA	69.27		
MW-5AR	28	18	28	94.18	4/1/2014	NA NA	21.24	NA NA	NA NA	72.94		
D.W. (-					11/13/2014 4/3/2014	NA NA	22.64 23.11	NA NA	NA NA	71.54 70.64		
PW-1R	50	45	50	93.75	11/13/2014	NA	23.92	NA	NA	69.83		
DW-1	70	65	70	94.66	4/2/2014	NA NA	45.00	NA NA	NA NA	49.66		
DW/ C	75	70	75	04.00	11/10/2014 4/2/2014	NA NA	45.42 44.34	NA NA	NA NA	49.24 49.68		
DW-2	75	70	75	94.02	11/11/2014	NA	44.88	NA	NA	49.14		

					Table '	1					
Facility Name:	Handy P	antry #65	/ Univer	sity Mart & Clouds	Chevron	L	JST Permit I	D:	07584 / 07	777 / 12352	
Address:	2367	Taylor :	Street Co	lumbia, South Ca	rolina	CES	Project Nu	mber:	7.0547		
		Wel	I Const	ruction and H	listorical Gr	oundwater	Elevation	Summary			
Monitor Well	Well Depth		ened	Top of Casing	Date	Depth to	Depth to	Product	Product	Groundwater	
Monitor Well	(ft)	Inte	erval	(ft)	Measured	Product (ft)	Water (ft)	Thickness (ft)	Elevation (ft)	Elevation (ft)	
DW-3	52	47	52	93.75	4/3/2014	NA	24.40	NA	NA	69.35	
DW-3	52	47	52	93.75	11/13/2014	NA	24.42	NA	NA	69.33	
DW-4	110	105	110	93.79	4/3/2014	NA	44.60	NA	NA	49.19	
DVV-4	110	105	1	93.79	11/13/2014	NA	3.45	NA	NA	90.34	
DW-5	70	65	70	93.74	4/1/2014	NA	44.22	NA	NA	49.52	
DVV-5	70	65	7	93.74	11/12/2014	NA	44.75	NA	NA	48.99	
DW-6	70	65	70	95.90	4/1/2014	NA	45.86	NA	NA	50.04	
DVV-6	70	65	7	95.90	11/12/2014	NA	46.64	NA	NA	49.26	
DW-7	55	50	55	72.79	4/3/2014	NA	24.00	NA	NA	48.79	
DVV-7	55	50	5	12.19	11/11/2014	NA	24.75	NA	NA	48.04	
DW-8	55	50	55	68.63	4/2/2014			Abandoned		<i>'</i>	
DVV-6	55	50	55	08.03	11/11/2014			Abandoned			
DW-9	65	60	65	76.47	4/2/2014	NA	25.00	NA	NA	51.47	
DW-9	05	00	5	70.47	11/11/2014	NA	24.44	NA	NA	52.03	

INA = Information not available

<sup>\* =</sup> GW Elevation Corrected for The Presence of Free Product n/a = not applicable



acility Name: Address:	Handy Pantry # 2367 Taylor Str	reet Columbi	ia, South Ca	louds Chevron rolina	Table 2 ry Analytical R	Crawford	ST Project No. nary	07584 / 07777 / 12352 7.0547			
Well ID:	Date:	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	Naphthalene	TAA	TAME	TBA	
MW-1	4/2/2014 11/11/2014		W			Dry					
	4/2/2014	170	41	200	960	320	150	230	1	6.8	
MW-2	11/4/2014	140	300	220	1300	410	160	210	<10	<10	
MMA/ 2	4/2/2014	6900	18000	1200	16000	1800	600	980	560.000	340	
MW-3	11/12/2014	4600	11000	620	8700	1300	280	<5000	310.000	<500	
MW-4	4/2/2014	<1	<1	<1	<1	3.5	<5	<100	10.000	<10	
10100-4	11/11/2014	<1	<1	<1	<1	1.6	<5	<100	<10	<100	
MW-5	4/2/2014					Dry					
510 FEB 1511	11/11/2014		7100		W-2						
MW-6	4/3/2014	2.6	<1	2.4	10	2.5	4.2	<100	<10	<10	
20.000000000000000000000000000000000000	11/11/2014	<1	<1	<1	<1	0.8	<5	<100	<10	<10	
MW-7	4/3/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
	11/11/2014	0.71	<1	<1	<1	<1	<5	<100	<10	<10	
MW-8	4/3/2014	<1	<1 <1	<1 <1	<1 <1	<1 <1	<5	<100	<10	<10 <10	
40350W 000	11/11/2014	<1					<5	<100	<10		
MW-9	4/2/2014	830	7500	1700	14000	50	590	1700	5000	500	
**********	11/11/2014	380 1800	11000 5700	1900	13000	5 50	650	1100	<10 500.000	<10	
MW-10	4/1/2014 11/11/2014	1800	3/00	350	8500 1.25-Fee	t of Free Produ	690	5000	500.000	500	
	4/2/2014	2.3	4.1	11	4.1	<1	4.4	120	<10	<10	
MW-11	11/11/2014	0.53	4.1 <1	<1	4.1 <1	<1	4.4 <5	80	<10	<10 58	
	4/2/2014	2.9	0.67	1.6	0.91	18	4.7	630	9.300	<10	
MW-12	11/11/2014	990	19	910	140	21	180	3600	14.000	<10	
	4/1/2014	0.62	8.8	4.5	86	<1	31	10	<10	<10	
MW-13	11/11/2014	<1	<1	4.5	<1	<1	<5	<100	<10	<10	
		<u> </u>	<u> </u>			et of Free Produ		< 100	<10	<   C	
MW-15	4/1/2014 11/11/2014	<u> </u>				t of Free Produ					
		-11	<1	<1	<1 <1		3.4	<100	<10	<10	
MW-16	4/2/2014 11/12/2014	<1 <1	<1	<1	<1	<1 <1	<5	<100	<10	<10	
	4/2/2014	280	5100	450	13000	50	850	2200	500.000	500	
MW-17	11/12/2014	32	3000	450	8300	<10	690	270	<100	<10	
	4/2/2014	1900	7200	630	8300	340	370	4900	70.000	500	
MW-18	11/12/2014	3100	11000	560	8700	510	290	12000	<1000	<100	
23-200-00-10	4/3/2014	300	1800	490	12000	50	900	610	500.000	500	
MW-19	11/13/2014	1400	2800	1600	24000	<50	1400	1300	<50	<50	
	4/3/2014	1800	11000	460	11000	50	960	3100	65.000	500	
MW-20	11/13/2014	1400	12000	500	14000	120	1100	<10000	<1000	<100	
	4/3/2014	5700	12000	880	23000	50	990	3600	500.000	500	
MW-22	11/11/2014	6300	23000	700	21000	<20	1200	9600	<20	<14	
-2420-000-0	4/3/2014	4200	16000	880	19000	120	1100	5900	500.000	500	
MW-23	11/13/2014	890	3600	450	16000	<50	1200	1500	<50	<34	
	4/1/2014	5.5	200	320	4400	<1	1300	170	<10	<10	
MW-25	11/10/2014	38	140	200	2600	1.9	490	2800	<10	<10	
1 MA / CO	4/3/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
MW-26	11/11/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
A 40 A / C 7	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
MW-27	11/13/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
MM4 20	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
MW-28	11/13/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
M/M/ 20	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
MW-29	11/13/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
M/M/ 20	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
MW-30	11/10/2014	<1	<1	<1	<1	<1	<5	<100	<10	<10	
NAVA/ 24	4/2/2014	0.9	<1	<1	<1	2.7	<5	59	<10	<10	
MW-31	11/12/2014	30	9.8	310	9.3	4.1	160	460	<10	<10	
MW 33	4/2/2014	0.94	<1	1.9	2.4	<1	6.6	170	<10	<10	
MW-32	11/12/2014	4	13	72	10	<1	45	<100	<10	<10	
MW-33	4/1/2014	560	5200	2500	6900	50	670	4100	500.000	500	
IVIVV-33	11/12/2014	130	410	210	550	1.2	71	1000	<10	<10	
MW-34	4/1/2014	<1	<1	<1	<1	<1	<5	39	<10	<10	
10100-34	11/12/2014	<1	<1	<1	<1	<1	<5	39	<10	<10	
MW-35	4/1/2014	3700	4300	2000	6200	160	550	5600	54.000	500	

acility Name: Address:	Handy Pantry ‡ 2367 Taylor Sti	eet Columbi	a, South Ca	louds Chevron rolina	Table 2 ry Analytical R	Crawford	IST Project No. n <b>ary</b>	07584 / 07777 / 12352 7.0547				
Well ID:	Date:	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	Naphthalene	TAA	TAME	TB		
MW-36	4/1/2014	5.1	<1	38	<1	<1	55	96	<10	<1		
11111 00	11/12/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
MW-37	4/1/2014	<1	<1	<1	<1	<1	3.7	<100	<10	<1		
	11/12/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
MW-38	4/1/2014 11/12/2014	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<5 <5	<100 <100	<10 <10	<1 <1		
	4/2/2014	<1	3.2	2.2	14	<1	3.3	<100	<10	<1		
MW-39	11/12/2014	11	1500	1000	3700	<1	340	220	<10	<1		
12/20/20 17/2	4/2/2014	5.8	14	2	580	<1	24	<100	<10	<1		
MW-40	11/12/2014	140	970	300	2900			600	<10	<1		
NAVA 44	4/1/2014	<1	<1	<1	<5	<100	<10	<1				
MW-41	11/11/2014	<1	<1	<5	<100	<10	<1					
MW-42	4/1/2014	<1	<1	<5	<100	<10	<1					
1V1VV -44Z	11/12/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
MW-43	4/2/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
BORDON BOT	11/11/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
MW-44	4/1/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
and the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of th	11/11/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
MW-45	4/1/2014	<1	<1	<1	<1	<1	<5 <5	<100	<10	<1		
	11/11/2014	<1 <1	<1 <1	<1	<1	<1		<100 <100	<10 <10	<1 <1		
MW-46	4/1/2014 11/11/2014	<1	<1 <1	<1 <1	<1 <1	<1 <1	<5 <5	<100	<10	<1 <1		
etheral headers.	4/2/2014	<1	<1	<1	<1	<1	<5 <5	<100	<10	<1		
MW-48	11/11/2014		- 51	>1	1,50,000	ccess - Locked		~100	<b>\10</b>	<u> </u>		
52 (20/50) 780	4/2/2014				E882 116824 6884 VAN	W 83 3	8: 100 D					
MW-49	11/11/2014				Unable to A	ccess - Locked	d Gate					
	4/2/2014				I I populari de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante de l'acceptante d		1.0					
MW-50	11/11/2014				Unable to A	ccess - Locked	i Gate					
MM/E1	4/2/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
MW-51	11/11/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
MW-53	4/3/2014	<1	<1	<1	<1	<1	4.1	<100	<10	<1		
	11/11/2014	<1	<1	<1	<1	<1	4.1	<100	<10	<1		
MW-54	4/1/2014	<1	<1	<1	<1	9.6	<5	<100	6.700	<1		
1000 000 000 <del> 1000 00</del> 00 000 000 000 000 000 000 000	11/11/2014	40		0.5		ble to Locate	1 00	00	0.400			
MW-55	4/3/2014	10	1	3.5	<1 Una	blo to Locato	3.9	98	6.400	<1		
	11/11/2014	<1	<1	<1	Unai <1	ble to Locate <1	<5	50	<10	<1		
MW-56	4/3/2014 11/11/2014	<u> </u>	71	81	A1000	ble to Locate	<2	90	×10	<		
	4/2/2014				10/10/20/10/20	24						
MW-58	11/11/2014				Α	bandoned						
2 2 2 2 2 2	4/2/2014	28	2.8	300	6.4	130	45	2600	42.000	16		
MW-59	11/11/2014	81	3.6	730	14	91	96	4500	27.000	<1		
M/M/ CO	4/2/2014			1000 Te 850								
MW-60	11/11/2014				Unai	ble to Locate						
MW-62	4/1/2014	0.86	<1	<1	<1	3	3.3	260	<10	<1		
19199-02	11/12/2014	51	<1	<1	0.93	2.6	65	730	<10	<1		
MW-63	4/2/2014	<1	<1	<1	<1	<1	5	120	<10	<1		
	11/12/2014					ble to Locate						
MW-65	4/2/2014					ocate - Paved						
	11/11/2014	-24	-11	-1		ocate - Paved		<b>~100</b>	<b>410</b>	-4		
MW-67	4/1/2014	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	5 <5	<100 <100	<10 <10	<1 <1		
	11/12/2014 4/2/2014	<1	<1	<1	<1	<1	5	<100	<10	<1		
MW-70	11/11/2014	<1	<1	<1	<1	<1	1.5	<100	<10	<1		
Valley aparticular value	4/1/2014	12000	13000	2400	13000	70	1000	<5000	160.000	<50		
MW-5AR	11/13/2014	830	180	98	670	13	130	<100	13.000	<1		
DIM (=	4/3/2014	460	3400	320	9200	<50	<250	710	<500	<50		
PW-1R	11/13/2014	850	6900	580	18000	<50	1300	<5000	<500	<50		
DW/ 4	4/2/2014	0.45	1.2	1.7	7.2	<1.0	<5.0	<100	<10	<1		
DW-1	11/10/2014	<1	<1	<1	<1	<1	<5	<100	<10	<1		
DW-2	4/2/2014	<1.0	<1.0	<1.0	<1.0	7.1	4.1	<100	<10	<1		
DVV-2	11/11/2014	<1	<1	<1	<1	10	<5	<100	<10	<1		
DW-3	4/3/2014	9800	22000	3700	17000	990	780	10000	190.000	<50		
	11/13/2014	2000	20000	2800	10000	23	650	2700	<20	<1		

				3	Table 2					
Facility Name: Address:	Handy Pantry # 2367 Taylor Str	reet Columbi	a, South Ca	arolina	y Analytical Re	Crawford	JST Project No. <b>nary</b>	07584 / 07777 / 12352 7.0547		
Well ID:	Date:	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	Naphthalene	TAA	TAME	TBA
DW-4	4/3/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100
DVV-4	11/13/2014	<1	1	<1	<1	<1	<5	<100	<10	<100
DW F	4/1/2014	3300	68	37	1000	940	81	4300	83.000	<100
DW-5	11/12/2014	6700	380	240	3100	1400	190	5300	110.000	<100
DW-6	4/1/2014	8.5	1.2	1.6	7.2	3	5	<100	<10	<100
DW-6	11/12/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100
DW 7	4/3/2014	0.52	0.46	<1.0	1.4	2.6	4.2	<100	<10	<100
DW-7	11/11/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100
DW-8	4/2/2014	-	45	*	A I-		-			
DVV-8	11/11/2014				Ab	andoned				
DW 0	4/2/2014	<1	<1	<1	<1	<1	<5	<100	<10	<100
DW-9	11/11/2014	<1	2.8	<1	<1	<1	<5	<100	<10	<100
CW/ 4	4/2/2014	180	8.4	30	53	42	6.5	350	9.500	100
SW-1	11/12/2014				Unable to Acce	Access - Overgrown Brush				

BDL= Below Detectable Limit RBSL= Risk Based Screening Levels NE= Not Established



1,2 DCA = 1,2 Dichloroethane
J = Estimated value detected below reporting limit

	Facility Name: Address:			dy Pantry #65 / U 2367 Taylor Stree <b>Si</b> t	et Columbia,		1	ary			JST Project No.	07584 / 07777 / 12352 7.0547
Well ID:	14	D	Tabaaaa	E4b.db.ssess	Xylenes	MTDE	Nambah	TA A	TAME	TDA	T-4-1	
well iD:	Item	Benzene	Toluene	Ethylbenzene	(Total)	MTBE	Naphth	TAA	TAME	TBA	Total	
	Initial	140.0	280.0	56.0	460.0	380.0	54.0	200.0	9.2	140.0	1719.2	
	SSTL	77.0	280.0	56.0	460.0	380.0	54.0	200.0	9.2	140.0	1656.2	4
MW-2	Initial > SSTL	63.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.0	-1857.14%
	Subsequent	140.0	300.0	220.0	1300.0	410.0	160.0	210.0	1.0	6.8	2747.8	
	SSTL Subsequent > SSTL	77.0 63.0	280.0 20.0	56.0	460.0 840.0	380.0 30.0	54.0	200.0	9.2	140.0	1656.2 1233.0	
	SATISFACE CONTRACTOR SATURDS			164.0			106.0	10.0		0.0		
	Initial	3000.0	7400.0	260.0	4500.0	3300.0	260.0	2000.0	340.0	1300.0	22360.0	
	SSTL	111.0	7400.0	260.0	4500.0	1976.0	108.0	2000.0	340.0	1300.0	17995.0	
MW-3	Initial > SSTL	2889.0	0.0	0.0	0.0	1324.0	152.0	0.0	0.0	0.0	4365.0	-194%
	Subsequent	4600.0	11000.0	620.0	8700.0	1300.0	280.0	480.0	310.0	340.0	27630.0	20 200
	SSTL	111.0	7400.0	260.0	4500.0	1976.0	108.0	2000.0	340.0	1300.0	17995.0	
	Subsequent > SSTL	4489.0	3600.0	360.0	4200.0	0.0	172.0	0.0	0.0	0.0	12821.0	
	Initial	50.0	50.0	50.0	30.5	946.0	50.0	1000.0	100.0	1000.0	3276.5	4
	SSTL	50.0	50.0	50.0	30.5	946.0	50.0	1000.0	100.0	1000.0	3276.5	1
MW-5	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Dry
A	Subsequent					Dry						1517
	SSTL	50.0	50.0	50.0	30.5	946.0	50.0	1000.0	100.0	1000.0	3276.5	
	Subsequent > SSTL					Dry						
	Initial	4100.0	27000.0	2500.0	19000.0	150.0	960.0	1600.0	2000.0	20000.0	77310.0	
	SSTL	35.0	7134.0	2500.0	19000.0	150.0	68.0	809.0	270.0	15628.0	45594.0	
MW-9	Initial > SSTL	4065.0	19866.0	0.0	0.0	0.0	892.0	791.0	1730.0	4372.0	31716.0	84%
	Subsequent	380.0	11000.0	1900.0	13000.0	5.0	650.0	1100.0	1.0	6.8	28042.8	3170
	SSTL	35.0	7134.0	2500.0	19000.0	150.0	68.0	809.0	270.0	15628.0	45594.0	
	Subsequent > SSTL	345.0	3866.0	0.0	0.0	0.0	582.0	291.0	0.0	0.0	5084.0	
	Initial	740.0	7800.0	2500.0	15000.0	2500.0	950.0	50000.0	5000.0	50000.0	134490.0	
	SSTL	24.0	7800.0	2500.0	15000.0	294.0	53.0	793.0	707.0	11042.0	38213.0	
MW-10	Initial > SSTL	716.0	0.0	0.0	0.0	2206.0	897.0	49207.0	4293.0	38958.0	96277.0	Free Product
	Subsequent											
	SSTL	24.0	7800.0	2500.0	15000.0	294.0	53.0	793.0	707.0	11042.0	38213.0	
	Subsequent > SSTL											
	Initial	1.7	5.0	11.0	5.0	5.6	4.7	370.0	1.5	19.0	423.5	
	SSTL	1.7	5.0	11.0	5.0	5.6	4.7	370.0	1.5	19.0	423.5	1
MW-12	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-546850%
11111	Subsequent	990.0	19.0	910.0	140.0	21.0	180.0	3600.0	14.0	6.8	5880.8	04000070
	SSTL	1.7	5.0	11.0	5.0	5.6	4.7	370.0	1.5	19.0	423.5	1
	Subsequent > SSTL	988.3	14.0	899.0	135.0	15.4	175.3	3230.0	12.5	0.0	5469.5	
	Initial					Free Prod						
	SSTL	16.0	3198.0	3700.0	21680.0	730.0	45.0	492.0	199.0	5838.0	35898.0	]
MW-15	Initial > SSTL											Free Product
17177-13	Subsequent											1 Too Product
	SSTL	16.0	3198.0	3700.0	21680.0	730.0	45.0	492.0	199.0	5838.0	35898.0	
	Subsequent > SSTL										0.0	

	Facility Name: Address:			ly Pantry #65 / U 2367 Taylor Stree	et Columbia		а	anv			JST Project No.	07584 / 07777 / 12352 7.0547
				- 31		c ranger Lev	ei Suillill	ary				
Well ID:	Item	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	Naphth	TAA	TAME	TBA	Total	
	Initial	1400.0	26000.0	2500.0	23000.0	1000.0	1000.0	9400.0	2000.0	20000.0	86300.0	
	SSTL	32.0	6631.0	2500.0	21680.0	1000.0	66.0	773.0	263.0	14286.0	47231.0	
MW-17	Initial > SSTL	1368.0	19369.0	0.0	1320.0	0.0	934.0	8627.0	1737.0	5714.0	39069.0	98%
IVIVV-17	Subsequent	32.0	3000.0	450.0	8300.0	4.2	690.0	270.0	10.0	68.0	12824.2	98%
	SSTL	32.0	6631.0	2500.0	21680.0	1000.0	66.0	773.0	263.0	14286.0	47231.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	624.0	0.0	0.0	0.0	624.0	
	Initial	1900.0	7200.0	630.0	8300.0	340.0	370.0	4900.0	70.0	5000.0	28710.0	
	SSTL	40.0	19326.0	3700.0	21680.0	4260.0	348.0	938.0	4989.0	54462.0	109743.0	
MW-18	Initial > SSTL	1860.0	0.0	0.0	0.0	0.0	22.0	3962.0	0.0	0.0	5844.0	-142%
IVIVV-18	Subsequent	3100.0	11000.0	560.0	8700.0	510.0	290.0	12000.0	100.0	680.0	36940.0	-142%
	SSTL	40.0	19326.0	3700.0	21680.0	4260.0	348.0	938.0	4989.0	54462.0	109743.0	
	Subsequent > SSTL	3060.0	0.0	0.0	0.0	0.0	0.0	11062.0	0.0	0.0	14122.0	
	Initial	300.0	1800.0	490.0	12000.0	50.0	900.0	610.0	500.0	5000.0	21650.0	
	SSTL	54.0	11081.0	3700.0	21680.0	16080.0	86.0	1065.0	320.0	26814.0	80880.0	
MW-19	Initial > SSTL	246.0	0.0	0.0	0.0	0.0	814.0	0.0	180.0	0.0	1240.0	-115%
10100-19	Subsequent	1400.0	28000.0	1600.0	24000.0	21.0	1400.0	1300.0	50.0	340.0	58111.0	-115%
	SSTL	54.0	11081.0	3700.0	21680.0	16080.0	86.0	1065.0	320.0	26814.0	80880.0	
	Subsequent > SSTL	1346.0	0.0	0.0	0.0	0.0	1314.0	0.0	0.0	0.0	2660.0	
	Initial	412.0	2930.0	728.0	8820.0	88.7	817.0	2850.0	200.0	2000.0	18845.7	
	SSTL	83.0	2930.0	728.0	8820.0	88.7	108.0	1403.0	200.0	2000.0	16360.7	
MW-20	Initial > SSTL	329.0	0.0	0.0	0.0	0.0	709.0	1447.0	0.0	0.0	2485.0	-566%
10100-20	Subsequent	1400.0	12000.0	500.0	14000.0	120.0	1100.0	950.0	100.0	680.0	30850.0	-500 %
	SSTL	83.0	2930.0	728.0	8820.0	88.7	108.0	1403.0	200.0	2000.0	16360.7	
	Subsequent > SSTL	1317.0	9070.0	0.0	5180.0	0.0	992.0	0.0	0.0	0.0	16559.0	
	Initial	3300.0	17000.0	2900.0	20000.0	1000.0	640.0	6200.0	130.0	20000.0	71170.0	
	SSTL	90.0	17000.0	2900.0	20000.0	1000.0	112.0	1469.0	130.0	20000.0	62701.0	
MW-22	Initial > SSTL	3210.0	0.0	0.0	0.0	0.0	528.0	4731.0	0.0	0.0	8469.0	-93%
10100-22	Subsequent	6300	23000	700	21000	20	1200	9600	20.000	140	61980.0	-93 /6
	SSTL	90.0	17000.0	2900.0	20000.0	1000.0	112.0	1469.0	130.0	20000.0	62701.0	
	Subsequent > SSTL	6210.0	0.0	0.0	1000.0	0.0	1088.0	8131.0	-110.0	0.0	16319.0	
	Initial	4200.0	16000.0	880.0	19000.0	120.0	1100.0	5900.0	500.0	5000.0	52700.0	
	SSTL	72.0	14880.0	3700.0	21680.0	33368.0	100.0	1279.0	359.0	38475.0	113913.0	
MW-23	Initial > SSTL	4128.0	1120.0	0.0	0.0	0.0	1000.0	4621.0	141.0	0.0	11010.0	81%
10100-23	Subsequent	890.0	3600.0	450.0	16000.0	21.0	1200.0	1500.0	50.0	340.0	24051.0	0170
	SSTL	72.0	14880.0	3700.0	21680.0	33368.0	100.0	1279.0	359.0	38475.0	113913.0	
	Subsequent > SSTL	818.0	0.0	0.0	0.0	0.0	1100.0	221.0	0.0	0.0	2139.0	
	Initial	5000.0	3000.0	1900.0	23000.0	5000.0	5000.0	100000.0	10000.0	100000.0	252900.0	
	SSTL	104.0	3000.0	1900.0	23000.0	5000.0	121.0	1612.0	415.0	60494.0	95646.0	
MW-25	Initial > SSTL	4896.0	0.0	0.0	0.0	0.0	4879.0	98388.0	9585.0	39506.0	157254.0	99%
IVIVV-25	Subsequent	38.0	140.0	200.0	2600.0	1.9	490.0	2800.0	1.0	6.8	6277.7	997o
	SSTL	104.0	3000.0	1900.0	23000.0	5000.0	121.0	1612.0	415.0	60494.0	95646.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	369.0	1188.0	0.0	0.0	1557.0	1

	Facility Name: Address:			dy Pantry #65 / U 2367 Taylor Stre <b>Si</b>	et Columbia te Specifi		а	ary			JST I Project No.	07584 / 07777 / 12352 7.0547
Well ID:	Item	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	Naphth	TAA	TAME	TBA	Total	
	Initial	57.0	90.0	520.0	250.0	12.0	210.0	510.0	50.0	500.0	2199.0	
	SSTL	51.0	90.0	520.0	250.0	12.0	210.0	510.0	50.0	500.0	2193.0	
	Initial > SSTL	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	
MW-31	Subsequent	30.0	9.8	310.0	9.3	4.1	160.0	460.0	1.0	6.8	991.0	100%
	SSTL	51.0	90.0	520.0	250.0	12.0	210.0	510.0	50.0	500.0	2193.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Initial	520.0	7200.0	1500.0	7200.0	500.0	410.0	3200.0	1000.0	10000.0	31530.0	
	SSTL	53.0	7200.0	1500.0	7200.0	500.0	410.0	1136.0	1000.0	10000.0	28999.0	
	Initial > SSTL	467.0	0.0	0.0	0.0	0.0	0.0	2064.0	0.0	0.0	2531.0	
MW-33	Subsequent	130.0	410.0	210.0	550.0	1.2	71.0	1000.0	1.0	6.8	2380.0	97%
	SSTL	53.0	7200.0	1500.0	7200.0	500.0	410.0	1136.0	1000.0	10000.0	28999.0	
	Subsequent > SSTL	77.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77.0	
	Initial	4400.0	2000.0	1700.0	3500.0	300.0	580.0	5300.0	51.0	5000.0	22831.0	
	SSTL	56.0	2000.0	1700.0	3500.0	300.0	542.0	1181.0	51.0	5000.0	14330.0	
	Initial > SSTL	4344.0	0.0	0.0	0.0	0.0	38.0	4119.0	0.0	0.0	8501.0	
MW-35	Subsequent	6000.0	7200.0	2800.0	7400.0	330.0	700.0	4700.0	76.0	340.0	29546.0	-133%
	SSTL	56.0	2000.0	1700.0	3500.0	300.0	542.0	1181.0	51.0	5000.0	14330.0	
	Subsequent > SSTL	5944.0	5200.0	1100.0	3900.0	0.0	158.0	3519.0	25.0	0.0	19846.0	
	Initial	240.0	34.0	270.0	240.0	11.0	220.0	850.0	50.0	44.0	1959.0	
	SSTL	90.0	34.0	270.0	240.0	11.0	220.0	850.0	50.0	44.0	1809.0	1
	Initial > SSTL	150.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	150.0	4000/
MW-37	Subsequent	0.4	0.4	0.4	0.8	0.4	0.2	9.5	1.0	6.8	19.9	100%
	SSTL	90.0	34.0	270.0	240.0	11.0	220.0	850.0	50.0	44.0	1809.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Initial	13.0	1300.0	460.0	4200.0	250.0	330.0	5000.0	500.0	5000.0	17053.0	
	SSTL	13.0	1300.0	460.0	4200.0	250.0	330.0	1607.0	500.0	5000.0	13660.0	
MAY 20	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	3393.0	0.0	0.0	3393.0	4000/
MW-39	Subsequent	11.0	1500.0	1000.0	3700.0	0.4	340.0	220.0	1.0	6.8	6779.2	100%
	SSTL	13.0	1300.0	460.0	4200.0	250.0	330.0	1607.0	500.0	5000.0	13660.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Initial	290.0	2900.0	650.0	7100.0	500.0	530.0	10000.0	1000.0	10000.0	32970.0	
	SSTL	113.0	2900.0	650.0	7100.0	500.0	530.0	1876.0	1000.0	10000.0	24669.0	
MW-40	Initial > SSTL	177.0	0.0	0.0	0.0	0.0	0.0	8124.0	0.0	0.0	8301.0	100%
MW-40	Subsequent	140.0	970.0	300.0	2900.0	12.0	150.0	600.0	1.0	6.8	5079.8	100%
	SSTL	113.0	2900.0	650.0	7100.0	500.0	530.0	1876.0	1000.0	10000.0	24669.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Initial	260.0	1000.0	1100.0	1000.0	1000.0	420.0	20000.0	2000.0	20000.0	46780.0	
	SSTL	257.0	1000.0	1100.0	1000.0	1000.0	420.0	3234.0	2000.0	20000.0	30011.0	1
BANA/ 44	Initial > SSTL	3.0	0.0	0.0	0.0	0.0	0.0	16766.0	0.0	0.0	16769.0	100%
MW-41	Subsequent	0.4	0.4	0.4	0.4	0.4	0.2	9.5	1.0	6.8	19.5	100%
	SSTL	257.0	1000.0	1100.0	1000.0	1000.0	420.0	3234.0	2000.0	20000.0	30011.0	1
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1

						Table 3												
	Facility Name:		Hand	dy Pantry #65 / U	Iniversity Ma	rt & Clouds Ch	evron	ι	JST	07584 / 07777 / 12352								
	Address:		2	2367 Taylor Stre							Project No.	7.0547						
				Si		c Target Lev	el Summ	ary										
	********				Xylenes													
Well ID:	Item	Benzene	Toluene	Ethylbenzene	(Total)	MTBE	Naphth	TAA	TAME	TBA	Total							
	Initial	5.0	5.0	5.0	5.0	5.0	5.0	100.0	10.0	100.0	240.0							
	SSTL	5.0	5.0	5.0	5.0	5.0	5.0	110.0	2.0	14.0	156.0							
MW-54	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	86.0	94.0	Unable to Locate						
	Subsequent							440.0			150.0							
	SSTL	5.0	5.0	5.0	5.0	5.0	5.0	110.0	2.0	14.0	156.0							
	Subsequent > SSTL	4.0	05.0	20.0	05.0	00.0	44.0	4000.0	45.0	100.0	2222.2							
	Initial	4.8	25.0	20.0	25.0	93.0	11.0	1800.0	15.0	100.0	2093.8							
	SSTL Initial > SSTL	4.8 0.0	25.0 0.0	20.0	25.0 0.0	51.0 42.0	11.0	279.0	15.0 0.0	100.0	530.8 0.0	4						
MW-58		0.0	0.0	0.0	0.0			1521.0	0.0	0.0	0.0	Abandoned						
V2000000000000000000000000000000000000	Subsequent SSTL	Abandoned  4.8																
	Subsequent > SSTL	4.0	25.0	20.0	25.0	Abando		2/9.0	15.0	100.0	550.6	-						
	Initial	420.0	398.0	234.0	262.0	16.4	168.0	648.0	50.0	500.0	2696.4							
	SSTL	326.0	398.0	234.0	262.0	16.4	168.0	648.0	50.0	500.0	2602.4							
	Initial > SSTL	94.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-						
MW-65	Subsequent	94.0	0.0	0.0		able to Locate			0.0	0.0	0.0	Unable to Locate						
	SSTL	326.0	398.0	234.0	262.0	16.4	168.0	648.0	50.0	500.0	2602.4	-						
	Subsequent > SSTL	320.0	386.0	234.0		able to Locate			50.0	300.0	2002.4	l						
	Initial	9200.0	1000.0	1400.0	4400.0	160.0	810.0	1300.0	1000.0	10000.0	29270.0							
	SSTL	83.0	1000.0	1400.0	4400.0	160.0	108.0	1300.0	381.0	10000.0	18832.0	1						
	Initial > SSTL	9117.0	0.0	0.0	0.0	0.0	702.0	0.0	619.0	0.0	10438.0							
MW-5AR	Subsequent	830.0	180.0	98.0	670.0	13.0	130.0	9.5	13.0	6.8	1950.3	93%						
	SSTL	83.0	1000.0	1400.0	4400.0	160.0	108.0	1300.0	381.0	10000.0	18832.0	1						
	Subsequent > SSTL	747.0	0.0	0.0	0.0	0.0	22.0	0.0	0.0	0.0	769.0	1						
	Initial	460.0	3400.0	320.0	9200.0	50.0	250.0	710.0	500.0	5000.0	19890.0							
	SSTL	58.0	11928.0	3700.0	21680.0	290.0	19298.0	1114.0	330.0	29344.0	87742.0	1						
	Initial > SSTL	402.0	0.0	0.0	0.0	0.0	0.0	0.0	170.0	0.0	572.0	1900000						
PW-1R	Subsequent	850.0	6900.0	580.0	18000.0	21.0	1300.0	480.0	50.0	340.0	28521.0	-38%						
	SSTL	58.0	11928.0	3700.0	21680.0	290.0	19298.0	1114.0	330.0	29344.0	87742.0	1						
	Subsequent > SSTL	792.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	792.0	1						
	Initial	2600.0	19000.0	2200.0	10000.0	1000.0	620.0	3600.0	2000.0	20000.0	61020.0							
	SSTL	45.0	8470.0	2200.0	10000.0	1000.0	620.0	3600.0	2000.0	20000.0	47935.0							
	Initial > SSTL	2555.0	10530.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13085.0	1						
DW-3	Subsequent	2000	20000	2800	10000	23	650	2700	20.000	140	38333.0	-1%						
	SSTL	45.0	8470.0	2200.0	10000.0	1000.0	620.0	3600.0	2000.0	20000.0	47935.0							
	Subsequent > SSTL	1955.0	11530.0	600.0	0.0	0.0	30.0	-900.0	0.0	0.0	13215.0							
	Initial	130.0	2.8	23.0	36.0	17.0	6.5	340.0	2.6	23.0	580.9							
SW-1	SSTL	5.0	2.8	23.0	36.0	17.0	6.5	240.0	2.6	23.0	355.9	1						
	Initial > SSTL	125.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	225.0	Lineble to Associa						
	Subsequent											Unable to Access						
	SSTL	5.0	2.8	23.0	36.0	17.0	6.5	240.0	2.6	23.0	355.9							
	Subsequent > SSTL																	
SSTL = Site Specific Target Level												Initial>SSTL 325262.00						
RBSL= Risk Based Screening Levels						CRAWFORD						ent>SSTL 113286.50						
MtBE= Me	thyl Tert-Butyl Ether				ENVIRONMENTAL						COC Re	duction 65.17%						
n/a = not a					ŀ		SERVIC	ES										
0.0 - Exclu	ided from Calculations																	

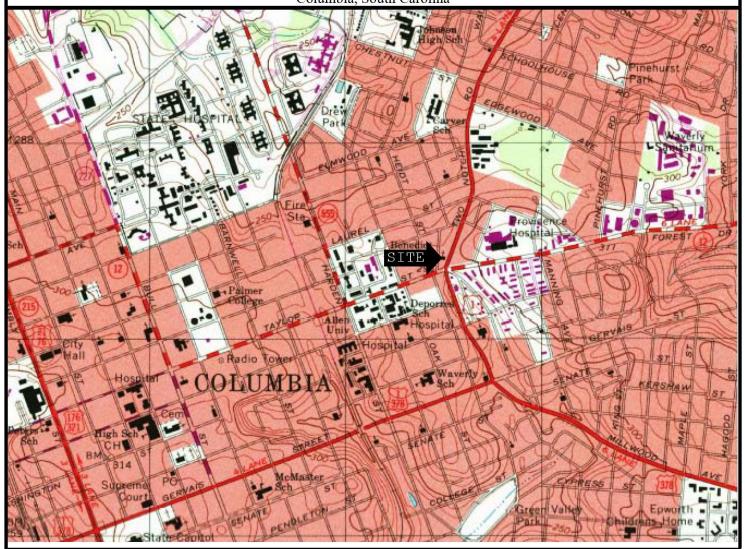
# **Figures**

Figure 1: Topographic Map
Figure 2: Site Facility Base Map
Figure 3: Groundwater Chemicals of Concern Map
Figure 4: Groundwater Elevation Map



# FIGURE 1

Site Location Map
Handy Pantry #65 / University Mart / Clouds Chevron
Intersection of Taylor Street and Two Notch Road
Columbia, South Carolina



#### CRAWFORD ENVIRONMENTAL SERVICES

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### NORTH COLUMBIA, SOUTH CAROLINA

Source: U.S.G.S. Topographic Map of the

Columbia North Quadrangle, Virginia, 7.5 Minute Series (1977, revised 1988) 1:24,000 Contour Interval: 20 Feet

Scale: 1:24,000 Contour Interval: 20 Feet Vertical Datum: National Geodetic Vertical

Datum 1929

Horizontal Datum: North American Datum1927

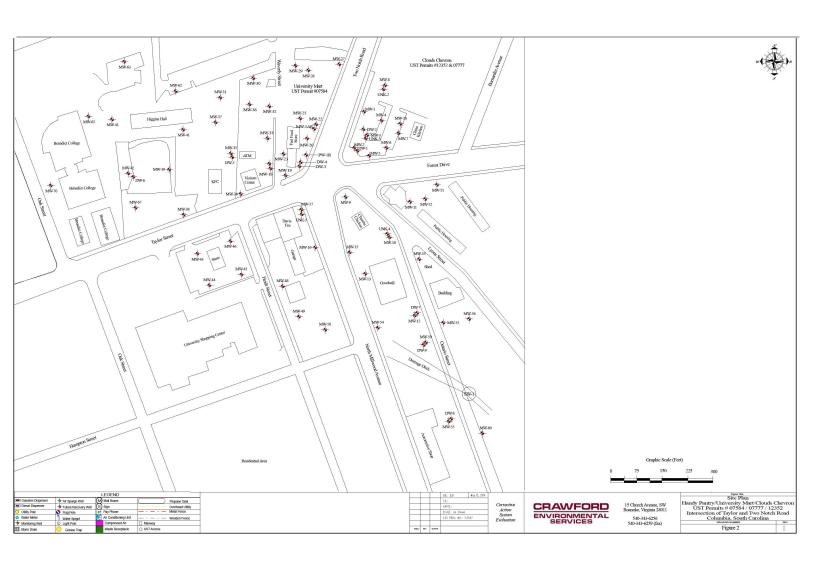
Project: CASE Report

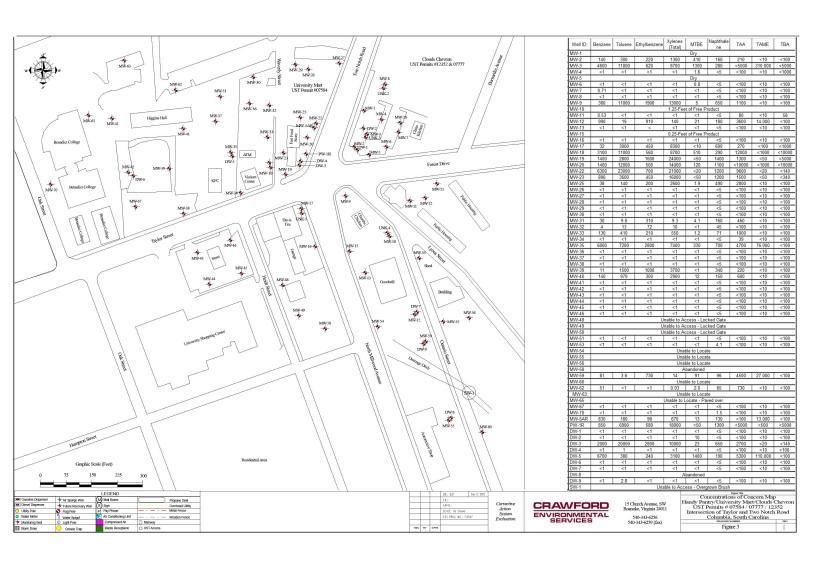
Client: SCDHEC

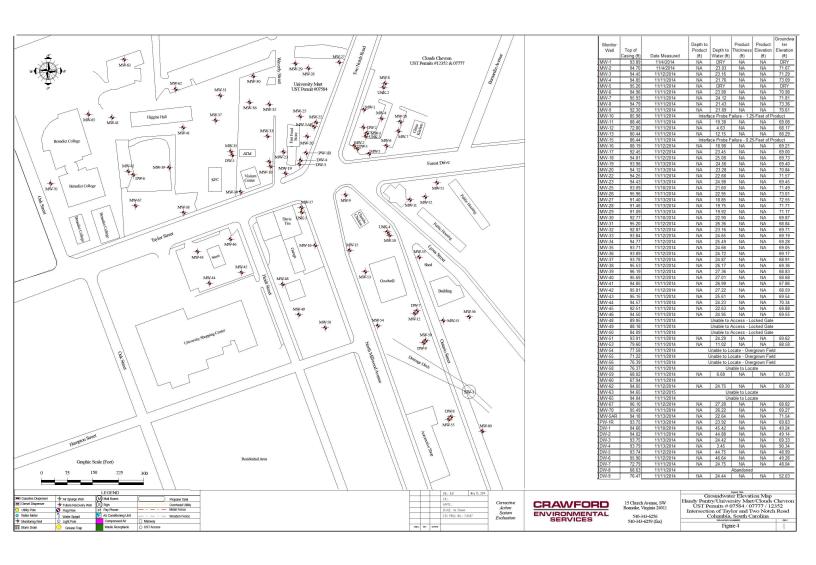
CES Job #: 7.0547



Latitude: 034"00'42.72"N Longitude: 081"01'00.13"W







# APPENDIX A

Purge Water Disposal Manifest





February 13, 2015

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management Underground Storage Tank Management Division 2600 Bull Street Columbia. SC 29201

Re: Purge Water Report- Development & Groundwater Sampling Handy Pantry #65/University Mart & Cloud's Chevron Intersection of Taylor Street and Two Notch Road Columbia, South Carolina UST Permit # 07584 / 07777 / 12352

Dear Project Manager;

The letter presents the certification that Crawford Environmental Services (CES) treated purge waters referenced below with a granular activated carbon unit prior to discharge. This was completed in accordance with the conditions laid out in the "Proposed Conditions for use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater" produced by the SCDHEC Bureau of Water.

A total of 105 gallons were treated on November 11/12/13, 2014 for the above referenced facility.

A record of treatment is available upon request. If you have any questions or comments please feel free to contact us at 540-798-5068.

Sincerely,

Daniel Fisher
Project Manager
Crawford Environmental Services

# APPENDIX B

**Groundwater Sampling Data Sheets** 



WELL		, Total V	Vell Depth (fe	et):	PU 7	WELL SCRE	EN INTER	RVAL	STATIC			P	URGE PUM R KAILER	P TYPE
VELL VO	R (inches): Z	-   : 1 WELL V	OLUME = (T = (	OTAL WELL	DEPTH fee		FPTH TO	WATER) feet)	X WELL C	CAPAC	et): ITY gallons	X423		gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
														-
				-				-		-		+-		+
				-						-		-	_	
	APACITY (Gallo	ons Per Foot):	0.75" = 0.03		SAI	5" = 0.06; 2'  MPLING  NATURE(S):	- Page - Ware	3" = 0.3	7; 4" = 0.65				.47; 12" =	
AMPLE!		ons Per Foot):	0.75" = 0.00		SAI R(S) SIG	MPLING   NATURE(S):	- Page - Ware	3" = 0.3		DATE:	Y .	SAMI	PLING TIME	
AMPLES UMP OF EPTH IN	D BY (PRINT)		0.75" = 0.00	SAMPLER	SAI R(S) SIG	MPLING   NATURE(S):	- Page - Ware	3" = 0.3	SAMPLING FIELD-FILT Filtration Eq	DATE: ERED: uipmer	Y .	SAMI	PLING TIME FILTER	E: R SIZE:
OMPLES OMP OF DEPTH IN	D BY (PRINT) R TUBING N WELL (feet):	D: Y	N	SAMPLER	SAI R(S) SIGI	MPLING   NATURE(S):	DATA	3" = 0.3	SAMPLING	DATE: ERED: uipmen DED SIS DR	Y Nat Type:	SAMI	PLING TIME FILTER	E: R SIZE:
AMPLET UMP OF EPTH IN UPLICA	D BY (PRINT) R TUBING N WELL (feet): TE COLLECTE	D: Y	N	SAMPLER	SAI R(S) SIGI LL CODE SAMP	MPLING   NATURE(S):	DATA	3" = 0.3	SAMPLING FIELD-FILT Filtration Eq	DATE: ERED: uipmen DED SIS DR	Y Nat Type:	SAMI	PLING TIME FILTER	SAMPLE PUMP FLOW RATE
AMPLECUMP OF EPTH IN UPLICA	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER	ER SPECIFIC	N CATION	SAMPLEF TUBING MATERIA	SAI R(S) SIGI LL CODE SAMP	MPLING NATURE(S): : LE PRESERV. ADDED IN FIE	DATA	FINAL	SAMPLING FIELD-FILT Filtration Eq	DATE: ERED: uipmen DED SIS DR	Y Nat Type:	SAMI	PLING TIME FILTER	SAMPLE PUMP FLOW RATE

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

	mv.	- 2			SAMP	LE ID:			Ylon: T		11-10	5-1	4	-
					PU	RGING								
VELL DIAMETE	R (inches): 2	2_	Vell Depth (fee		30	DEPTH:	ZJ fee	TERVAL	STATIC eet TO WAT	ER (fee	et): 73.0	3 0	R BAILER	P TYPE
ELL VO	LUME PURGE	: 1 WELL V	OLUME = (TC = (	OTAL W	ELL DEPTH fee		C DEPTH	TO WATER fee	t) X WELL (	CAPAC	gallons.	/foot	Ē.	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	CONI (µS)	Α	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
530			25.14		4.55		126		4.90		8.57		cler	jter
ELL CA	PACITY (Gallo	ns Per Foot):	<b>0.75"</b> = 0.02	2; 1" =	0.04; 1.2	5" = 0.06;	2" = 0,1	16; <b>3"</b> = 0.	37; <b>4"</b> = 0.65	5; 5"	= 1.02;	6" = 1	.47; 12" =	5.88
					SA	MPLIN	G DAT	ΓΑ	Took	2	000-	1		
1711	BY (PRINT)	- ny		2	PLER(S) SIG	MPLIN NATURE(S		ΓΑ	11-11-	17		15	PLING TIME	
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PUMP OF DEPTH IN DUPLICA	R TUBING WELL (feet):	D: (Y		TUBIN	PLER(S) SIG	NATURE(S	5):		//- //-	ERED: quipmer DED rsis OR	Y N nt Type:	15	FILTER	SIZE:
PUMP OF DEPTH IN DUPLICA	R TUBING I WELL (feet): TE COLLECTE	D: (Y		TUBIN MATE	PLER(S) SIG	NATURE(S	RVATION		FIELD-FILT Filtration Ed	ERED: quipmer DED 'SIS OR OD	Y N nt Type:	MPLIN	FILTER	AMPLE PUMP FLOW RATE
UMP OF SAM	R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER	D: Y  ER SPECIFIC  MATERIA	CATION	TUBIN MATE	SAMP	LE PRESE	RVATION VOL N FIELD	<b>N</b> FINAL	FIELD-FILT Filtration Ed	ERED: quipmer DED 'SIS OR OD	Y N Type:	MPLIN	FILTER	AMPLE PUMP FLOW RATE
UMP OF DEPTH IN DUPLICA  SAM	R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	D: Y  ER SPECIFIC  MATERIA L CODE	CATION	TUBIN MATE	SAMP	LE PRESE	RVATION VOL N FIELD	N FINAL pH	FIELD-FILT Filtration Ed	ERED: quipmer DED 'SIS OR OD	Y N Type:	MPLIN	FILTER	AMPLE PUMP FLOW RATE

	ma	3			SAMPI	223			lan :		10	-/3.	14	
WELL	2	Total V	Well Depth (fee	it):	PU ? 9	WELL SO	CREEN IN	TERVAL	STATIC	DEPTH	. 23	PI PI	URGE PUM	P TYPE
WELL VO	R (inches): 2	: 1 WELL V	OLUME = (TC = (		ELL DEPTH fee	- STATIO	C DEPTH	TO WATER	et TO WAT  X WELL (	CAPACIT	TY gallons			gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP, (°C)	Δ	pH (su)	Δ	COND (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
400			2565		5.61		182		2.79		1.67		Clem	SLis
SAMPLE	D BY (PRINT)		0.75" = 0.02		200000000000000000000000000000000000000	MPLING	G DAT		37; <b>4</b> " = 0.65		1,02;	SAME	.47; 12" =	
LIII:	- Lh	100			2				11-11-			(4	00	
PUMP OF DEPTH IN	R TUBING N WELL (feet): TE COLLECTE		(A)	TUBIN	NG (ERIAL CODE				// -//- FIELD-FILT Filtration Ed	ERED:		0	FILTER	
PUMP OF DEPTH IN DUPLICA	R TUBING N WELL (feet):	ED: Y			RIAL CODE	LE PRESE	RVATION		FIELD-FILT	ERED: juipment DED SIS DR	Type:	AMPLIN	FILTER S NG ENT	
PUMP OF DEPTH IN DUPLICA	PLE CONTAIN  # CONTAINER S	ED: Y		MATE	RIAL CODE		VOL N FIELD	FINAL pH	FIELD-FILT Filtration Ed INTENI ANALY AND/ METH	ERED: juipment DED SIS OR OD	SA EQ	AMPLIN UIPME CODE	FILTER S NG ENT	SAMPLE PUMP FLOW RATE
PUMP OF DEPTH IN DUPLICA SAM	R TUBING N WELL (feet): TE COLLECTE PLE CONTAIN # CONTAINER	ER SPECIFIC	CATION	PRES	SAMPI SERVATIVE	LE PRESEI	VOL N FIELD		FIELD-FILT Filtration Ed INTENI ANALY AND/ METH	ERED: juipment DED SIS DR	SA EQ	AMPLIN UIPME CODE	FILTER S NG ENT	SAMPLE PUMP FLOW RATE
DEPTH INDUPLICA  SAM	PLE CONTAIN  # CONTAINER S	ER SPECIFIC  MATERIA L CODE	CATION	PRES	SAMPI SERVATIVE USED	TOTAL ADDED IN (mL	VOL N FIELD	pН	FIELD-FILT Filtration Ed INTENI ANALY AND/ METH	ERED: juipment DED SIS OR OD	SA EQ	AMPLIN UIPME CODE	FILTER S NG ENT	SAMPLE PUMP FLOW RATE

WELL NO		195		SA	MPLE ID:			lon e		7/-	10-	14	
					PURGIN								
VELL NAMETE	R (inches):		Vell Depth (fee	et): 90	WELL	SCREEN IN	TERVAL to 28 fe	STATIC eet TO WAT	ER (fee	1)21.74		RGE PUMI	TYPE
ELL VO	LUME PURGE	: 1 WELL V	OLUME = (To	OTAL WELL DEP	PTH - STA feet-	TIC DEPTH	TO WATER feet	) X WELL	CAPACI	TY gallons	/foot =		gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	bH (su)		CONE	). Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOI
350			25.48	4.5	2	15/		4.45		3.02		CLean	NO
													-
						-			-				
VELL CA	PACITY (Gallo	ons Per Foot):	0.75" = 0.02	2; 1" = 0.04;	1.25" = 0.06	5; 2" = 0.1	6; 3" = 0.3	37; <b>4"</b> = 0.65	5; 5"	= 1.02;	6" = 1.4	7; 12" =	5.88
					SAMPLII	NG DAT	۸.						
	BY (PRINT)			SAMPLER(S)				SAMPLING				ING TIME	:
WIII	AM EL	2.45		TUBING	al 2	3/_		1/ - //-		YC	13:	FILTER	SIZE:
DEPTH IN	WELL (feet):		N	MATERIAL CO	DDE:			Filtration E				- Angornago	12.10.000
	PLE CONTAIN			SA	MPLE PRES	SERVATION		INTENI ANAL) AND/ METH	'SIS OR	EQ	MPLING UIPMEN CODE	G IT	AMPLE PUMP FLOW RATE ml/min)
SAMPLE D CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIV USED	ADDEL	AL VOL D IN FIELD (mL)	FINAL pH						
	3	66	40ml	HCL	N	14	NA	826	OB		13		

REMARKS: PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Elect RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); ESP = Electric Submersible Pump; SAMPLING EQUIPMENT CODES:

O = Other (Specify)

WELL NO	Cloud MW S	TAR		S	AMPLE ID:		120	15.5	on i, i		DATE:	0-	14	
					PLIPCI	NG DAT								
WELL DIAMETE WELL VO	R (inches): 2	_	Vell Depth (feet  OLUME = (TC) = (	25	WEI	L SCREEN	NTERV	& fee	X WELL	DEPTH TER (fee	22.6	0	URGE PUM PBAILER	P TYPE
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ pl		CON (µS	100	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
15	(Sallerie)	(gallons)	23.45	60	,9	186			. 9/	,	2,47		Clean	57
				-										
SAMPLED	D BY (PRINT)  R TUBING N WELL (feet):		0.75" = 0.02;		SAMPL ) SIGNATUR	ING DA		" = 0,3°	SAMPLING	DATE	YN	SAMI	PLING TIME	
UPLICA	TE COLLECTE		CATION	s	AMPLE PR	ESERVATIO	N		INTENI ANALY AND/O	rsis Or	EQI	MPLII JIPME CODE	NG ENT	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE D CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVAT USED		OTAL VOL ED IN FIELD (mL)	FIN							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	3	CG	40 ML	HCL	, 1	VA	N	A	824	oD B		В		

SAMPLING EQUIPMENT CODES:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass;

APP = After Peristaltic Pump; B = B RFPP = Reverse Flow Peristaltic Pump;

B = Bailer;

PE = Polyethylene; PP = Polypropylene; S = Silicone;

BP = Bladder Pump;

SM = Straw Method (Tubing Gravity Drain);

O = Other (Specify)

T = Teflon;

O = Other (Specify)

ESP = Electric Submersible Pump;

AME:	Clou.	15			T	L	OCATION:	Aylor	: Tan	ON	DATE		XICE	
ELL NO	mw-	5			SAMP	LE ID:					10-	11-	/ (	
					PU	IRGING	DATA	Š.	Block			201	7	
ELL IAMETE	R (inches):		Vell Depth (fe	2	6	DEPTH:	CREEN INT	02 6 fee	STATIC t TO WAT	ER (fee	t):		R BAILER:	P TYPE
ELL VC	LUME PURGE	: 1 WELL V	OLUME = (T = (	OTAL WEI		- STAT	C DEPTH T	ro WATER) feet)		CAPACI	TY gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
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AMPLE	D BY (PRINT)			SAMPL	ER(S) SIG	NATURE(S	i):		SAMPLING			/		
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	PLE CONTAIN				SAMP	LE PRESE	RVATION		INTEND ANALY AND/O	SIS	EQ	MPLIN UIPME CODE	IG NT	AMPLE PUMP FLOW RATE ml/min)
SAMPLE D CODE	# CONTAINER S	MATERIA L CODE	VOLUME		RVATIVE SED	ADDED II	FIELD	FINAL pH						
										1				
EMARK	S:													-
	S:			Clear Gla		= Polyethy		= Polyprop		Silicone	T = Te		O = Other	10-

AME: C	Clas	1 5				LC	CATION:	177"	or ! lu	5/1	DICI	7		
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													1	
VELL		Total V	Vell Denth (fee	t)·	PU	RGING WELL SO	REEN INT	TERVAL	STATIC	DEPTH		PL	JRGE PLIM	P TYPE
IAMETER (inche	nes): [	2	Vell Depth (fee	3	٥	DEPTH:	2, feet	to 20 fe	et TO WATI	ER (fee	0238	80	R BAILER:	>
ELL VOLUME	PURGE:	1 WELL V	OLUME = (10 = (	JIAL WE	feet	- STATIC	DEPIH	feet	) X WELL C	APACI	gallons	/foot	=	gallons
TIME PUR	LUME RGED Illons)	CUMUL VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
430			25.03		4.96		108		3.22		7.46		66	10
												-		-
														-
ELL CAPACIT	ry (Gallo	ns Per Foot):	0.75" = 0.02	: 1"=	0.04; 1.25	n = 0.06;	2" = 0.16	6; <b>3"</b> = 0.3	37; 4" = 0.65;	5" :	= 1.02;	6" = 1.	47; 12" =	= 5.88
		ns Per Foot):	0.75" = 0.02			<b>VIPLIN</b>	G DAT		37; 4" = 0.65;			entre l'e	47; 12" =	
AMPLED BY (P	PRINT)	2000	0.75" = 0.02	SAMPL	SAM LER(S) SIGN	<b>VIPLIN</b>	G DAT		SAMPLING	DATE:		SAMF	PLING TIME	
AMPLED BY (P	PRINT) NG L (feet):	ning		SAMPI	SAM LER(S) SIGN	<b>VIPLIN</b>	G DAT		SAMPLING	DATE:	Y Ø	SAMF	PLING TIME	
EAMPLED BY (P	PRINT) NG L (feet):	ning	0.75" = 0.02	SAMPI	SAM LER(S) SIGN G	<b>VIPLIN</b>	G DAT		SAMPLING	DATE:	Y Ø	SAMF	PLING TIME 3 d FILTER	R SIZE:
AMPLED BY (P UMP OR TUBIN DEPTH IN WELL	PRINT)  NG L (feet):	n'ny D: Y	0	SAMPI	SAN LER(S) SIGN G RIAL CODE:	<b>VIPLIN</b>	G DAT		SAMPLING	DATE:	Y (N) t Type:	SAMF	PLING TIME  3 0  FILTER  IG	R SIZE:
SAMPLE CONTACTOR	PRINT)  NG L (feet):  ONTAINE  # TAINER	n'ny D: Y	0	SAMPI Z TUBIN MATER	SAN LER(S) SIGN G RIAL CODE:	MPLINC  NATURE(S)  LE PRESEF  TOTAL  ADDED IN	G DATA		SAMPLING //-//- FIELD-FILTE Filtration Equ	DATE:	Y (N) t Type:	SAMP	PLING TIME  3 0  FILTER  IG	SAMPLE PUMP FLOW RATE
AMPLE CO	PRINT)  NG L (feet):  DLLECTEI  ONTAINI	D: Y  ER SPECIFIC  MATERIA	CATION	SAMPI Z TUBIN MATER	SAM LER(S) SIGN G RIAL CODE: SAMPL ERVATIVE JSED	MPLINC NATURE(S) LE PRESER	RVATION  VOL FIELD	<b>A</b>	SAMPLING //-//- FIELD-FILTE Filtration Equ	DATE:	Y t Type:	SAMP	PLING TIME  3 0  FILTER  IG	SAMPLE PUMP FLOW RATE
AMPLE CO	PRINT)  NG L (feet):  ONTAINE  # TAINER	D: Y ER SPECIFIC MATERIA L CODE	CATION	SAMPI ZUBIN TUBIN MATER	SAM LER(S) SIGN G RIAL CODE: SAMPL ERVATIVE JSED	MPLINC NATURE(S)  LE PRESEF  TOTAL ADDED IN (mL)	RVATION  VOL FIELD	A FINAL pH	SAMPLING  // -//-  FIELD-FILTE  Filtration Equ  INTEND  ANALYS  AND/O  METHO	DATE:	Y t Type:	MPLIN MPLIN JIPME CODE	PLING TIME  3 0  FILTER  IG	SAMPLE PUMP FLOW RATE
SAMPLE CONTACTOR	PRINT)  NG L (feet):  ONTAINE  # TAINER	D: Y ER SPECIFIC MATERIA L CODE	CATION	SAMPI ZUBIN TUBIN MATER	SAM LER(S) SIGN G RIAL CODE: SAMPL ERVATIVE JSED	MPLINC NATURE(S)  LE PRESEF  TOTAL ADDED IN (mL)	RVATION  VOL FIELD	A FINAL pH	SAMPLING  // -//-  FIELD-FILTE  Filtration Equ  INTEND  ANALYS  AND/O  METHO	DATE:	Y t Type:	MPLIN MPLIN JIPME CODE	PLING TIME  3 0 FILTER  IG	SAMPLE PUMP FLOW RATE
AMPLED BY (P	PRINT)  NG L (feet):  ONTAINE  # TAINER	D: Y ER SPECIFIC MATERIA L CODE	CATION	SAMPI ZUBIN TUBIN MATER	SAM LER(S) SIGN G RIAL CODE: SAMPL ERVATIVE JSED	MPLINC NATURE(S)  LE PRESEF  TOTAL ADDED IN (mL)	RVATION  VOL FIELD	A FINAL pH	SAMPLING  // -//-  FIELD-FILTE  Filtration Equ  INTEND  ANALYS  AND/O  METHO	DATE:	Y t Type:	MPLIN MPLIN JIPME CODE	PLING TIME  3 0 FILTER  IG	SAMPLE PUMP FLOW RATE
SAMPLED BY (P	PRINT)  NG L (feet):  ONTAINE  # TAINER	D: Y ER SPECIFIC MATERIA L CODE	CATION	SAMPI ZUBIN TUBIN MATER	SAM LER(S) SIGN G RIAL CODE: SAMPL ERVATIVE JSED	MPLINC NATURE(S)  LE PRESEF  TOTAL ADDED IN (mL)	RVATION  VOL FIELD	A FINAL pH	SAMPLING  // -//-  FIELD-FILTE  Filtration Equ  INTEND  ANALYS  AND/O  METHO	DATE:	Y t Type:	MPLIN MPLIN JIPME CODE	PLING TIME  3 0 FILTER  IG	SAMPLE PUMP FLOW RATE
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/ELL IAMETE	R (inches): 2	Total V	Vell Depth (feet	t):	30	WELL SCRE	EN INTER	YAL Fee	STATIC et TO WAT	DEPTH ER (fee	et):24.1	2 PL	RGE BLIM	PTYPE
ELL VO	LUME PURGE	: 1 WELL V	OLUME = (TC	TAL WE	LL DEPTH fee	- STATIC D	ЕРТН ТО	WATER) feet)	X WELL C	CAPACI	TY gallons			gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
126			24.55		3.93	1	39		5.45		1.50		Clean	No
								-						
										-				
						-				-	-			
_		-		-										
			T.											
				_						-		_		
ELL CA	PACITY (Gallo	ns Per Foot):	0.75" = 0.02	; 1"=(	0.04; 1.29	5" = 0.06; 2"	= 0.16;	3" = 0.3	7; 4" = 0.65	; 5"	= 1.02;	6" = 1.	47; 12" =	5.88
AMDIEC	D DV (DDINIT)			SAMPL	SAI ER(S) SIGI	5" = 0.06; 2"  MPLING [ NATURE(S):		3" = 0.3	SAMPLING	DATE:		SAME	PLING TIME	
AMPLEC				SAMPL TUBING	SAI ER(S) SIGI	MPLING I		3" = 0.3		DATE:	YO	SAMF		ė.
AMPLEC UMP OF PEPTH IN	BY (PRINT)	Ewig		SAMPL TUBING	SAI ER(S) SIGI	MPLING I		3" = 0.3	SAMPLING	DATE:	YO	SAMF	PLING TIME 20 FILTER	: R SIZE:
AMPLEC UMP OF EPTH IN	D BY (PRINT)	En'y	<b>©</b>	SAMPL TUBING	SAI ER(S) SIGI G RIAL CODE	MPLING I	DATA	3" = 0.3	SAMPLING	DATE:	Y (N) t Type:	SAMF	PLING TIME 20 FILTER  SIG	SAMPLE PUMP FLOW RATE
AMPLEC UMP OF EPTH IN	D BY (PRINT)  A A A  R TUBING WELL (feet): TE COLLECTE  PLE CONTAIN	En'y	<b>©</b>	SAMPL TUBING MATER	SAI ER(S) SIGI G RIAL CODE	MPLING I	DATA	3" = 0.3	SAMPLING // -//-/ FIELD-FILT Filtration Eq	DATE:	Y (N) t Type:	SAMP	PLING TIME 20 FILTER  SIG	SIZE:
JMP OF EPTH IN JPLICA SAMI	D BY (PRINT)	Ew 'y  ER SPECIFIC  MATERIA	CATION	SAMPL TUBING MATER	SAI LER(S) SIGI G RIAL CODE: SAMPI	MPLING INATURE(S):  LE PRESERVA  TOTAL VOL ADDED IN FIE	DATA  TION  F	INAL	SAMPLING // -//-/ FIELD-FILT Filtration Eq	DATE:	Y t Type:	SAMP	PLING TIME 20 FILTER  SIG	SIZE:
AMPLEC UMP OF EPTH IN UPLICA SAMI	D BY (PRINT)  A A A  R TUBING  WELL (feet):  TE COLLECTE  PLE CONTAINS  #  CONTAINER  S	ER SPECIFIC	CATION	SAMPL TUBING MATER PRESE	SAI LER(S) SIGI G RIAL CODE: SAMPI	MPLING INATURE(S):  LE PRESERVA  TOTAL VOL  ADDED IN FIE  (mL)	DATA  TION  F	INAL pH	SAMPLING // - //-) FIELD-FILT Filtration Eq	DATE:	Y t Type:	SAMP / 4/ MPLIN JIPME CODE	PLING TIME 20 FILTER  SIG	SIZE:

SITE

NAME:

clouds

SITE NAME: (	cloud m.	15				S	ITE OCATION:	TAYI	or i	74	DNOT	211		
WELL NO	ma	v 8			SAMPL	LE ID:		Į.			I / (-	10-	17	
					DII	DCING	DATA							
WELL		Total V	Vell Depth (fe	nt):	PU	Transport (1977)	CREEN INT	FRVAI	STATIC	DEPTH	04 F	I PL	RGEPHM	P TYPE
DIAMETE	R (inches):	2		7	8	DEPTH:	/ F feet t	0 28 fee	t TO WAT	ER (fee	et):214	/3 OF	BAILER	
WELL VO	LUME PURGE	: 1 WELL V	OLUME = (T = (	OTAL WE	LL DEPTH fee		C DEPTH T	O WATER) feet)	X WELL C	CAPAC	gallons	s/foot	=	gallon
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ОДО
300		1,500.007	25.21		4.68		47		4.48		1.14		16	10
										-				
	APACITY (Gaile	0.5.0	A 7511 - 0 0	0 4"	0.04: 4.04	= 0.06:	2" - 0 16	311 - 0.3	7: A" → 0.65	. s"	- 1.02:	6" = 1	47: 12" :	- 5.88
WELL CA	APACITY (Galio	ons Per Foot)	0.75 = 0.0	2, 1 -	0.04, 1.20	- 0.00,	2 - 0.10	3 -0.5	7, 4 - 0.03		- 1.02,			0.00
					SAI	MPLIN	G DAT	A						
	DBY (PRINT)	= .		SAMPL	ER(S) SIGI	NATURES	s);		SAMPLING				LING TIME	
PUMP OF	RTUBING	Enry		TUBIN	G /				FIELD-FILT	ERED:	Y			R SIZE:
	V WELL (feet): TE COLLECTE	ED: Y	0	MATER	RIAL CODE:				Filtration Eq	ulpmer	п туре.			-
SAM	PLE CONTAIN	IER SPECIFI	CATION		SAMPI	LE PRESE	RVATION		INTENE ANALY AND/O METHO	SIS	EQ	AMPLIN UIPME CODE	IG NT	PUMP FLOW RATE (ml/min
SAMPLE ID CODE	# CONTAINER	MATERIA L CODE	VOLUME		ERVATIVE JSED	TOTAL ADDED II	N FIELD	FINAL pH						
	7		125 - 155 I	10	1	+	. 1	A . A	rn1			0		

S = Silicone; T = Teflon; O = Other (Specify) PP = Polypropylene; MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; ESP = Electric Submersible Pump; SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

RFPP = Reverse Flow Peristaltic Pump;

STABILIZATION CRITERIA

REMARKS:

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

WELL NO	louds mu-	. 5			SAMPI	LE ID:			in: The	A I I I	DATE:	1-19	7	
					PH		DATA							
VELL DIAMETE	R (inches): 2		Vell Depth (fee		30	WELL S	CREEN INTE	30 fee	STATIC I	ER (fee	t):2 1.6°	9 0	JRGE PUM R BAILER:	33
			= (	200	fee	et –		feet)	X		gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
7:40	0	.16	2467		6.02		214		4.85		c/.81		C/	STRa
WELLCA	APACITY (Gallo	ons Per Foot):	<b>0.75"</b> = 0.02	1"=	0.04; 1.2	5" = 0.06;	2" = 0.16;	3" = 0.3	37; <b>4"</b> = 0.65	; 5"=	= 1.02;	6" = 1	.47; 12" :	= 5.88
	A MONT (COM													
SAMPI FI	D BY (PRINT)			SAMPL	SA ER(S) SIG		G DATA		SAMPLING	DATE:		SAM	PLING TIME	Ē:
Will:	4- F-	··7		TUBIN	3	2			//- //-/L FIELD-FILT Filtration Eq	ERED:	Y	9:		R SIZE:
	N WELL (feet): TE COLLECTE	ED: Y	0	MATER	RIAL CODE				Fittration Eq	uipmen	п туре.			
SAM	PLE CONTAIN	IER SPECIFIC	CATION		SAMP	PLE PRES	ERVATION		INTENE ANALY AND/O METHO	SIS	EQ	MPLI UIPMI CODE	NG ENT	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	CONTAINER S	MATERIA L CODE	VOLUME		ERVATIVE JSED	ADDED	L VOL N FIELD IL)	FINAL pH						
	3	Ca	YomL	H	cL	1	A I	VA	826	03	?	B		
				-		V								

SAMPLING EQUIPMENT CODES:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass;

APP = After Peristaltic Pump;

RFPP = Reverse Flow Peristaltic Pump;

B = Bailer; BP = Bladder Pump; ESP = Elect Pump; SM = Straw Method (Tubing Gravity Drain);

ESP = Electric Submersible Pump;

O = Other (Specify)

ALLE INC	cloud mar	10			SAMP	LE ID:		1	lon i		DATE	1-14	6	
						between to see and the top of					1.33			
/ELL		Total V	Vell Depth (fe	et):	PU	WELLSO	REEN INTE	RVAL	STATIC	DEPTH		PI	JRGE PUM	P TYPE
IAMETE	R (inches): Z	2			28	DEPTH:	18 feet to	2 8 fe	et TO WAT	ER (fee	et): 18.10		R BAILER:	
ELL VC	DLUME PURGE	: 1 WELL V	= (I	OTAL WE		- STATIC	, DEPTH IC	feet)	X	JAPAGI	gallons	/foot	=	gallon
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP- (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
			ļ					-			-		_	-
			<u> </u>			-				-	<u> </u>			
ELL C#	APACITY (Gallo	ons Per Foot):	0.75" = 0,02	2; 1" = 0		5" = 0.06; MPLING	es passare was							5.88
	APACITY (Gallo	ons Per Foot):	0.75" = 0.02		SA	CMAL DE MODERAGE	DATA		7; 4" = 0.65  Fet  SAMPLING					
AMPLEI UMP OF EPTH IN	D BY (PRINT) R TUBING N WELL (feet):			SAMPL	SA ER(S) SIG	MPLING NATURE(S)	DATA			PATE:	Pha	SAME		:
AMPLEI UMP OR EPTH IN UPLICA	D BY (PRINT)	ED: Y	N	SAMPL	SA ER(S) SIG SIAL CODE	MPLING NATURE(S)	DATA		FIELD-FILT	DATE: ERED: uipmen DED SIS DR	Y Nit Type:	SAME	FILTER  IG NT	:
JMP OF EPTH IN JPLICA SAM	D BY (PRINT) R TUBING N WELL (feet): TE COLLECTE	ED: Y	N	SAMPLI TUBING MATER	SA ER(S) SIG SIAL CODE	MPLING NATURE(S)	CVATION //OL FIELD		FIELD-FILT Filtration Eq	DATE: ERED: uipmen DED SIS DR	Y Nit Type:	SAME	FILTER  IG NT	SIZE:
AMPLED JMP OR EPTH IN UPLICA	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER	ER SPECIFIC	N CATION	SAMPLI TUBING MATER	SA ER(S) SIG SIAL CODE SAMP	MPLING NATURE(S)  LE PRESER  TOTAL \ ADDED IN	CVATION //OL FIELD	FINAL	FIELD-FILT Filtration Eq	DATE: ERED: uipmen DED SIS DR	Y Nit Type:	SAME	FILTER  IG NT	SIZE:
AMPLEC JMP OF EPTH IN UPLICA SAM	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER	ER SPECIFIC	N CATION	SAMPLI TUBING MATER	SA ER(S) SIG SIAL CODE SAMP	MPLING NATURE(S)  LE PRESER  TOTAL \ ADDED IN	CVATION //OL FIELD	FINAL	FIELD-FILT Filtration Eq	DATE: ERED: uipmen DED SIS DR	Y Nit Type:	SAME	FILTER  IG NT	SIZE:
AMPLEC JMP OF EPTH IN UPLICA SAM	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER	ER SPECIFIC	N CATION	SAMPLI TUBING MATER	SA ER(S) SIG SIAL CODE SAMP	MPLING NATURE(S)  LE PRESER  TOTAL \ ADDED IN	CVATION //OL FIELD	FINAL	FIELD-FILT Filtration Eq	DATE: ERED: uipmen DED SIS DR	Y Nit Type:	SAME	FILTER  IG NT	SIZE:

SAMPLING EQUIPMENT CODES:

 APP = After Peristaltic Pump;
 B = Bailer;
 BP = Bladder Pump;
 ESP = Electric Submersible Pump;

 RFPP = Reverse Flow Peristaltic Pump;
 SM = Straw Method (Tubing Gravity Drain);
 O = Other (Specify)

SAMPLE ID:

WELL DIAMETE	R (inches): 2	7/	Well Depth (fee	30		WELL SCREED DEPTH: NA	N INTERVAL	- feet	STATIC I	ER (fee	19.30	PL	URGE PUM R BAILER:	P TYPE
WELL VO	LUME PURGE	: 1 WELL V	= (	JIAL WELL	fee	- STATICUE t-	PIH IO WAI	feet)	X WELL C	APACI	gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	1 A 1	OND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
230			22.98		5. 27		60		1.27		3.98		u	No
ELL CA	PACITY (Galic	ons Per Foot)	0.75" = 0.02	2; 1" = 0.0		" = 0.06; 2":		= 0.37;	4" = 0.65;	5" =	= 1.02; 6	3" = 1.	47; 12":	= 5.88
AMPLE	D BY (PRINT)		0.75" = 0.02		SAI	" = 0.06; 2" :  MPLING D  NATURE(S):			SAMPLING	DATE:		SAME	PLING TIME	
SAMPLEI PUMP OF DEPTH IN	D BY (PRINT)  R TUBING N WELL (feet):	nig		SAMPLE	SAI	MPLING D				DATE:	Y AT	SAMF		Ξ:
SAMPLEI PUMP OF DEPTH IN DUPLICA	D BY (PRINT)  A M E	wig	0	SAMPLE	SAI R(S) SIGN ALCODE:	MPLING D	ATA		SAMPLING	DATE:  SERED:  Jipment  ED  SIS	Y AType:	SAMF	FILTER	≣: R SIZE:
SAMPLEI SAM SAMPLE	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ER SPECIFIC MATERIA L CODE	CATION	SAMPLE TUBING MATERIA  PRESER USI	SAI R(S) SIGN ALCODE: SAMPI	MPLING D NATURE(S):  LE PRESERVA  TOTAL VOL ADDED IN FIEL (mL)	TION  FINAL PH		SAMPLING  //-//-/ FIELD-FILTE Filtration Equ  INTEND ANALYS AND/O METHO	DATE:	Y t Type:	SAMF /2 MPLIN JIPME CODE	FILTER	SAMPLE PUMP FLOW RATE
AMPLEI UMP OF EPTH IN UPLICA SAM	D BY (PRINT) R TUBING N WELL (feet): TE COLLECTE PLE CONTAIN # CONTAINER	ED: Y ER SPECIFIC	CATION	SAMPLE TUBING MATERIA	SAI R(S) SIGN ALCODE: SAMPI	MPLING D NATURE(S):  LE PRESERVA  TOTAL VOL ADDED IN FIEL	TION FINAL		SAMPLING //-//-/ FIELD-FILTE Filtration Equ INTEND ANALY: AND/O	DATE:	Y AType:	SAMF /2 MPLIN JIPME CODE	FILTER	SAMPLE PUMP FLOW RATE
SAMPLEI CILI PUMP OF DEPTH IN DUPLICA	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ER SPECIFIC MATERIA L CODE	CATION	SAMPLE TUBING MATERIA  PRESER USI	SAI R(S) SIGN ALCODE: SAMPI	MPLING D NATURE(S):  LE PRESERVA  TOTAL VOL ADDED IN FIEL (mL)	TION  FINAL PH		SAMPLING  //-//-/ FIELD-FILTE Filtration Equ  INTEND ANALYS AND/O METHO	DATE:	Y t Type:	SAMF /2 MPLIN JIPME CODE	FILTER	SAMPLE PUMP FLOW RATE
SAMPLE SAMPLE	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S 3	ER SPECIFIC MATERIA L CODE	CATION	SAMPLE TUBING MATERIA  PRESER USI	SAI R(S) SIGN ALCODE: SAMPI	MPLING D NATURE(S):  LE PRESERVA  TOTAL VOL ADDED IN FIEL (mL)	TION  FINAL PH		SAMPLING  //-//-/ FIELD-FILTE Filtration Equ  INTEND ANALYS AND/O METHO	DATE:	Y t Type:	SAMF /2 MPLIN JIPME CODE	FILTER	SAMPLE PUMP FLOW RATE

SITE NAME: Clauds
WELL NO: MW-11

NAME: Cloy &	SITE LOCATION: TAKON.	
WELL NO: Mu-12	SAMPLE ID:	DATE: 71-14

WELL DIAMETEI	R (inches): 2	-3	Vell Depth (fee	2	4.65	DEPTH:	CREEN INTER	M4 feet	STATIC D	R (fe	et): 4.6	PI O	JRGE PUMI	P TYPE
WELL VO	LUME PURGE:	1 WELL V	OLUME = (TC = (	TAL W	ELL DEPTH	- STAT t- 4	C DEPTH TO	WATER) feet)	x .16	APAC	gallons	foot	= 3	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
1110	0		24.51		6.03		288		1.16		88.4		LLen	No.
1115	3		25.56		6.17		437		2.31		292		1	
120	6		25.67		6.16		444		3.74		119			
125	9		25.68		6.17		446		3.75		182		1	V
				To any										
			I I	The second	(n)									
				=		-								
												V		

SAMPLING DATA SAMPLER(S) SIZMATURE(S): SAMPLING DATE: SAMPLING TIME: SAMPLED BY (PRINT) 11-11-14 Illian Ening FIELD-FILTERED: PUMP OR TUBING TUBING N FILTER SIZE: Filtration Equipment Type: DEPTH IN WELL (feet): MATERIAL CODE: DUPLICATE COLLECTED: SAMPLE INTENDED SAMPLING PUMP SAMPLE PRESERVATION EQUIPMENT FLOW SAMPLE CONTAINER SPECIFICATION AND/OR CODE RATE METHOD (ml/min) FINAL SAMPLE MATERIA PRESERVATIVE CONTAINER VOLUME ADDED IN FIELD ID CODE L CODE USED pH (mL) 8260P NA NA HCL 66 40 mL REMARKS: O = Other (Specify) MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) RFPP = Reverse Flow Peristaltic Pump;

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%



NAME:	Cloud.	5					LOCATION:	1241	lon 4	Tri	los	0/4		
WELL NO	Cloud.	3			SAME	PLE ID:	LOCATION:				DATE	: -//-	14	
					PL	JRGIN	IG DATA							
WELL	ER (inches):	_	Vell Depth (fee		30	DEPT	SCREEN INTER	MA fee			et): / 24/		URGE PUM	
WELL VO	OLUME PURGE	E: 1 WELL V	OLUME = (To	OTAL W	ELL DEPTH	I – STA et –	TIC DEPTH TO	WATER) feet)	X WELL O	CAPAC	ITY gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
1010	0	.16	25.68	-	7.19		87		7.97		1.81		CL	Hight

#### SAMPLING DATA

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

	BY (PRINT)			SAMPLER(S) SIG	NATURE(S):		SAMPLING DATE:	SAMPLING	TIME:
Ville	in m E	- com		200	n		11-11-14	1010	
PUMP OF		1		TUBING MATERIAL CODE			FIELD-FILTERED: Filtration Equipment		LTER SIZE:
DUPLICA	TE COLLECTE	D: Y	N						
SAMI	PLE CONTAIN	ER SPECIFIC	CATION	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	8		Komh	HCL	NA	NA	8260B	B	
REMARKS	S:								
MATERIA	L CODES: A	<b>G</b> ≈ Amber G	Glass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polyprop	pylene; S = Silicone;	T = Teflon; O =	Other (Specify
SAMPLIN	G EQUIPMEN	T CODES:		Peristaltic Pump; erse Flow Peristaltic	(역급) (역급) (기업 기업 기업 기업 기업 기업 기업 기업 기업 기업 기업 기업 기업 기	P = Bladder P aw Method (T	ump; ESP = Electric ubing Gravity Drain);	Submersible Pump; O = Other (Specify	

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

SITE NAME: (	cloud-	5					SITE LOCATION	TAY	10-	ċ	TU	no 1	OK	H	
WELL NO	cloud-	15			SAMP	LE ID:						DATE	-11	-14	
					PU	RGING	G DAT								
WELL	R (inches):		Vell Depth (fe		25	WELL S	CREEN IN	TERVAL	et T	STATIC I			PL	URGE PUM	P TYPE
WELL VO	LUME PURGE	: 1 WELL V	OLUME = (T = (	OTAL WELL	DEPTH fee	- STAT	IC DEPTH	TO WATER	t) X t) X	WELL C	APACI	TY gailons	/foot	=	gailons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	CONE (µS)	/\		DO ng/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
1025															
			-												
			-												
			-			-			-						
									-						
WELLCA	APACITY (Gallo	ons Per Foot)	0.75" = 0.0	2: 1" = 0.0	1.2	5" = 0.06:	2" = 0.1	6: 3" = 0.	37: 4	" = 0.65	5"	= 1.02;	6" = 1.	47; 12" =	5.88
WELL OF	T AOTT (Can	3110 1 01 1 001)	0.70								90000	100			ENTRONO -
					SA	MPLIN	G DAT	Α							
SAMPLE	D BY (PRINT)			SAMPLE	R(S) SIG	NATURE(	S):		5.245	MPLING				LING TIME	
PUMP OF	JMP OR TUBING TU								FIEL	- //-/ _D-FILTE	RED:			2 ST	SIZE:
DEPTH IN	WELL (feet):	ED: Y	N	MATERIA	AL CODE	:			Filtr	ation Eq	uipmen	t Type;			
	SAMPLE CONTAINER SPECIFICATION				SAMP	LE PRESI	ERVATION	ı		INTEND ANALY: AND/O METHO	SIS IR	EQ	MPLIN UIPME CODE	IG INT	AMPLE PUMP FLOW RATE ml/min)
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESER			L VOL IN FIELD IL)	FINAL pH							
												1			

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = COMPLING EQUIPMENT CODES:

APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

REMARKS:

SITE NAME:	Clouds						OCATION:	Taylo	in 17	no	lest			
WELL NO	ma-1	6			SAMPI	LE ID:					9ATE	1-1	7	
					PU	RGING	DATA							
WELL	ER (inches):	Z Total W	ell Depth (fee	et):	25	2010/03/2010/03/2010	CREEN INTER			ER (fee	et):/8.9		URGE PUM R BAILER:	P TYPE
WELL VO	OLUME PURGE	: 1 WELL VO	DLUME = (T	OTAL WI	ELL DEPTH fee		IC DEPTH TO	WATER) feet)		APAC	ITY gallons	/foot	B	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	۵	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR

								(
	-							
								y ====
		-		-	-			

SAMPLING DATA

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

	BY (PRINT)	. 4.2		SAMPLER(S) SIG		7	SAMPLING DATE:	SAMPLING 925	TIME:
PUMP OF			2	TUBING MATERIAL CODE	1		FIELD-FILTERED: Filtration Equipment 1		LTER SIZE:
DUPLICA	TE COLLECTE	D: Y	N						
SAM	PLE CONTAIN	IER SPECIFIC	CATION	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	46	Up mel	HCL	NA	NA	8260 B	B	
REMARK	g:								
INC. WOLLY	<b>o</b> .								
MATERIA	L CODES: A	AG = Amber G	Blass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polypro	pylene; S = Silicone;	T = Teflon; O =	Other (Specify)
SAMPLIN	G EQUIPMEN	T CODES:		Peristaltic Pump; erse Flow Peristaltic		P = Bladder F aw Method (*	Pump; ESP = Electric Tubing Gravity Drain);	Submersible Pump; O = Other (Specify	

SITE NAME: (	Llouds						SITE LOCATION: /	TAYI	on il	no	Lote	s		
	me - 1	7			SAMP	LE ID:	SITE LOCATION: /	ı	*		DATE	-11-	-14	
					PU		IG DATA							
WELL	R (inches): 7	_	Vell Depth (fee		30	DEPT	SCREEN INTER	30 fee	STATIC E	ER (fee	et): 23.4	15 P	URGE PUM	
WELL VO	LUME PURGE	: 1 WELL V	OLUME = (TC = (	OTAL WE	ELL DEPTH fee	- ST/ et -	ATIC DEPTH TO	WATER) feet)	X WELL C	APAC	TY gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
9:10	0	.37	25.17		5,40		118		3.09		. 89		closs	STRONG

#### SAMPLING DATA SAMPLER(S) SIGNATURE(S): SAMPLING DATE: SAMPLING TIME: SAMPLED BY (PRINT) 910 FUMP OR TUBING 11-12-14 FILTER SIZE: TUBING FIELD-FILTERED: Filtration Equipment Type: DEPTH IN WELL (feet): MATERIAL CODE: DUPLICATE COLLECTED: SAMPLE PUMP INTENDED ANALYSIS SAMPLING FLOW SAMPLE PRESERVATION EQUIPMENT SAMPLE CONTAINER SPECIFICATION AND/OR CODE RATE METHOD (ml/min) TOTAL VOL FINAL SAMPLE MATERIA PRESERVATIVE VOLUME ADDED IN FIELD CONTAINER ID CODE LCODE USED pH (mL) HLL NA 8260D NA 6 Honk REMARKS: NO CAP PE = Polyethylene; S = Silicone; T = Teflon; O = Other (Specify) MATERIAL CODES: AG = Amber Glass; PP = Polypropylene; CG = Clear Glass; ESP = Electric Submersible Pump; BP = Bladder Pump; SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; O = Other (Specify) SM = Straw Method (Tubing Gravity Drain);

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

RFPP = Reverse Flow Peristaltic Pump;

VELL NO	Mw-	18			SAMPL		DATA		on i, 7		11-	10-	/4	
VELL DIAMETE	R (inches): 2		Vell Depth (fee	30	>	WELL SO	CREEN INTE	30 fe		ER (fee	et):25.0°	PL	RGE PUM BAILER	P TYPE
VELL VO	LUME PURGE	1 WELL V	OLUME = (T(	OTAL WELI	DEPTH fee	- STATI t-	C DEPTH TC	WATER: feet	) X WELL (	APAC	ITY gallons	foot	<b>E</b>	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
230		(galions)	24.73	3	5.79		349		1-72		218		CAN	STRO
VELL CA	PACITY (Gallo	ns Per Foot):	<b>0.75</b> " = 0.02	2; 1" = 0.	04; 1.25	5" = 0,06;	2" = 0.16;	3" = 0.3	37; 4" = 0.65	; 5"	= 1.02;	6" = 1.	47; <b>12"</b> =	= 5,88
AMPLE	D BY (PRINT)			CAMBIE		MPLIN	G DATA		SAMPLING	DATE		SAME	PLING TIME	
rillo	~ Ewily			TUBING	M	ACT ON E	12.		//-/2	1	4		C30	
EPTH IN	R TUBING NWELL (feet): TE COLLECTE	D: Y	0		AL CODE:	:			Filtration Eq				i ici ci	VOIGL
SAM	PLE CONTAIN	ER SPECIFIC			SAMPI	LE PRESE	RVATION		INTENE ANALY AND/O	SIS	EQ	MPLIN JIPME CODE	IG NT	PUMP FLOW RATE (ml/min)
SAMPLE D CODE	# CONTAINER	MATERIA L CODE	VOLUME	PRESER		ADDED IN	FIELD	FINAL pH						1
	3	LU	Home	HC	L	NA		NA	8260	B		B		
EMARK		AP				,			***					

NAME: Clouds CHERROS		SITE LOCATION:	Taylon	i Tui	NoteH	
WELL NO: MW-19	SAMPLE ID:				11-10-14	

		Tatalla	full Dooth /for	40.	PU	_	CREEN INTER	2\/ΔΙ	STATIC	DEPTH	4	PI	JRGE PUM	P TYPE
WELL DIAMETEI	R (inches): 2		/ell Depth (fee			DEPTH:	20 feet to	30 fee	TO WATE	ER (fe	et)24.5		RBAILER:	
WELL VO	LUME PURGE:	1 WELL VO	DLUME = (TO = (	OTAL W	ELL DEPTH fee	- STAT t-	IC DEPTH TO	WATER) feet)	X WELL C	APAC	gallons	foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
270	(3)	(gairains)	23.19		5.77		176		1.27		24.6		Class	87
												-		-
								$\Box$						
						-		-			-			-
				_		_		+ +						-
										-				

SAMPLED	BY (PRINT)			SAMPLER(S) SIG	MPLING DA'	VA 10150	SAMPLING DATE:	SAMPLING	TIME:
	- En	. Na		1	- N		11-13-14	1230	
PUMP OR		7		TUBING MATERIAL CODE			FIELD-FILTERED: Filtration Equipment	Y (N) FI	TER SIZE:
DUPLICA"	TE COLLECTE	D: Y	(N)						
SAMI	PLE CONTAIN	ER SPECIFI	CATION	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINER S	NTAINER L CODE VOLUME		PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	60	yoml	HCL	NA	NA	8260B	ØB	
REMARK	S;								
MATERIA	L CODES: A	G = Amber (	Glass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polypro	ppylene; S = Silicone;	T = Teflon; O = 6	Other (Specify

SITE NAME:	Cloud	5				1	SITE LOCATIO	v: 7	27	1012 3	Two	) No	,LC	h	
	mw				SAMPI	E ID:		14	/		"	DATE	10-	14	
					PU	RGING	3 DAT	Α							
WELL	R (inches):	2	Vell Depth (fee	25		WELL S	CREEN fe	NTERV	5 fe	STATIC et TO WAT	ER (fee	t):232	8 P	URGE DUM R BAILER	TYPE
WELL VO	LUME PURGE	: 1 WELL V	OLUME = (TC = (	TAL WELL [	DEPTH fee		IC DEPT	N OT H	/ATER feet	X WELL C	CAPACI	TY gallons	s/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.		pH (su)	Δ	CON (μS	77.0	Δ	DO (mg/L)	۵	TURB IDITY (NTU)	Δ	COLOR	ODOR
130	,,,	13-17-17	22.41	5.	94		3/1			2.79		40		CL	ROW
							-						-		
							-								
							-		_				-		
			-				-								
WELL CA	APACITY (Gallo	ons Per Foot):	0.75" = 0.02	1" = 0.04	1.25	5" = 0.06;	2" = 0	16; 3	3" = 0,3	4" = 0.65	5" =	= 1.02;	6" = 1	.47; <b>12"</b>	= 5.88
						MPLIN		TA							
SAMPLE	DBY (PRINT)	EW'	Ma	SAMPLER(	(S) SIGI	NATURE(	S):			SAMPLING				PLING TIME	=;
	R TUBING N WELL (feet):			TUBING MATERIAL	CODE					FIELD-FILT Filtration Eq		t Type.C	)	FILTER	R SIZE:
DUPLICA	TE COLLECTE	D: Y	(n)									-11			SAMPLE
SAM	PLE CONTAIN	IER SPECIFIC	CATION		SAMP	LE PRES	ERVATIO	N		INTEND ANALY AND/O METHO	SIS	EQ	MPLII UIPME CODE	NG ENT	PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	CONTAINER S	MATERIA L CODE	VOLUME	PRESERVA USED		ADDED	L VOL IN FIELD nL)		NAL DH						
	3	06	40 ML	HC		N	A	N	A	826	OB		B		

STABILIZATION CRITERIA

SAMPLING EQUIPMENT CODES:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass;

REMARKS:

PE = Polyethylene;

B = Bailer;

APP = After Peristaltic Pump; B = Barrer Bererse Flow Peristaltic Pump;

PP = Polypropylene;

SM = Straw Method (Tubing Gravity Drain);

BP = Bladder Pump;

S = Silicone;

T = Teflon;

ESP = Electric Submersible Pump;

O = Other (Specify)

SITE NAME:	cloud	15					SITE LOCATION:	lAy	lon a	Tu	DATE	clt		
WELL NO	mL.	- <b>BEE</b> 2	2		SAMPL	LE ID:					11-	10-	14	
					PU	RGIN	G DATA							
WELL DIAMETE	ER (inches): 2		/ell Depth (fee	3	ව	DEPTH	CREEN INTER	30 fe	STATIC et TO WAT	ER (fee	26	8 PL	REALER	P TYPE
WELL VO	OLUME PURGE	: 1 WELL V	OLUME = (TC = (	OTAL W	ELL DEPTH fee	- STAT	IC DEPTH TO	WATER) feet)	X WELL C	CAPAC	gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
100	(3	(gallono)	22.54		5.65		217		1-15		(0.3		Class	PNI
WELL C	APACITY (Gallo	ons Per Foot):	0.75" = 0.02	: 1":	= 0.04; 1.2	5" = 0.06;	2" = 0.16;	3" = 0.3	7; <b>4"</b> = 0.65	5"	= 1.02;	6" = 1.	47; <b>12"</b> =	= 5.88
					CAI	MDI /A	IC DATA							
SAMPLE	D BY (PRINT).	am E	Ewing	SAM	PLER(S) SIGN		IG DATA		SAMPLING				PLING TIME	Ē)
	R TUBING N WELL (feet):	Will C	1	TUBI	NG ERIAL CODE:				FIELD-FILT Filtration Eq			)		R SIZE:
DUPLICA	ATE COLLECTE	ED: Y	(N)						r				1 6	SAMPLE
	IDI E CONTAIN						ERVATION		INTEND			MPLIN	IG	PUMP

SAMPLED	BY (PRINT).	am 1	Ewing	SAMPLER(S) SIG	NATURE(S):		11-10-14	900	
	TUBING WELL (feet):		2	TUBING MATERIAL CODE	:		FIELD-FILTERED: Filtration Equipment		ILTER SIZE:
DUPLICA.	TE COLLECTE	D: Y	N						
SAMI	PLE CONTAIN	ER SPECIFI	CATION	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	CG	40 mL	HCL	N/A	NA	8260 B	(b)	
REMARK	] S:								
MATERIA	L CODES: A	G = Amber (	Glass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polyprop	ylene; S = Silicone;	T = Teflon; O =	Other (Specif
AMPLIN	G EQUIPMEN	T CODES:		Peristaltic Pump; erse Flow Peristaltic		P = Bladder P aw Method (T	ump; ESP = Electric ubing Gravity Drain);	Submersible Pump O = Other (Specify	

NAME: (	locals	Che	Mare-			L	OCATION:	7410	, , , , , , , , , , , , , , , , , , ,	140	DATE:			
WELL NO:	mu-	23			SAMPL	E ID:					11-	10	14	_
					PUI		DATA							
WELL	R (inches): 2	Total W	ell Depth (feet	3.0		WELL S	CREEN INTER	RVAL 30 fee	STATIC I	DEPTH ER (fee	24.9	9 O	URGE PUMI R BAILER	PITYPE
WELL VO	LUME PURGE	: 1 WELL VO	DLUME = (TC = (	TĂL WE	LL DEPTH feet	- STAT	IC DEPTH TO	WATER) feet)	X WELL C	APAC	gallons	/foot	=	gallons
TIME	VOLUME PURGED	CUMUL. VOLUME PURGED	TEMP.	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
1215	(gallons)	(gallons)	21.82		5.67		203		1.03		108		cL	5
										-	-	_		
												-		
								Į.		-		-	-	-
												-		
	CAPACITY (Gal		V							_				5.00

				SAI	MPLING DAT	ΓΑ		SAMPLING	TIME:
SAMPLED	BY (PRINT)	Emi	na	SAMPLER(S) SIGI	NATURE(S):		SAMPLING DATE: 11-13-14	1215	2000
	TUBING WELL (feet):	- PW	119	TUBING MATERIAL CODE			FIELD-FILTERED: Y Filtration Equipment T	1 /	LTER SIZE:
	PLE CONTAIN		(N)	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINER	CONTAINER L CODE VOLUM	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	CG	40 ML	HCL	N/A	N/A	8260 B	В	
REMARK	(S:					1			
MATERIA	AL CODES: /	AG = Amber	Glass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polypro		1 10110111	Other (Specif
MATERIA			APP = After	Clear Glass; PE Peristaltic Pump; verse Flow Peristaltic	B = Bailer; E	BP = Bladder I		T = Teflon; O = c Submersible Pump O = Other (Specif	);

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

ELL NO	Clouds Mw	25			SAMP	LE ID:		in i Tu		DATE	-/0	0-14	
					DI	RGING DA							
ELL AMETE	R (inches): 7	-	Vell Depth (fee	25	5.6	WELL SCREEN	NINTERVAL	STATIC I	ER (feet)	2160	) P	URGE PUM R BAILER	PTYPE
ELL VO	LUME PURGE	: 1 WELL V	OLUME = (T	OTAL WI		- STATIC DEP	fee	t) X WELL C	APACII	gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ (	OND. (S)	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
45			20.07		627	41.		.90		2.7Y		Claga	577
												-	
ELL CA	PACITY (Gallo	ns Per Foot):	0.75** = 0.02	2; 1" =	0.04; 1.2	5" = 0.06; 2" =	0.16; 3" = 0.	37; <b>4</b> " = 0.65	5" =	1.02;	6" = 1	.47; 12" :	= 5.88
			Dup.	3	SΔ	MPLING D	ΔΤΔ						
111-	BY (PRINT)			SAMP	LER(S) SIG	NATIONE(S):		SAMPLING	-14		8	LING TIME	
EPTH IN	R TUBING N WELL (feet): TE COLLECTE	D: Y	N	MATE	IG RIAL CODE	:		FIELD-FILT Filtration Eq	ERED: uipment	Y (N Type:		FILTER	( SIZE:
	PLE CONTAIN	0	242		SAMP	LE PRESERVAT	ION	INTEND ANALY AND/O	SIS	EQ	MPLII JIPME CODE	NG ENT	AMPLE PUMP FLOW RATE ml/min)
AMPLE CODE	# CONTAINER S	MATERIA L CODE	VOLUME		SERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	рн				_		
	3	66	Hom	HC		NA	NA	8260	OB	1	3		
					₩/)								
	S:												
EMARK													

	Clou	26			SAMPL	E ID:			ylon s		74	-16	14	
					PU	RGING	ΠΔΤΔ							
ELL ELL VO	R (inches):	2	Vell Depth (fee		20	WELL SCE DEPTH: / - STATIC	REEN INT	ERVAL o/UA fe O WATER	STATIC I to WAT X WELL C	ER (fee	1)22.9	50	URGE POM RBAILER:	P TYPE
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED	TEMP_(°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
410	(gallotis)	(gallons)	25.03		1.6(		95		3.88		12.7		Clari	ro
ELL CA	APACITY (Gallo	ns Per Foot):	0.75" = 0.02	2; 1" = 0.		A SAME SECOND THE DAY AND			17: 4 <sup>33</sup> = 0.65	5" :	= 1.02;	6" = 1	.47; 12" =	= 5.88
UMP OF	D BY (PRINT)  P F F F F F F F F F F F F F F F F F F		N	TUBING	R(S) SIGN	/	DAI		SAMPLING // -1/- FIELD-FILTI Filtration Eq	/4 ERED:	YN	141	PLING TIME	
	PLE CONTAIN				SAMPI	LE PRESER	VATION		INTEND ANALY AND/O METHO	SIS OR	EQ	MPLI UIPMI CODE	NG ENT	SAMPLI PUMP FLOW RATE (ml/min
SAM	#	MATERIA L CODE	VOLUME		RVATIVE ED	TOTAL V ADDED IN F (mL)		FINAL pH						
SAMPLE CODE	CONTAINER S			HC	1	NA		NA	826	013	L	3		
AMPLE	20073 CANDON STATES	C6	York	110										

SITE NAME:	Cloud	S					LOCATION: /	Ayl	on i	7	wo 1	0	tc/4	
WELL NO	Cloud MV.	- 27			SAMP	LE ID:				177	DATE /	10-	14	
					PU	IRGIN	IG DATA							
WELL	R (inches): 7	_	Vell Depth (fee	3	30	WELL	SCREEN INTER	30 fee		ER (fee	et):/8.8	5 P	URGE PLIM BAILER:	
WELL VO	LUME PURGE	: 1 WELL V	OLUME = (T( = (	OTAL WE	LL DEPTH fee	- STA	ATIC DEPTH TO	WATER) feet)	X WELL C	CAPAC	ITY gallons	/foot	*	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
830			23.14		4.77		200		1.57		6.74		Clan	NO
							id							
						1		1 1			1	1		

SAMPLING DATA SAMPLING TIME: SAMPLER(S) SIGNATURE(S): SAMPLING DATE: SAMPLED BY (PRINT) 11-13-14 Ewina FIELD-FILTERED: FILTER SIZE: PUMP OR TUBING TUBING Filtration Equipment Typ MATERIAL CODE: DEPTH IN WELL (feet): DUPLICATE COLLECTED: N SAMPLE INTENDED SAMPLING EQUIPMENT ANALYSIS FLOW SAMPLE PRESERVATION SAMPLE CONTAINER SPECIFICATION AND/OR CODE RATE METHOD (ml/min) TOTAL VOL FINAL SAMPLE MATERIA PRESERVATIVE VOLUME ADDED IN FIELD CONTAINER ID CODE L CODE USED pH S 8260B 3 HCL 40 MI REMARKS: PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) CG = Clear Glass; PE = Polyethylene; MATERIAL CODES: AG = Amber Glass; BP = Bladder Pump; ESP = Electric Submersible Pump; SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) RFPP = Reverse Flow Peristaltic Pump;

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SITE LOCATION. TRYLOR & TWO NOTEH

WELL NO	me :	28			SAMPLE II	D:				11:0	10-1	<u> </u>	
					PURG	SING DAT	Α.						
WELL DIAMETE	R (inches): Z	_	Vell Depth (feet	30	W	EPTH: 15 fe	NTERVAL et to 3 0 fe	STATIC TO WAT	ER (feet	19.7	PURG	E PUMP	TYPE
VELL VO	DLUME PURGE	: 1 WELL V	OLUME = (TO = (	TAL WELL DE	EPTH - feet -	STATIC DEPT	H TO WATER feet	R) X WELL C	APACII		/foot =		gallons
TIME	VOLUME PURGED (gallons)	VOLUME PURGED (gallons)	TEMP. (°C)		H su)	Δ CON (μS	- A	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ C	OLOR	ODOR
315			20.44	4.	74	19	9	1.44		331	C	(me	NO1
IELL CA	APACITY (Gallo	ons Per Foot):	<b>0.75"</b> = 0.02;	1" = 0.04;	1.25" =	0.06; 2" = 0	.16; 3" = 0.3	37; <b>4"</b> = 0.65	5"=	1.02;	6" = 1.47;	12" =	5.88
					SAMD	LING DA	ТΔ						
1	DBY (PRINT)	m E	wing	SAMPLER(S				SAMPLING	-14		SAMPLIN 815	G TIME:	
EPTH I	R TUBING N WELL (feet): TE COLLECTE	ED: Y	(N)	TUBING MATERIAL (	CODE:			FIELD-FILT Filtration Eq		Y N	)	FILTER	SIZE.
5011 - 1510 - 151	IPLE CONTAIN				SAMPLE F	PRESERVATIO	N	INTENE ANALY AND/O	SIS	EQU	MPLING JIPMENT CODE		AMPLE PUMP FLOW RATE ml/min)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	VOLUME	PRESERVAT USED	TIVE A	TOTAL VOL DOED IN FIELD (mL)	FINAL pH						
	3	06	40ml	HCL		N/A	N/A	8260	B	1	<i>b</i>		
								+		-		_	

MATERIAL CODES: AG = Amber Glass;

SAMPLING EQUIPMENT CODES:

REMARKS:

SITE

NAME:

Clouds

PP = Polypropylene;

B = Bailer; BP = Bladder Pump; ESP = Elect Pump; SM = Straw Method (Tubing Gravity Drain);

PE = Polyethylene;

CG = Clear Glass;

APP = After Peristaltic Pump; B = B
RFPP = Reverse Flow Peristaltic Pump;

O = Other (Specify)

S = Silicone;

ESP = Electric Submersible Pump; avity Drain); O = Other (Specify)

SITE Clouds	SITE LOCATION: TAYLOR	5 Two NoteH
WELL NO: m -29	SAMPLE ID:	DATE: 10-14

					FU		DATA	21/41	STATIC	DEDTI	_	To	UDCERMA	DIVDE
WELL DIAMETEI	R (inches): 2		Vell Depth (fee		30	DEPTH:	CREEN INTER	30 fee	t TO WAT	ER (fe	et) 19 9	2 0	R FAILER	FIIFC
WELL VO	LUME PURGE:	1 WELL V	OLUME = (To = (	OTAL W	ELL DEPTH fee	- STAT	IC DEPTH TO	WATER) feet)	X WELL	CAPAC	ITY gallons			gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
800	(guilletie)	(gallolis)	20-17		5.86		172		1.46		186		Cleps	160
										-				
								$\vdash$		-	-			
								+						
								-			-			
										1				

	PRINT)	vina		SAMPLER(S) SIG	NATURE(S):		SAMPLING DATE: (1-13-14	800	572 E			
PUMP OR	TUBING I WELL (feet):		6	TUBING MATERIAL CODE			FIELD-FILTERED: Y N FILTER SIZE: Filtration Equipment Type:					
DUPLICA	TE COLLECTE	D: Y	(1)									
SAMI	PLE CONTAIN	ER SPECIFIC	CATION	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)			
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH						
	3	66	Yonk	MCL	NA	NA	8260 B	B				
REMARK	S.											
MATERIA	L CODES: A	G = Amber G	Blass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polypro	pylene; S = Silicone;	T = Teflon; O =	Other (Specif			

VELL		Total V	Vell Depth (feet)		PURGIN	G DATA		STATIC	DEPTH		PL	IRGE PUMI	P TYPE
DIAMETE	R (inches): 2		OLUME = (TO) = (	50	DEPTH	1:/5 fee	to30 fee	X WELL C			) OF	BAILER)	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ pH		CONE	Δ.	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
600	(3=110-110)	(galloris)	2292	5,5	rt	15	L	1.87		6.67		clm	57
							4						
ELL CA	PACITY (Gallo	ns Per Foot):	0.75" = 0.02;	1" = 0.04;	1.25" = 0.06	2" = 0.1	6; <b>3</b> " = 0.3	7; 4" = 0.65	5" =	1.02;	6" = 1.	47; 12" =	5.88
UMP OF	D BY (PRINT)  Am Em  R TUBING  WELL (feet):	Dup.	2	SAMPLER(S) TUBING MATERIAL C	SAMPLING // - / - FIELD-FILTI Filtration Eq	SAMPLING TIME:							
UPLICA	TE COLLECTE		CATION	s				AMPLING QUIPMENT CODE		AMPLE PUMP FLOW RATE ml/min			
SAMPLE D CODE	# CONTAINER S	AINER LCODE		PRESERVATI USED	ADDED	AL VOL IN FIELD nL)	FINAL pH						263150111623
	3	46	LJOML	HCL		one	N4	826	8260		13		
-													

SITE NAME:	Cloud	5				1	OCATION:	Taylo	~ 9 To	w	Not	e H		
WELL NO	me	31			SAME	PLE ID:		1.50			DATE	10	14	
					PL	JRGIN	G DATA							
DIAMETE	R (inches):	2	Vell Depth (fee	7	35	WELL S	CREEN INTER	RVAL 35 fee	STATIC TO WAT	ER (fee	et) 26.3	6 P	URGE PUM R GAILER	
WELL VC	DECIVIE PORGE	. I WELL V	= (	JIAL VVI	fe	et –	IO DEI III IO	feet)	X	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
1300	0	,,,	22.02		5.61		181		1.11		2.91		Clen	Slisas
						-		+		- N			-	
	_					-		-				-		
								+ +						
										-				-
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										1	-			
WELL CA	APACITY (Gallo	ons Per Foot):	0.75" = 0.02	2; 1"=	0.04; 1.2	25" = 0.06;	2" = 0,16;	3" = 0.37	7: 4" = 0.65	5"	= 1.02;	6" = 1	.47; 12" =	² 5.88
					SA	MPI IN	IG DATA							
	D BY (PRINT)			E12020	LER(S) SIG				SAMPLING				PLING TIME	:
					IBING FIELD-FILTERED: Y (N)							1300 FILTER SIZE:		
	WELL (feet):	D: Y	(M	MATE	RIAL CODE	E:			Filtration Eq	uipmer	nt Type:			
SAMPLE CONTAINER SPECIFICATION				SAMI	PLE PRES	ERVATION		INTENE ANALY AND/O METH	SIS OR	EQ	MPLII UIPME CODE	NG ENT	PUMP FLOW RATE	

REMARKS: nell 5041 NO 04 T = Teflon; O = Other (Specify) MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; APP = After Peristaltic Pump; B = E RFPP = Reverse Flow Peristaltic Pump; B = Bailer; SAMPLING EQUIPMENT CODES: BP = Bladder Pump; ESP = Electric Submersible Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

TOTAL VOL ADDED IN FIELD

(mL) NA FINAL

NA

8260 B

PRESERVATIVE

USED

STABILIZATION CRITERIA

SAMPLE

ID CODE

CONTAINER

MATERIA

L CODE

66

VOLUME

HONL

pH:  $\pm$  0.2 units Temperature:  $\pm$  0.2 °C Specific Conductance:  $\pm$  5% Dissolved Oxygen:  $\pm$  0.2 mg/L or  $\pm$  10% Turbidity:  $\leq$  10 NTU or  $\pm$  10%

(ml/min)



DIAMETER (inches): Z  WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY  = (	gallon
WELL DIAMETER (inches): 2 Total Well Depth (feet): WELL SCREEN INTERVAL DEPTH: /5 feet to 70 feet TOWATER (feet): 25.16 OR GATE WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY Geet - Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet - Geet X Grant Geet X Grant Geet - Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant Geet X Grant	gallon OR ODO
WELL DIAMETER (inches): 2  Total Well Depth (feet): DEPTH: /5 feet to 70 feet DEPTH TO WATER (feet): 21/6 OR CARL  WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X Gent of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purger of the purge	gallon OR ODO
NELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY gallons/foot =  TIME VOLUME PURGED (Gallons) (°C)	gallon OR ODO
TIME VOLUME PURGED (gallons)  24.78  S.55  22.67  COND. (µS) \( \Delta \) (mg/L) \( \Delta \) (TURB (DITY) (NTU) \( \Delta \) (OLUME (PURGED) (gallons)  24.78  S.55  22.57  1. \( \Delta \) (1. \( \Delta \)) (NTU)	OR ODO
TIME VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (gallons)  VOLUME PURGED (g	
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/ELL CAPACITY (College Per Feet), A 7511 = 0.00, All = 0.04, A 8711 = 0.00	
WELL CARACITY (College Des Feet), D. Tell - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All - O.Co., All -	
VELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 1	2" = 5,88
AMPLED BY (PRINT)  SAMPLER(S) SIGNATURE(S): SAMPLING DATE: SAMPLING T	
SAMPLED BY (PRINT)  SAMPLER(S) SIGNATURE(S):  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:  SAMPLING DATE:	IME:
UMP OR TUBING  EPTH IN WELL (feet):  TUBING  FIELD-FILTERED: Y N FILTER OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF T	TER SIZE:
DUPLICATE COLLECTED: Y N	SAMPLE
SAMPLE CONTAINER SPECIFICATION SAMPLE PRESERVATION SAMPLE PRESERVATION METHOD SAMPLING EQUIPMENT CODE	PUMP FLOW RATE (ml/min)
AMPLE CONTAINER S WATERIA L CODE VOLUME PRESERVATIVE USED TOTAL VOL ADDED IN FIELD (mL) FINAL pH	a market market
3 LG 40ML HCL NA NA 8260B B	
EMARKS:	

SAMPLING EQUIPMENT CODES:

VELL NO	Cloud	33			SAMP	LE ID:	SATION.	7	lon s	7 00	DATE	10	14	
	_ <u>-</u> -												.,	
VELL	ER (inches):	Z Total V	Vell Depth (fee	et): 3	FU	WELL SCF DEPTH: 2	REEN INTER	RVAL fe	STATIC TO WAT	DEPTH	1 et):24.6	S 0	URGE PUM	P TYPE
ELL VO	DLUME PURGE	1 WELL V	OLUME = (To	OTAL W	ELL DEPTH fee	- STATIC	DEPTH TO	WATER)	X WELL (	CAPACI	JTÝ gallons			gallons
TIME	VOLUME PURGED (gallons)	VOLUME PURGED (gallons)	TEMP, (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
745			24.59		5.43		101		1.26		3.63		Clega	SX
ELL CA	APACITY (Gallo	ns Per Foot):	0.75" = 0.02	.; <b>1</b> " =		5" = 0.06; 2 MPLING	-	3" = 0.3	7; <b>4"</b> = 0.65	; 5"=	= 1.02;	6" = 1	.47; 12" =	5.88
//// JMP OF	BY (PRINT)  R TUBING	ving		TUBIN	LER(S) SIGI	NATURE(\$):			SAMPLING	'Z-/	4	SAME	YS FILTER	
	N WELL (feet): TE COLLECTE	D: Y	0	MATE	RIAL CODE:				Filtration Eq	uipmen	t i ype:			
	PLE CONTAIN	ER SPECIFIC	CATION		SAMPI	LE PRESERV	/ATION		INTEND ANALY AND/O METHO	SIS OR	EQI	MPLIN JIPME CODE	NG ENT	AMPLE PUMP FLOW RATE nl/min)
SAM		T T	VOLUME		SERVATIVE USED	TOTAL VC ADDED IN FI (mL)		INAL pH				_		
AMPLE	# CONTAINER S	MATERIA L CODE						A	8260	13	1	3		
SAM AMPLE CODE	CONTAINER		HOML	Ho	:L	NA	N							
AMPLE	CONTAINER S	L CODE		Ho		NA	N							
AMPLE	CONTAINER S	L CODE		H		NA	N							

SITE NAME:	Clou	ls			-	S	OCATION:	TAYlo	r a.	Tu	2/4	OTC.	H	
VELL NO	mu	34			SAMP	PLE ID:					DATE	-10	-14	
					PU	IRGINO	DATA							
VELL DIAMETE	R (inches): 2	2	Vell Depth (fee	3	5	DEPTH:	CREEN INT	0 35 fe	et TOW.	C DEPTH ATER (fee	1):25.4	9 PU	RGE PLIM	P TYPE
VELL VO	LUME PURGE	: 1 WELL V	OLUME = (TC ≈ (	OTAL WE		- STAT et -	IC DEPTH T	O WATER) feet)		CAPAC		s/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
425	0	2007	2467		4.88		156		1.57		10.1		Clim	S/-s
								-						
VELL CA	PACITY (Gallo	ons Per Foot);	0.75" = 0.02	; 1"=	0.04; 1.2	<b>5"</b> = 0.06;	2" = 0.16;	3" = 0.3	7; <b>4"</b> = 0.	65; <b>5</b> " :	= 1.02;	6" = 1.4	17; <b>12</b> " =	5.88
AMPI FO	BY (PRINT)		,,,	SAMPL	SAI ER(S) SIG	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	G DATA	١	SAMPLIN	G DATE:		SAMP	LING TIME	:
Villin	n Ew	'7		12	y	(	1872			2-11	4		25 FILTER	
EPTH IN	TUBING WELL (feet): TE COLLECTE	D: Y	<b>(</b>	MATER	RIAL CODE	:	-		Filtration (				FILTER	SIZE:
SAMI	PLE CONTAIN	ER SPECIFIC	2000aa 2000		SAMP	LE PRESE	RVATION		INTEI ANAL AND MET	YSIS OR	EQ	MPLING UIPMEN CODE	G NT	AMPLE PUMP FLOW RATE ml/min)
SAMPLE D CODE	# CONTAINER S	MATERIA L CODE	VOLUME		ERVATIVE ISED	TOTAL ADDED IN (ml	FIELD	FINAL pH					,	
	3	16	40mL	Hc	L	NA		NA	826	OB		13		
		1												

STABILIZATION CRITERIA

SAMPLING EQUIPMENT CODES:

pH:  $\pm$  0.2 units Temperature:  $\pm$  0.2 °C Specific Conductance:  $\pm$  5% Dissolved Oxygen:  $\pm$  0.2 mg/L or  $\pm$  10% Turbidity:  $\leq$  10 NTU or  $\pm$  10%

APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)



VELL NO	Clouds	-35			SAMP	LE ID:	CATION. 7	7	on ar.		DATE	16	-14	
							0.0000000000000000000000000000000000000					, -		
		1	47-11 D 11-75			RGING	DATA REEN INTER	15/41	STATIC	DEDT		Lo	URGE PUM	B TVDE
VELL NAMETE	R (inches): 2	,	Well Depth (fee	33	I DEPTH	DEPTH:	20 feet to	3C fe	et TO WAT	ER (fee	24.6	6 0	REALER	FIFE
VLLL VO	LOME TORGE		= (	71 ME ** EE	fee		, , , , , , ,	feet)	X		gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP_ (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
330		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	24.68	4	5,29		164		.90		867		Clagr	57/
				-										
			1											
			1							-		-		
														-
														-
VELL CA	PACITY (Gallo	ons Per Foot):	0.75" = 0.02	; 1" = 0.	04; 1.25	5" = 0.06;	2" = 0.16;	<b>3"</b> = 0.3	7; 4" = 0.65	5"	= 1,02;	6" = 1	.47; 12" =	: 5,88
					SAI	MPLING	DATA							
					The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s				-	DATE				
AMPLE	D BY (PRINT)	A		SAMPLE	R(S) SIGI	NATURE(S)			SAMPLING				PLING TIME	
الأس	PM F	wing		SAMPLE	R(S) SIGI	NATURE(S)			//-/2	-/4 RED:	Y (N	13	PLING TIME 多し FILTER	
UMP OF DEPTH IN	R TUBING WELL (feet):		(N)	TUBING	AL CODE:	1			11-12	-/4 RED:	Y (N	13	30	
UMP OF DEPTH IN	PM E		<u>(N)</u>	TUBING	W	1			//-/2	-/4 ERED: uipmen	Y N	3	FILTER	R SIZE:
PUMP OF DEPTH IN	R TUBING WELL (feet):	ED: Y		TUBING	AL CODE:	1			//-/2 FIELD-FILTI Filtration Eq	ERED: uipmen	Y N it Type:	13	FILTER FILTER	SAMPLE PUMP FLOW RATE
PUMP OF DEPTH IN	R TUBING N WELL (feet): TE COLLECTE PLE CONTAIN	ED: Y		TUBING	SAMPI	LE PRESER TOTAL V ADDED IN I	EVATION  /OL FIELD F	INAL pH	FIELD-FILTI Filtration Eq  INTEND ANALY AND/O	ERED: uipmen	Y N it Type:	MPLII JIPME	FILTER FILTER	R SIZE:
UMP OF EPTH IN UPLICA SAM	R TUBING N WELL (feet): TE COLLECTE PLE CONTAIN	ER SPECIFIC	CATION	TUBING MATERIA	SAMPI SAMPI RVATIVE ED	LE PRESER	EVATION  /OL FIELD F		FIELD-FILTI Filtration Eq  INTEND ANALY AND/O	ERED: uipmen	Y N It Type:	MPLII JIPME	FILTER FILTER	SAMPLE PUMP FLOW RATE
UMP OF DEPTH IN DUPLICA	R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ED: Y  ER SPECIFIC  MATERIA L CODE	CATION	TUBING MATERIA PRESER US	SAMPI SAMPI RVATIVE ED	LE PRESER  TOTAL V ADDED IN I (mL)	EVATION  /OL FIELD F	pН	INTEND ANALY AND/O	ERED: uipmen	Y N It Type:	MPLII JIPME CODE	FILTER FILTER	SAMPLE PUMP FLOW RATE
UMP OF EPTH IN UPLICA SAM	R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ED: Y  ER SPECIFIC  MATERIA L CODE	CATION	TUBING MATERIA PRESER US	SAMPI SAMPI RVATIVE ED	LE PRESER  TOTAL V ADDED IN I (mL)	EVATION  /OL FIELD F	pН	INTEND ANALY AND/O	ERED: uipmen	Y N It Type:	MPLII JIPME CODE	FILTER FILTER	SAMPLE PUMP FLOW RATE
UMP OF DEPTH IN DUPLICA	R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ED: Y  ER SPECIFIC  MATERIA L CODE	CATION	TUBING MATERIA PRESER US	SAMPI SAMPI RVATIVE ED	LE PRESER  TOTAL V ADDED IN I (mL)	EVATION  /OL FIELD F	pН	INTEND ANALY AND/O	ERED: uipmen	Y N It Type:	MPLII JIPME CODE	FILTER FILTER	SAMPLE PUMP FLOW RATE
UMP OF EPTH IN UPLICA SAM	R TUBING N WELL (feet): TE COLLECTE PLE CONTAIN  # CONTAINER S	ED: Y  ER SPECIFIC  MATERIA L CODE	CATION	TUBING MATERIA PRESER US	SAMPI SAMPI RVATIVE ED	LE PRESER  TOTAL V ADDED IN I (mL)	EVATION  /OL FIELD F	pН	INTEND ANALY AND/O	ERED: uipmen	Y N It Type:	MPLII JIPME CODE	FILTER FILTER	SAMPLE PUMP FLOW RATE

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump;

RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain);

B = Bailer; BP = Bladder Pump;

ESP = Electric Submersible Pump; Gravity Drain); O = Other (Specify)

	36				SAMPL	LE ID:			lon an		DATE //-/	0-	14	
					PU	RGINO	DATA							
	R (inches): 2	_	Vell Depth (fee	3	5	WELL S DEPTH: - STAT	CREEN INTE	35 fe	et TO WAT  X WELL C	ER (fe	et) 247	2 0	URGE PUM REAILER	P TYPE
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
200		(ganerie)	24.14		4.81		134		1.44		17./		clea	57
						- 4								
										-				
WELL CA	PACITY (Gallo	ons Per Foot):	0.75" = 0.02	2; 1" = (	).04; 1.25	5" = 0.06;	2" = 0.16;	3" = 0.3	7; 4" = 0.65	5"	= 1.02;	6" = 1	47; 12" =	5.88
	BY (PRINT)			SAMPI	SAI ER(S) SIGN		G DATA		SAMPLING	DATE:		SAM	PLING TIME	
SAMPLED				2	NE				11-12	-/9		15	00	
WIND OR	TUBING WELL (feet):	ring	_	TUBING	RIAL CODE:				FIELD-FILTE Filtration Eq				FILTER	SIZE:
WIND OR DEPTH IN	TUBING		N											
PUMP OR DEPTH IN	TUBING WELL (feet):	ED: Y			RIAL CODE:		RVATION			ED SIS	sA EQU	MPLIN JIPME CODE	NG ENT	
PUMP OR DEPTH IN DUPLICATION SAME	TUBING WELL (feet): TE COLLECTE	ED: Y		MATER	RIAL CODE:		. VOL N FIELD	FINAL pH	INTEND ANALYS	ED SIS	sA EQU	MPLIN	NG ENT	AMPLE PUMP FLOW RATE
PUMP OR DEPTH IN DUPLICATION SAME	TUBING WELL (feet): TE COLLECTE PLE CONTAIN  # CONTAINER	ER SPECIFIC	CATION	PRESE U	SAMPL ERVATIVE	E PRESE	VOL N FIELD		INTEND ANALYS	ED SIS OR	sA EQL	MPLIN	NG ENT	AMPLE PUMP FLOW RATE
PUMP OR DEPTH IN DUPLICA	TUBING WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ER SPECIFIC  MATERIA L CODE	VOLUME	PRESE U	SAMPL SAMPL ERVATIVE SED	LE PRESE TOTAL ADDED II	VOL N FIELD	pН	INTEND ANALYS AND/O METHO	ED SIS OR	sA EQL	MPLIN JIPME CODE	NG ENT	AMPLE PUMP FLOW RATE
PUMP OR DEPTH IN DUPLICATION SAME	TUBING WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ER SPECIFIC  MATERIA L CODE	VOLUME	PRESE U	SAMPL SAMPL ERVATIVE SED	LE PRESE TOTAL ADDED II	VOL N FIELD	pН	INTEND ANALYS AND/O METHO	ED SIS OR	sA EQL	MPLIN JIPME CODE	NG ENT	AMPLE PUMP FLOW RATE

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 O = Other (Specify)

VELL NO	Cloud				SAMPL	EID:	OCATION: /	AYIO	n i Tu	0 /	DATE:	-		
	mw3	/			SAMPL	E ID.					11-1	0-1	<i>Y</i>	
					PUF	RGING	DATA							
VELL VELL VO	R (inches): 7	2	Veil Depth (fee	3:	L DEPTH feet	DEPTH: - STATI	CREEN INTE  det to C DEPTH TO	35 fe	et TO WAT  X WELL C	ER (fee	124.8	7 0	JRGE PUMI R KAILER	P TYPE gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED	TEMP.	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
315	(gallons)	(gallons)	24.66	1	1-58		146		266		.76		Clean	Alis
								-						
/ELL CA	PACITY (Gallo	ons Per Foot):	0.75" = 0.02	; 1" = 0.0	70	10:			37; <b>4"</b> = 0.65	5"	= 1.02;	6" = 1.	47; <b>12"</b> =	5,88
						MPLIN	G DATA							
	BY (PRINT)			150	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	HATURE(S	S):		SAMPLING			SAME	LING TIME	:
UMP OR DEPTH IN	TUBING WELL (feet):	,	0	TUBING	R(S) SIGN AL CODE	ATURE(S	5):		SAMPLING //-/2 FIELD-FILTE Filtration Equ	- 八 RED:	YO	131	FILTER	
UMP OR EPTH IN	TUBING	,	<b>O</b>	TUBING	ty	ATURE(S	5):		//~/2   FIELD-FILTE   Filtration Eq	- /( RED: uipmen	Y (N t Type:	131	FILTER	SIZE:
PUMP OR DEPTH IN DUPLICA	TUBING WELL (feet):	D: Y		TUBING	AL CODE:		RVATION		/1-/2	RED:	Y N t Type:	131	FILTER	AMPLE PUMP FLOW RATE
UMP OR EPTH IN UPLICA SAMI	R TUBING N WELL (feet): TE COLLECTE PLE CONTAIN	D: Y		TUBING	SAMPL	E PRESE TOTAL ADDED IN	RVATION .VOL N FIELD	FINAL pH	//-/2 FIELD-FILTE Filtration Equ	RED:	Y N t Type:	MPLIN JIPME	FILTER	AMPLE PUMP FLOW RATE
UMP OR EPTH IN UPLICA SAMI	R TUBING N WELL (feet): TE COLLECTE PLE CONTAIN	ER SPECIFIC	CATION	TUBING MATERIA MATERIA	SAMPL EVATIVE ED	E PRESE	RVATION  VOL N FIELD)	FINAL	//-/2 FIELD-FILTE Filtration Equ	RED: Lipmen	Y N t Type:	MPLIN JIPME CODE	FILTER	AMPLE PUMP FLOW RATE
UMP OR EPTH IN UPLICA SAMI	R TUBING WELL (feet): TE COLLECTE PLE CONTAIN  # CONTAINER S	ER SPECIFIC  MATERIA L CODE	CATION	TUBING MATERIA  PRESER USI	SAMPL EVATIVE ED	E PRESE TOTAL ADDED IN	RVATION  VOL N FIELD)	FINAL pH	/1-/2 FIELD-FILTE Filtration Equ	RED: Lipmen	Y (N t Type:	MPLIN JIPME CODE	FILTER	AMPLE PUMP FLOW RATE
PUMP OR DEPTH IN DUPLICA	R TUBING WELL (feet): TE COLLECTE PLE CONTAIN  # CONTAINER S	ER SPECIFIC  MATERIA L CODE	CATION	TUBING MATERIA  PRESER USI	SAMPL EVATIVE ED	E PRESE TOTAL ADDED IN	RVATION  VOL N FIELD)	FINAL pH	/1-/2 FIELD-FILTE Filtration Equ	RED: Lipmen	Y (N t Type:	MPLIN JIPME CODE	FILTER	SIZE:  AMPLE PUMP FLOW

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ESP = Electric Submersible Pump;

O = Other (Specify)

MELL NO	Cloud	- W			SAMPI	I E ID:		17/10	n i Tu	0010	DATE		,,	
WELL NO	mw	38_			SAIVIPI	LG 1D.				_	11-1	0-1	4	
					PU	RGING	DATA							
WELL DIAMETE	ER (inches):  CLUME PURGE	2_	Vell Depth (fee		35	DEPTH2	CREEN INTE	35 fe	STATIC TO WAT	ER (fee	et):26.1	7 º	URGE PUM REAILER	P TYPE
WELL VC	OLUME PURGE	: 1 WELL V	= (	JIAL WE		- STATE	C DEPIR IC		t) X WELL (	JAPAC	gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
240		(ganons)	24.53		4.81		72		6-47		3.14		C10-	Non
					111									
								-						
						- 4								
								-						
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								+						
			1											
WELL CA	APACITY (Gallo	ons Per Foot):	<b>0.75"</b> = 0.02	1" =	J.04; <b>1.2</b> !	5" = 0.06;	<b>2"</b> = 0.16;	3" = 0.	37; <b>4"</b> = 0.65	; 5"	= 1.02;	6" = 1	.47; 12" =	5.88
					SAI	MPI INC	G DATA							
SAMPLE	D BY (PRINT)			SAMPL		NATURE(S			SAMPLING		2 1		PLING TIME	
1-1111	Mm EL	ulng			1							1	Z VÖ FILTER	0.75
711				MATER	SIAL CODE:	:			Filtration Eq			7	FILTER	SIZE.
DEPTH IN											_			AMPLE
DEPTH IN	TE COLLECTE	D: Y	0							_				
DEPTH IN			0.0000000000000000000000000000000000000		SAMPI	LE PRESEI	RVATION		INTENE ANALY AND/O METHO	SIS	EQI	MPLII JIPME CODE	INT	PUMP FLOW RATE
DEPTH IN	TE COLLECTE		0.0000000000000000000000000000000000000		SAMPI ERVATIVE ISED	TOTAL ADDED IN (mL	VOL FIELD	FINAL pH	ANALY AND/O METH	SIS DR DD	EQI	JIPME	INT	PUMP FLOW RATE
DEPTH INDUPLICA  SAM  SAMPLE	PLE CONTAIN  # CONTAINER	ER SPECIFIC	CATION		ERVATIVE ISED	TOTAL ADDED IN	VOL FIELD		ANALY AND/0	SIS DR DD	EQI	JIPME	INT	PUMP FLOW
DEPTH INDUPLICA  SAM  SAMPLE	PLE CONTAIN  CONTAINER  S	ER SPECIFIC  MATERIA L CODE	VOLUME	L	ERVATIVE ISED	TOTAL ADDED IN (mL	VOL FIELD	pН	ANALY AND/O METH	SIS DR DD	EQI	JIPME	INT	PUMP FLOW RATE
DEPTH INDUPLICA SAM SAMPLE	PLE CONTAIN  CONTAINER  S	ER SPECIFIC  MATERIA L CODE	VOLUME	L	ERVATIVE ISED	TOTAL ADDED IN (mL	VOL FIELD	pН	ANALY AND/O METH	SIS DR DD	EQI	JIPME	INT	PUMP FLOW RATE
DEPTH INDUPLICA  SAM  SAMPLE	PLE CONTAIN  CONTAINER  S	ER SPECIFIC  MATERIA L CODE	VOLUME	L	ERVATIVE ISED	TOTAL ADDED IN (mL	VOL FIELD	pН	ANALY AND/O METH	SIS DR DD	EQI	JIPME	INT	PUMP FLOW RATE
DEPTH INDUPLICA  SAM  SAMPLE	PLE CONTAIN  CONTAINER  S	ER SPECIFIC  MATERIA L CODE	VOLUME	L	ERVATIVE ISED	TOTAL ADDED IN (mL	VOL FIELD	pН	ANALY AND/O METH	SIS DR DD	EQI	JIPME	INT	PUMP FLOW RATE

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 O = Other (Specify)

	nw-3	,									171	10-		
					PU	RGING	DATA							
ELL	R (inches): Z	Total \	Vell Depth (fee	et): 3	5	WELL SO	CREEN INTE	RVAL	STATIC et TO WAT	DEPTH	ot): 2 7 'P		URGE PUM R BAILER	P TYPE
ELL VC	LUME PURGE	: 1 WELL V	OLUME = (TO			- STATI	C DEPTH TO	) WATER) feet)	X WELL (	CAPAC	ITY gallons	Sant No.		gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
30	(3)	(gametto)	23.07		5.84		117		1-43		.74		Llope	400
							<u> </u>							
								-		-				
						- 13		-						
		-						+			-			
			-											
			Ĭ.											
JMP OF	D BY (PRINT)  R TUBING  WELL (feet):	~ ing		TUBING	ER(S) SIG	NATURE(S	G DATA		SAMPLING //-/2- FIELD-FILT Filtration Eq	- <b>/4</b> ERED:	YG	11	PLING TIME 3 O FILTER	
	TE COLLECTE	D: Y	(W)											
SAM	PLE CONTAIN	ER SPECIFI	CATION		SAMP	LE PRESE	RVATION		INTENE ANALY AND/O METHO	SIS DR	EQ	MPLI UIPMI CODE	NG NT	SAMPLE PUMP FLOW RATE ml/min)
SAMPLE O CODE	# CONTAINER S	MATERIA L CODE	VOLUME		RVATIVE SED	TOTAL ADDED IN (mL	FIELD	FINAL pH						
	3	66	LIOML	Hcl		NA	-	NA	8260	13	-	B	-	
									(					
EMARK	S:													

				PU	RGING DA	TA						
VELL DIAMETER (inches): 2	-	Vell Depth (fee	35		WELL SCREET DEPTH: 20	feet to 35 f	STATIC eet TO WAT	ER (fee	t):27.0		URGE PUIV	P TYPE
VELL VOLUME PURGE:	1 WELL V	OLUME = (TC = (	OTAL WEL	L DEPTH feet			R) X WELL (	CAPAC	gailons	/foot	=	gallons
TIME VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Λ.	DND, ΔS)	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
45		21.63	•	5.84	1-	77	1.58		4.44		Close	Koh
ELL CAPACITY (Gallon												
	ns Per Foot):	<b>0.75</b> " = 0.02	; 1" = 0.	04; 1.25	" = 0.06; <b>2</b> " =	0.16; 3" = 0.	37; 4" = 0.65	5"	= 1.02;	6" = 1	.47; 12"	= 5.88
	ns Per Foot):	0.75" = 0.02		SAI	MPLING DA							
AMPLED BY (PRINT)  VIIIM M E~		0.75" = 0.02	SAMPLE	SAN R(S) SIGN	MPLING DA		37; 4" = 0.65  SAMPLING	DATE:		SAMI	PLING TIME	
AMPLED BY (PRINT)  WIMP OR TUBING DEPTH IN WELL (feet):	· <i>n</i>	0.75" = 0.02	SAMPLE	SAN R(S) SIGN	MPLING DA		SAMPLING	DATE:	Y (N	SAMI	PLING TIME	<b></b>
AMPLED BY (PRINT)  IMM E  UMP OR TUBING  EPTH IN WELL (feet):	D: Y	0	SAMPLE	SAIN ER(S) SIGN AL CODE:	MPLING DA	ATA	SAMPLING	DATE:  /  ERED:  uipmen  DED  SIS  DR	Y t Type:	SAMI	PLING TIME	E: R SIZE:
AMPLED BY (PRINT)	D: Y	0	SAMPLE	SAIR  R(S) SIGN  AL CODE:  SAMPL	MPLING DA	ATA	SAMPLING	DATE:  // ERED: uipmen  DED SIS DR OD	Y t Type:	MPLII DIPME	PLING TIME	SAMPLE PUMP FLOW RATE
AMPLED BY (PRINT)	D: Y  ER SPECIFIC	CATION	SAMPLE TUBING MATERIA PRESER	SAIR (S) SIGN AL CODE:  SAMPL  RVATIVE ED	MPLING DA	ON FINAL	SAMPLING	DATE:  // ERED: uipmen  DED SIS DR OD	Y t Type:	SAMI	PLING TIME	SAMPLE PUMP FLOW RATE
AMPLED BY (PRINT)  VILLO ME  UMP OR TUBING EPTH IN WELL (feet):  UPLICATE COLLECTED  SAMPLE CONTAINE  AMPLE CODE S	D: Y  ER SPECIFIC  MATERIA L CODE	CATION	SAMPLE TUBING MATERIA  PRESER	SAIR (S) SIGN AL CODE:  SAMPL  RVATIVE ED	MPLING DA	ON FINAL pH	SAMPLING	DATE:  // ERED: uipmen  DED SIS DR OD	Y t Type:	MPLII DIPME	PLING TIME	SAMPLE PUMP FLOW RATE
SAMPLE CONTAINER  SAMPLE CONTAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE SAMPLE  SAMPLE CONTAINER  SAMPLE SAMPLE	D: Y  ER SPECIFIC  MATERIA L CODE	CATION	SAMPLE TUBING MATERIA  PRESER	SAIR (S) SIGN AL CODE:  SAMPL  RVATIVE ED	MPLING DA	ON FINAL pH	SAMPLING	DATE:  // ERED: uipmen  DED SIS DR OD	Y t Type:	MPLII DIPME	PLING TIME	E:  SAMPLE PUMP FLOW RATE
SAMPLE CONTAINER  SAMPLE CONTAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE CONTAINER  SOUD STAINER  SAMPLE SAMPLE  SAMPLE CONTAINER  SAMPLE SAMPLE	D: Y  ER SPECIFIC  MATERIA L CODE	CATION	SAMPLE TUBING MATERIA  PRESER	SAIR (S) SIGN AL CODE:  SAMPL  RVATIVE ED	MPLING DA	ON FINAL pH	SAMPLING	DATE:  // ERED: uipmen  DED SIS DR OD	Y t Type:	MPLII DIPME	PLING TIME	E: R SIZE: SAMPLE PUMP FLOW RATE

NAME: Clouds

	Houds	41			SAMP	LE ID:		- /		e Ti		DATE	10 -	14	
	1110	11										1112	, ,		
					PU	RGING	DAT	Δ.							
WELL DIAMETEI WELL VO	R (inches): 7	_	Vell Depth (fee VOLUME = (T) = (	3	SELL DEPTH	DEPTH:	CREEN IN 20 fee C DEPTH	to 35-	feet R)	TO WATE  X WELL CA	R (fee	1):26.9	9 0		TYPE
TIME	VOLUME PURGED	CUMUL. VOLUME PURGED	TEMP.	Δ	pH (su)	Δ	CONE (μS)	). A	1	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
630	(gallons)	(gallons)	2467		5.43		160			1.85		10		Clan	shir
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						- 4			+						
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									-	and the second and the second					
		FER 1923 1931		2 1" =	D DA: 12						671	4 000		47. 499 -	
WELL CA	PACITY (Gallo	ons Per Foot)	: 0.75" = 0.02		0.04, 1.2	5" = 0.06;	2" = 0.1	6; 3" = 0	).37;	<b>4"</b> = 0.65;	5" =	= 1.02;	6" = 1.	47; 12" =	5.88
WELL CA	PACITY (Gallo	ons Per Foot)	: 0.75" = 0.02		SA	MPLIN	G DAT		).37;	4" = 0.65;	5" =	= 1.02;	6" = 1.	47; 12" =	5.88
SAMPLED	D BY (PRINT)		: 0.75" = 0.02			MPLIN	G DAT			SAMPLING [	DATE:		SAME	PLING TIME	
SAMPLED	D BY (PRINT)	Ewly	: 0.75" = 0,02	SAMPI	SAI LER(S) SIG	MPLIN	G DAT			SAMPLING I	DATE:		SAME		
SAMPLEC /// PUMP OR DEPTH IN	D BY (PRINT)  CTUBING WELL (feet):	Ewly		SAMPI	SAI LER(S) SIG	MPLIN	G DAT			SAMPLING [	DATE:	Y	SAME	PLING TIME	
SAMPLEC /// PUMP OR DEPTH IN	D BY (PRINT)	Ewly	(1)	SAMPI	SAI LER(S) SIG	MPLIN	G DAT			SAMPLING I	DATE:	Y N	SAMF	PLING TIME 3 CO FILTER	SIZE:
SAMPLED PUMP OR DEPTH IN DUPLICA	D BY (PRINT)  CTUBING WELL (feet):	Ewy	<b>®</b>	SAMPI	SAI LER(S) SIGI IG RIAL CODE	MPLIN	G DAT	·A		SAMPLING I	RED: ipmen	Y N t Type:	SAME	PLING TIME PLING TIME FILTER FILTER	SIZE:
SAMPLEC  PUMP OR DEPTH IN DUPLICATION  SAMI	D BY (PRINT)  TUBING  WELL (feet):  TE COLLECTE	Ewy	<b>®</b>	SAMPI Z TUBIN MATER	SAI LER(S) SIGI IG RIAL CODE	MPLIN	G DAT	·A		SAMPLING I	RED: ipmen	t Type:	SAME D MPLIN JIPME CODE	PLING TIME PLING TIME FILTER FILTER	SIZE: AMPLE PUMP FLOW RATE
SAMPLEC PUMP OR DEPTH IN DUPLICAT SAMI	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER	Ewy ED: Y HER SPECIFIC MATERIA	CATION	SAMPI Z TUBIN MATER	SAI LER(S) SIG IG RIAL CODE SAMP	MPLIN NATURES LE PRESE	G DAT	FINAL		SAMPLING I	RED: ipmen	Y N t Type:	SAME D MPLIN JIPME CODE	PLING TIME PLING TIME FILTER FILTER	SIZE:  AMPLE PUMP FLOW RATE
SAMPLEC  PUMP OR DEPTH IN DUPLICATION  SAMI	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ED: Y  BER SPECIFIC  MATERIA L CODE	CATION VOLUME	SAMPI  TUBIN  MATEI  PRES	SAI LER(S) SIG IG RIAL CODE SAMP	MPLIN NATURES  LE PRESE TOTAL ADDED II (m)	G DAT	FINAL		SAMPLING I	RED: ipmen	t Type:	SAME D MPLIN JIPME CODE	PLING TIME PLING TIME FILTER FILTER	SIZE: AMPLE PUMP FLOW RATE
SAMPLET  PUMP OR  DEPTH IN  DUPLICAT  SAMI	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ED: Y  BER SPECIFIC  MATERIA L CODE	CATION VOLUME	SAMPI  TUBIN  MATEI  PRES	SAI LER(S) SIG IG RIAL CODE SAMP	MPLIN NATURES  LE PRESE TOTAL ADDED II (m)	G DAT	FINAL		SAMPLING I	RED: ipmen	t Type:	SAME D MPLIN JIPME CODE	PLING TIME PLING TIME FILTER FILTER	SIZE:  AMPLE PUMP FLOW RATE
SAMPLEC PUMP OR DEPTH ID DUPLICA SAMI	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ED: Y  BER SPECIFIC  MATERIA L CODE	CATION VOLUME	SAMPI  TUBIN  MATEI  PRES	SAI LER(S) SIG IG RIAL CODE SAMP	MPLIN NATURES  LE PRESE TOTAL ADDED II (m)	G DAT	FINAL		SAMPLING I	RED: ipmen	t Type:	SAME D MPLIN JIPME CODE	PLING TIME PLING TIME FILTER FILTER	SIZE: AMPLE PUMP FLOW RATE

SAMPLING EQUIPMENT CODES:

B = Bailer;

APP = After Peristaltic Pump;

RFPP = Reverse Flow Peristaltic Pump;

iller; BP = Bladder Pump; ESP = Electi SM = Straw Method (Tubing Gravity Drain);

ESP = Electric Submersible Pump; ravity Drain); O = Other (Specify)

	Cloud mu	12			SAMP	LE ID:			on = T		14-	10	-14	
					PU	RGING DA								
WELL DIAMETE	R (inches): 2	Total	Well Depth (fee	t): 3	5	WELL SCREE	N INTERV	S fee	STATIC et TO WAT	TER (fee	et):27.2	Z P	URGE PUM	PTYPE
WELL VO	LUME PURGE	: 1 WELL V	OLUME = (TC = (	OTAL W	ELL DEPTH fee	- STATIC DE	PTH TO W	/ATER) feet)	X WELL	CAPAC	ITY gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP_ (°C)	Δ	pH (su)	Δ	OND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOI
(S)			22.45		4-58		75-		5.40		40.9		Ulen.	NO
						1.0								
										_	-		-	-
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WELL CA	APACITY (Gallo	ons Per Foot)	: <b>0.75</b> " = 0,02	; 1"=	= 0.04; <b>1.2</b>	5" = 0.06; 2"	= 0,16; 3	3" = 0.3	7; 4" = 0.69	5; 5"	= 1.02;	6" = 1	47; 12" :	= 5.88
		ons Per Foot)	: 0.75" = 0.02		SA	MPLING D		3" = 0.3						
SAMPLED Will,	D BY (PRINT)  R TUBING  N WELL (feet):		: <b>0.75</b> " = 0.02	SAMF	SAI PLER(S) SIG	MPLING D		<i>y"</i> = 0.3	7; 4" = 0.6:   SAMPLING	DATE	Y (N	SAM	PLING TIME	<u>:</u>
SAMPLEI	D BY (PRINT)	-i'y	: 0.75" = 0.02	SAMF	SAPLER(S) SIG	MPLING D		<i>y"</i> = 0.3	SAMPLING	DATE	Y (N	SAM	PLING TIME 50 FILTER	E: R SIZE:
SAMPLEI Will, PUMP OF DEPTH IN DUPLICA	D BY (PRINT)  R TUBING  N WELL (feet):		®	SAMF	SAI PLER(S) SIG NG PRIAL CODE	MPLING D	ATA	3" = 0.3	SAMPLING	ERED QUIPMEN	Y N Type:	SAM	PLING TIME  FILTER  NG ENT	SAMPLE PUMP FLOW RATE
SAMPLE  SAMPLE  SAMPLE	D BY (PRINT)  R TUBING  N WELL (feet):  TE COLLECTE  PLE CONTAIN  #  CONTAINER  S		®	SAMF Z TUBIN MATE	SAI PLER(S) SIG NG PRIAL CODE	MPLING D NATURE(S):	DATA  TION  EIN P	NAL DH	SAMPLING // - /2 FIELD-FILT Filtration Ed  INTEN ANALY AND/ METH	DED OR	Y N N N N N N N N N N N N N N N N N N N	SAM J/ MPLI JIPMI CODE	PLING TIME  FILTER  NG ENT	SAMPLE PUMP FLOW RATE
SAMPLEI  SAM  SAMPLE	D BY (PRINT)  R TUBING  N WELL (feet): TE COLLECTE  PLE CONTAIN	D: Y  ER SPECIFIC  MATERIA	(N)	SAMP Z TUBIN MATE	SAI PLER(S) SIG	MPLING D NATURE(S):  LE PRESERVA  TOTAL VOL ADDED IN FIEL	TION	NAL DH	SAMPLING // - / 2 FIELD-FILT Filtration Ed	DED OR	Y N N N N N N N N N N N N N N N N N N N	SAM // MPLI JIPMI	PLING TIME  FILTER  NG ENT	SAMPLE PUMP FLOW RATE
SAMPLEI	D BY (PRINT)  R TUBING  N WELL (feet):  TE COLLECTE  PLE CONTAIN  #  CONTAINER  S	ER SPECIFIC  MATERIA L CODE	CATION VOLUME	SAMP Z TUBIN MATE	SAI PLER(S) SIG NG RIAL CODE SAMP	MPLING D NATURE(S):  LE PRESERVA'  TOTAL VOL ADDED IN FIEL (mL)	DATA  TION  EIN P	NAL DH	SAMPLING // - /2 FIELD-FILT Filtration Ed  INTEN ANALY AND/ METH	DED OR	Y N N N N N N N N N N N N N N N N N N N	SAM J/ MPLI JIPMI CODE	PLING TIME  FILTER  NG ENT	SAMPLE PUMP

SAMPLING EQUIPMENT CODES:

APP = After Peristaltic Pump; B = Bar RFPP = Reverse Flow Peristaltic Pump;

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AME: Cloud	5				Si	CATION:	194/0	n iTuo	No	test			
ELL NO: mw-				SAMP						DATE	11-11	4	
				PU	RGING	DATA				2.48111			
/ELL IAMETER (inches):	2	Vell Depth (fee	4	0	WELL SC	REEN INTER	40 fe	STATIC et TO WAT	ER (fe	et):27.6		URGE PUMI	TYPE
ELL VOLUME PURGI	E: 1 WELL V	OLUME = (TC = (	TAL WE	L DEPTH fee		DEPTH TO	WATER) feet	X WELL (	APAC	ITY gallons	/foot	=	gallons
TIME VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
100		23.83		4.72		163		5.71		2.17		Clam	NUN
VELL CAPACITY (Gall	ons Per Foot):	0.753 = 0.02	; 1" = 0	.04; 1.2	5" = 0.06;	2" = 0.16;	3" = 0.3	7; 4" = 0.65	; 5"	= 1,02;	6" = 1	.47; 12" =	5.88
AMPLED BY (PRINT)			SAMPL		MPLING			SAMPLING	DATE	: 1	SAMI	PLING TIME	į.
silly Ewing	NA		TUBING	ER(S) SIG	NATURE(S)			SAMPLING	ERED:	Y		PLING TIME	
AMPLED BY (PRINT)  JUMP OR TUBING  EPTH IN WELL (feet):  UPLICATE COLLECT	NA ED: Y	<b>®</b>	TUBING	ER(8) SIG	NATURE(S)		=	//-//-/5 FIELD-FILT Filtration Eq	ERED: uipmer	Y		FILTER	SIZE:
UMP OR TUBING DEPTH IN WELL (feet):	ED: Y	(1)	TUBING	IAL CODE	NATURE(S)	RVATION		//-//-/9	ERED: uipmer DED SIS DR	Y ont Type:		FILTER	SIZE:
UMP OR TUBING EPTH IN WELL (feet): UPLICATE COLLECT	ED: Y	(1)	TUBING MATER	IAL CODE	LE PRESEF	RVATION /OL I	FINAL pH	FIELD-FILT Filtration Eq INTENE ANALY AND/O METH	ERED: uipmer DED SIS DR OD	Y ont Type:	MPLIN	FILTER	AMPLE PUMP FLOW RATE
UMP OR TUBING DEPTH IN WELL (feet): UPLICATE COLLECT  SAMPLE CONTAINE  CONTAINER	NER SPECIFIC	CATION	TUBING MATER	SAMP  RVATIVE SED	LE PRESEF	RVATION /OL I		FIELD-FILT Filtration Eq	ERED: uipmer DED SIS DR OD	Y ont Type:	MPLIN	FILTER	AMPLE PUMP FLOW RATE
UMP OR TUBING EPTH IN WELL (feet): UPLICATE COLLECT  SAMPLE CONTAIN  GAMPLE CONTAINER SCODE S	NER SPECIFIC  MATERIA L CODE	CATION	TUBING MATER  PRESE	SAMP  RVATIVE SED	LE PRESEF	RVATION /OL I	рН	FIELD-FILT Filtration Eq INTENE ANALY AND/O METH	ERED: uipmer DED SIS DR OD	Y ont Type:	MPLII UIPME CODE	FILTER	AMPLE PUMP FLOW RATE
UMP OR TUBING EPTH IN WELL (feet): UPLICATE COLLECT  SAMPLE CONTAIN  GAMPLE CONTAINER SCODE S	NER SPECIFIC  MATERIA L CODE	CATION	TUBING MATER  PRESE	SAMP  RVATIVE SED	LE PRESEF	RVATION /OL I	рН	FIELD-FILT Filtration Eq INTENE ANALY AND/O METH	ERED: uipmer DED SIS DR OD	Y ont Type:	MPLII UIPME CODE	FILTER	AMPLE PUMP FLOW RATE

 APP = After Peristaltic Pump;
 B = Bailer;
 BP = Bladder Pump;
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 RFPP = Reverse Flow Peristaltic Pump;
 SM = Straw Method (Tubing Gravity Drain);
 O = Other (Specify)

					DI	IRGING	ב האד	۸						
VELL	R (inches): 2	20070270101	Vell Depth (feet	2000	31	WELL S	CREEN I	NTERVAL et to 3 L	STATIC feet TO WAT	TER (fee	124:2	) OF	IRGE PUMI R BAILER:	TYPE
VELL VC	LUME PURGE	: TWELL V	= (	) I AL WE		- 51A11	CUEFII	fee	et) X	CAFACI	gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	CON (μS	Α.	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
:15			23.90		4.18		126.8	1	6.47		. 83		cleac	Noi
														-
						-				<b>}</b>				-
						-								1
										-				
_						_								1
	D BY (PRINT)			SAMPL	SA LER(S) SIG	MPLIN		TA	SAMPLING				PLING TIME	
	TH ~ F	7		TUBIN	7				//- //- /		YCN	8:1	FILTER	SIZE:
EPTH IN	WELL (feet):	D: Y	(A)		RIAL CODE				Filtration Ed				751135576753	
	PLE CONTAIN				SAMP	LE PRESE	RVATIO	N	INTENI ANALY AND/	rsis Or	EQI	MPLIN JIPME CODE	IG NT	AMPLE PUMP FLOW RATE ml/min)
SAMPLE D CODE	# CONTAINER S	MATERIA L CODE	VOLUME		ERVATIVE JSED	TOTAL ADDED IN (ml	NFIELD	FINAL pH						
	3	C6	YouL	14	ch	10		NA	826	017	-	7		
EMARK														

	Cloud a	13					ION: TAY			L			
					PU	RGING DA							
VELL NAMETE	R (inches):	2	Vell Depth (fee	10	30	DEPTH: /5	N INTERVAL feet to づひ f	eet TO WAT	DEPTH ER (feet	22.6	7 0	URGE PUM	P TYPE
VELL VO	LUME PURGE	: 1 WELL V	OLUME = (T( = (	OTAL W	ELL DEPTH	- STATIC DE	TH TO WATER	R) X WELL ( et) X	CAPACIT	Y gallons		=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)		OND. (μS)	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
?3U	0		24.37		4.19	16	2	5.26		0.48		Clear	1000
			-								-		
								1			1		
VELL C	APACITY (Gallo	ons Per Foot):	0.75" = 0.02	2: 1"=	0.04; 1.2	5" = 0.06; 2" =	0.16; 3" = 0	37; 4" = 0.65	5; 5" =	1.02;	6" = 1	.47; 12" =	= 5.88
		ons Per Foot):	0.75" = 0.02		SA	5" = 0.06; 2" =  MPLING D  NATURE(S):		37; 4" = 0.65		1.02;		.47; 12" =	
SAMPLE	D BY (PRINT)	333,450,000 23-45	0.75" = 0.02		SA			SAMPLING	DATE:		SAM 8	PLING TIME	1
SAMPLEI		"' <del>'</del>	0.75" = 0.02	SAMP	SAPLER(S) SIG	MPLING D NATURE(S):		SAMPLING	DATE:	Y O	SAM 8	PLING TIME	1
SAMPLEI	D BY (PRINT)  An Fu R TUBING	<i>"</i>	0.75" = 0.02	SAMP	SA PLER(S) SIG	MPLING D NATURE(S):		SAMPLING	DATE:	Y O	SAM 8	PLING TIME : 30 FILTER	E: R SIZE:
SAMPLEI WILLOW PUMP OF DEPTH II DUPLICA	D BY (PRINT)  THE FOR  R TUBING  N WELL (feet):	Y	<b>©</b>	SAMP	SA PLER(S) SIG NG PRIAL CODE	MPLING D NATURE(S):	ATA	SAMPLING	DATE:  // ERED: uipment DED SIS DR	Y N Type:	SAM 8	PLING TIME 1.30 FILTEF	1
PUMP OF DEPTH IF	D BY (PRINT)  A For  R TUBING  N WELL (feet):  TE COLLECTE	Y	<b>©</b>	SAMP TUBIN MATE	SA PLER(S) SIG NG PRIAL CODE	MPLING D NATURE(S):	ATA TION	SAMPLING //-//- FIELD-FILT Filtration Ed	DATE:  // ERED: uipment DED SIS DR	Y N Type:	SAM B MPLI UIPMI CODE	PLING TIME 1.30 FILTEF	SAMPLE PUMP FLOW RATE
EAMPLEI PUMP OP DEPTH II DUPLICA SAM	D BY (PRINT)  A FOR  R TUBING  N WELL (feet):  TE COLLECTE  PLE CONTAIN  #  CONTAINER	ER SPECIFIC	CATION	TUBIN MATE	SAI PLER(S) SIG PLER(S) SIG PLER(S) SIG PLER(S) SIG PLER(S) SIG	MPLING D NATURE(S):  LE PRESERVAT  TOTAL VOL ADDED IN FIELI	ATA  TION  FINAL	SAMPLING //-//- (* FIELD-FILT Filtration Ec	DATE:  // ERED: uipment DED SIS DR	Y N Type:	SAM B MPLI UIPMI CODE	PLING TIME 1.30 FILTEF	SAMPLE PUMP FLOW RATE
SAMPLEI SAMPLE SAMPLE	D BY (PRINT)  THE FINANCE OF THE CONTAIN  # CONTAINER  S	ER SPECIFIC  MATERIA L CODE	CATION	TUBIN MATE	SAI PLER(S) SIG NG IRIAL CODE SAMP	MPLING D NATURE(S):  LE PRESERVA  TOTAL VOL ADDED IN FIELI (mL)	ATA TION TINAL pH	SAMPLING //-//- (* FIELD-FILT Filtration Ec	DATE:	Y N Type:	SAM B MPLI UIPMI CODE	PLING TIME 1.30 FILTEF	SAMPLE PUMP FLOW RATE
SAMPLEI SAMPLE SAMPLE	D BY (PRINT)  THE FINANCE OF THE CONTAIN  # CONTAINER  S	ER SPECIFIC  MATERIA L CODE	CATION	TUBIN MATE	SAI PLER(S) SIG NG IRIAL CODE SAMP	MPLING D NATURE(S):  LE PRESERVA  TOTAL VOL ADDED IN FIELI (mL)	ATA TION TINAL pH	SAMPLING //-//- (* FIELD-FILT Filtration Ec	DATE:	Y N Type:	SAM B MPLI UIPMI CODE	PLING TIME 1.30 FILTEF	SAMPLE PUMP FLOW RATE

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

NAME:	Cloud.	<i>(</i>				LO	CATION:	144	160 : T	udi	DATE			
/ELL NO	: mu	46			SAMPI	LE ID:					11-1	11-1	4	
					PH	RGING	ΠΔΤΔ							
ÆLL IAMETE	R (inches):	7 Total V	Vell Depth (fe	et): _	75	WELL SC	REEN INTE		STATIC I				JRGE PUM	PTYPE
ELL VO	LUME PURGE	1 WELL V	OLUME = (T = (	OTAL WE	LL DEPTH fee		DEPTH TO	WATER; feet	X WELL C	APACI	TY gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
:45	0		24.75		3.86		1		6.62		.74		Clear	not
			-				9	4						
							141							
			3											
				-				-						
VLLE OF	APACITY (Gallo	113 1 61 1 001).	0.75 - 0.0.	-	100	MPLING		0 0,0						
	D BY (PRINT)		_	0-3-4-0-0-3-1-Ga	ER(S) SIGI	NATURE(S)			SAMPLING				LING TIME	
UMP OF	R TUBING N WELL (feet):	- Cong		TUBING					FIELD-FILTE	RED:		_	FILTER	SIZE:
	TE COLLECTE	D: Y	N	IVIATE	VIAL CODE	t			1 illiauon Equ	apmen	стурс.			
SAM	PLE CONTAIN	ER SPECIFIC	CATION		SAMP	LE PRESER	EVATION		INTEND ANALYS AND/O METHO	SIS IR	EQU	MPLIN JIPME CODE	IG NT	AMPLE PUMP FLOW RATE ml/min)
SAMPLE D CODE	# CONTAINER	MATERIA L CODE	VOLUME		ERVATIVE JSED	ADDED IN (mL)	FIELD	FINAL pH						
	3	6	Home	H	L	NA		MA	8260	B	B	3		
REMARK	S:								11/					
	S:	G = Amber G	Blass: CG =	Clear Gla	ass: PE:	= Polyethyle	ne: PP =	Polyprop	oylene; <b>S</b> = S	ilicone;	<b>T</b> = Te	flon;	O = Other	(Specif

VELL NO	nu -4	8			SAMPL	E ID:			on : To		DATE	1-19	1	
					PU	RGING	DATA		Lock	00	Fen	CF		
/ELL IAMETE	R (inches): 2		/ell Depth (fee		30	WELL SO	REEN INT	ERVAL 30 fee	STATIC et TO WAT	DEPTH ER (fee	et):	PU	RGE PUMI BAILER:	P TYPE
ELL VO	LUME PURGE:	1 WELL VO	OLUME = (T = (	OTAL WE	LL DEPTH fee	- STATIC	DEPTHT	O WATER) feet)	X WELL	CAPAC	TY gallons	foot :	-	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
						0.								
	PACITY (Gallor D BY (PRINT)	is Per Foot):	0.75** = 0.0			MPLING	DATA	_	SAMPLING				LING TIME	
EPTH IN	R TUBING N WELL (feet): TE COLLECTEI	D Y	N	TUBIN	G RIAL CODE				FIELD-FILT Filtration Ed				FILTER	R SIZE:
	PLE CONTAINE				SAMP	LE PRESEI	RVATION		INTENI ANALY AND/	SIS OR	EQ	MPLIN JIPME CODE	IG NT	PUMP FLOW RATE (ml/min)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	VOLUME		ERVATIVE JSED	ADDED IN (mL	FIELD	FINAL pH						
		- 1												
REMARK	S:													

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

SITE NAME: Clouds	SITE LOCATION:	
WELL NO: M4-49	SAMPLE ID:	DATE:

WELL DIAMETE	R (inches):	2	ell Depth (fee			DEPTH:		feet	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	ER (fee	et):	5.000	JRGE PUM R BAILER:	PTYPE
WELL VO	LUME PURGE	: 1 WELL VO	DLUME = (T	OTAL W	ELL DEPTH fee	- STAT	C DEPTH TO	WATER) feet)	X WELL C	CAPAC	ITY gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
													,	

#### SAMPLING DATA

SAMPLED	BY (PRINT)			SAMPLER(S) SIGI	NATURE(S):		SAMPLING DATE:	SAMPLING	TIME:
	TUBING WELL (feet):			TUBING MATERIAL CODE			FIELD-FILTERED: Filtration Equipment		LTER SIZE:
DUPLICA	TE COLLECTE	D: Y	N	*					
SAMI	PLE CONTAIN	ER SPECIFIC	CATION	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
				-					
REMARK	S:								
MATERIA	L CODES: A	G = Amber G	Blass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polypro	pylene; S = Silicone;	T = Teflon; O =	Other (Specify)
SAMPLIN	G EQUIPMEN	T CODES:		r Peristaltic Pump; verse Flow Peristaltic		P = Bladder F raw Method (*	Pump; ESP = Electric Tubing Gravity Drain);	Submersible Pump; O = Other (Specify	

SITE NAME:							OCATION:							
	mur	50			SAMP	LE ID:					DATE			
					PU	IRGIN	G DATA		Locke	1	Fenc	E		
WELL	R (inches):	Total W	/ell Depth (fe	et):		WELL S	SCREEN INTER	RVAL fee	STATIC TO WAT			11000	URGE PUM OR BAILER:	P TYPE
WELLVO	DLUME PURGE:	1 WELL VO	OLUME = (T = (	OTAL WEL	L DEPTH fee	- STAT	TIC DEPTH TO	WATER) feet)	X WELL (	CAPAC	TY gallons	/foot	±	galions
TIME	VOLUME PURGED (gallons)	CUMUL, VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
						- 9								

#### SAMPLING DATA

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLED	BY (PRINT)			SAMPLER(S) SIG	NATURE(S):		SAMPLING DATE:	SAMPLING	TIME:
PUMP OR DEPTH IN	R TUBING			TUBING MATERIAL CODE	:		FIELD-FILTERED: Filtration Equipment	A (UA) (A)	LTER SIZE:
DUPLICA	TE COLLECTE	D: Y	N	10.					
SAM	PLE CONTAIN	ER SPECIFIC	CATION	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
REMARK	S:								
MATERIA	L CODES: A	G = Amber G	Glass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polypro	pylene; S = Silicone;	T = Teflon; O =	Other (Specify)
SAMPLIN	G EQUIPMEN	T CODES:		r Peristaltic Pump; verse Flow Peristaltic		P = Bladder F raw Method (	Pump; ESP = Electric Tubing Gravity Drain);	O = Other (Specify	

	C1040	5				L	CATION: /	AY	lon 4	Ins	Nara	H		
WELL NO	Claud mv	-51			SAMP	LE ID:			lon is		PATE	10	-14	
					PI	IRGING					7000			
WELL VO	ER (inches): 2	_	Well Depth (fe	3 '	5=	WELL SO	CREEN INTE	3 C fe	STATIC ret TO WAT	DEPTH	1 2 42	9 P	URGE PUM P BAILER	PTYPE
OLLE V	SEOME FORG	C. IVVELL	= (	OTAL WEL	fee	- 51A11	J DEPIH TO		) X WELL	SAPAC	gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND: (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
12:40			22.66		4.13		109		2.58		2.42		66	N
						N .								
			-											
VELL CA	PACITY (Galle	ons Per Foot):	0.75" = 0.02	; 1" = 0.0				3" = 0.3	7; 4" = 0.65	5" =	: 1.02;	5" = 1.	47; 12" =	5,88
	PACITY (Gallo	ons Per Foot):	0.75" = 0.02		SAI	MPLING	DATA	3" = 0.3	7; 4" = 0.65					
SAMPLED WILLA PUMP OR	BY (PRINT)  TUBING		0.75" = 0.02	SAMPLE	SAM R(S) SIGN		DATA	3" = 0.3	SAMPLING	DATE:	Y OI	SAMF	47; 12" =	
SAMPLED WILL A PUMP OR DEPTH IN	BY (PRINT)	-ing	0.75" = 0.02	SAMPLER	SAM R(S) SIGN	MPLING	DATA	3" = 0.3"	SAMPLING	DATE:	Y OI	SAMF	PLING TIME	
SAMPLED WILL A PUMP OR DEPTH IN DUPLICAT	D BY (PRINT) TUBING WELL (feet): TE COLLECTE	-ing	60	SAMPLE	SAN R(S) SIGN AL CODE:	MPLING	DATA	3" = 0.3	SAMPLING	DATE:	Y OT Type:	SAMF	FILTER  SIG INT	
SAMPLED WITH OR PUMP OR DEPTH IN DUPLICAT  SAMP	BY (PRINT)  TUBING WELL (feet):	-ing	60	SAMPLE	SAM R(S) SIGN L CODE: SAMPL	MPLING NATURE(S):  LE PRESER  TOTAL V ADDED IN F	OL F	3" = 0.3	SAMPLING FIELD-FILTE Filtration Equ	DATE:	Y OT Type:	SAMF	FILTER  SIG INT	SIZE:
SAMPLED WITH OR PUMP OR DEPTH IN DUPLICAT  SAMP	D BY (PRINT) TUBING WELL (feet): FE COLLECTE PLE CONTAIN	ER SPECIFIC	£D:	SAMPLEF TUBING MATERIA	SAMPL SAMPL	MPLING NATURE(S).  E PRESER TOTAL V	VATION OL FIELD F	INAL	SAMPLING FIELD-FILTE Filtration Equ	DATE: FRED: Jipment ED SIS R	Y OT Type:	SAMF 12 3 MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MP	FILTER  SIG INT	SIZE:
SAMPLED WILL PUMP OR DEPTH IN DUPLICAT	D BY (PRINT) TUBING WELL (feet): FE COLLECTE PLE CONTAIN  # CONTAINER S	ER SPECIFIC  MATERIA L CODE	EATION VOLUME	SAMPLES TUBING MATERIA	SAMPL SAMPL	MPLING NATURE(S):  LE PRESER  TOTAL V ADDED IN F (mL)	VATION OL FIELD F	INAL pH	SAMPLING  (	DATE: FRED: Jipment ED SIS R	Y Type:	SAMF 12 3 MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MPLIN MP	FILTER  SIG INT	SIZE:

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump;

B = Bailer; BP = Bladder Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

ESP = Electric Submersible Pump;

ITE AME: (	1040	15				S L	ITE OCATION:	TAY	10- 4	Ju	op	w/1	17	
ELL NO:	Mw.	52			SAMP	LE 1D:					177-	10-	14	
					DII	RGING	DATA		DRO	/				
ELL	(inches): Z	Total V	Vell Depth (fe	et):	FU	_	CREEN INT	ERVAL	STATIC et TO WAT				JRGE PUM	P TYPE
ELL VOLU	UME PURGE:	1 WELL V	OLUME = (T = (	OTAL WE				TO WATER)	X WELL (			1		gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND.	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
	BY (PRINT)					MPLIN	G DAT		37; 4" = 0.65				PLING TIME	
	VELL (feet):			TUBIN	G RIAL CODE	3			FIELD-FILT Filtration Eq			U .	FILTER	R SIZE:
	E COLLECTE		N		SAMP	LE PRESE	RVATION		INTENI ANALY AND/O METH	'SIS OR	EQ	MPLIN UIPME CODE	IG NT	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE O CODE	CONTAINER S	MATERIA L CODE	VOLUME		ERVATIVE JSED	TOTAL ADDED IN (ml	FIELD	FINAL pH						
EMARKS:														

WELL NO:	nw-s	53			SAMPL	E ID:					DATE:	01	4	
	1.100										,,,,,			
					PU	RGING	DATA							
WELL DIAMETER	R (inches): 2		/ell Depth (fee	12	0	DEPTH:	CREEN INTER	20 feet	STATIC D	ER (fe	et)://.00	L PL	REALER	P TYPE
WELL VO	LUME PURGE:	1 WELL VO	DLUME = (TC = (	TAL WE	LL DEPTH fee	- STAT	C DEPTH TO	WATER) feet)	X WELL C	APAC	ITY gallons	foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
2:15			25.22		41.52		98		272		5.46		CL	Ro
										_				-
														+
														-
_														
														1
WELL CA	PACITY (Gallor	ns Per Foot):	0.75" = 0.02	; 1" =	0.04; 1.25	5" = 0.06;	2" = 0.16;	3" = 0.37;	4" = 0.65;	5"	= 1.02;	6" = 1.	47; 12" =	: 5.88
					SAI	MPLIN	G DATA							
SAMPLED	BY (PRINT)			SAMPL	ER(S) SIGI				SAMPLING		203		LING TIME	
Wills	TUBING FO	in		TUBIN	at	12			11-11-	14		5/2	:15	

	BY (PRINT)	בניינים		SAMPLER(S) SIG	NATURE(S)		3/-/1-/4	SAMPLING /2:15	
PUMP OF DEPTH IN	TUBING WELL (feet):	/		TUBING MATERIAL CODE			FIELD-FILTERED: Filtration Equipment		LTER SIZE:
	TE COLLECTE		CATION	SAMP	LE PRESERVATIO	)N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	6	40 mL	HCL	NA	NA	8260B	B	
REMARK	S:								
	L CODES: A	G = Amber T CODES:	APP = After	Clear Glass; PE Peristaltic Pump; verse Flow Peristaltic		PP = Polypro BP = Bladder F raw Method (		t = Teflon; O = c Submersible Pump; O = Other (Specify	

SITE TAVIAL 4 T. Net 4

	mu	3 1							lon 4-		1/6-4	0		
VELL		Total V	Vell Depth (fee	et):		WELL SC	DATA REEN INT		STATIC	DEPTH		PL	IRGE PUM	P TYPE
IAMETE	R (inches):		OLUME = /T/	OTAL W	17	DEPTH:	2 feet t	0 17 fe	et TO WAT	ER (fee	1)6.69	OF	RAILER	Y
VELL VC	LUME PURGE	. I WELL V	= (	JIAL W		et –	DEFITT	feet	) X	)AI AU	gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
135	0	(ganono)	22 46		6.21		417		4.24		11.4		Cler	ren
									-					-
										-				
										1				
														-
	D BY (PRINT)				LER(S) SIG			Ą	SAMPLING				LING TIME	
-1111	TUBING	ing		TUBIN	2000	7	/		/(-/(-	FRED:	Y (N	-	FILTER	SIZE.
EPTH IN	WELL (feet):	D: Y	(1)		RIAL CODE				Filtration Eq					
JOPLICA	TE COLLECTE		N	r					I INTENE	\FD			S	AMPLE
SAM	PLE CONTAIN	ER SPECIFIC	CATION		SAMP	LE PRESER	RVATION		ANALY AND/O METHO	SIS DR	EQU	MPLIN JIPME CODE	NT	PUMP FLOW RATE ml/min)
SAMPLE D CODE	# CONTAINER S	MATERIA L CODE	VOLUME		SERVATIVE USED	ADDED IN (mL)	FIELD	FINAL pH						
	3	66	yonk	H	cL	NG		NA	8260	13		3		

					DII	DOING DA	FA						
WELL DIAMETER	R (inches):	2	Vell Depth (feet	- 3	5-	WELL SCREEN DEPTH: 20 f	INTERVAL eet to 35 f		TER (fee	et): 24, 75		JRGE PUM	P TYPE
WELL VOL	.UME PURGE	: 1 WELL V	OLUME = (TC = (	TAL WELL [	DEPTH fee	- STATIC DEP		t) X WELL	CAPAC	TY gallons	/foot	=	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)		pH (su)	Δ CO (μ	Α.	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
600		21-01	21.01	4.	61	18	3	197		2.46		CLA	KO
VELL CAP	PACITY (Gallo	ons Per Foot):	<b>0.75</b> " = 0.02;	1" = 0.04		5" = 0.06; 2" = 0		37; <b>4"</b> = 0.65	5; 5"	= 1,02;	6" = 1,	47; 12" =	= 5.88
SAMPLED	BY (PRINT)		<b>0.75"</b> = 0.02;	SAMPLER(	SAI S) SIGI	MPLING DA		SAMPLING	DATE:		SAME	PLING TIME	
SAMPLED WILL 9 PUMP OR DEPTH IN	BY (PRINT) TUBING WELL (feet):	wing			SAI S) SIGI	MPLING DA		- 100 CO	DATE:	Y (N	SAMF		<b>.</b>
SAMPLED  WILLIAM  PUMP OR TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPPH IN TOPP	BY (PRINT) TUBING	w.'17 D: Y	<b>8</b>	SAMPLER(	SAI S) SIGI	MPLING DA	TA	SAMPLING	ERED: quipmen	Y N Type:	SAMF	PLING TIME O U FILTER	<b>1</b> 3
SAMPLED  Jilia  PUMP OR  DEPTH IN 10  DUPLICATION  SAMPLE	BY (PRINT) TUBING WELL (feet):	w.'17 D: Y	<b>8</b>	SAMPLER(	SAI S) SIGI CODE:	MPLING DA NATURE(S):  LE PRESERVATION  TOTAL VOL ADDED IN FIELD	TA	SAMPLING  FIELD-FILT Filtration Ed  INTENI ANALY AND/ METH	DED (SIS) OR	Y Type:	SAMF 16	PLING TIME O U FILTER	SAMPLE PUMP FLOW RATE
AMPLED  JII A  UMP OR  EPTH IN 1  UPLICATION  SAMPLE	BY (PRINT) TUBING WELL (feet): E COLLECTE LE CONTAIN	ER SPECIFIC	CATION	SAMPLER(  TUBING MATERIAL  PRESERVA	SAI S) SIGI CODE:	MPLING DA	DN FINAL	SAMPLING  FIELD-FILT Filtration Ed  INTENI ANALY AND	DED (SIS) OR	Y Type:	SAMP	PLING TIME O U FILTER	SAMPLE PUMP FLOW RATE
SAMPLED PUMP OR DEPTH IN DUPLICATION SAMPLE	BY (PRINT) TUBING WELL (feet): E COLLECTE LE CONTAIN  # CONTAINER S	ER SPECIFIC	CATION	SAMPLER( TUBING MATERIAL  PRESERVA USED	SAI S) SIGI CODE:	MPLING DA NATURE(S): LE PRESERVATION ADDED IN FIELD (mL)	DN FINAL pH	SAMPLING  FIELD-FILT Filtration Ed  INTENI ANALY AND/ METH	DED (SIS) OR	Y Type:	SAMF 16	PLING TIME O U FILTER	SAMPLE PUMP FLOW RATE
SAMPLED PUMP OR DEPTH IN DUPLICATI  SAMPLE D CODE	BY (PRINT) TUBING WELL (feet): E COLLECTE LE CONTAIN  # CONTAINER S	ER SPECIFIC	CATION	SAMPLER( TUBING MATERIAL  PRESERVA USED	SAI S) SIGI CODE:	MPLING DA NATURE(S): LE PRESERVATION ADDED IN FIELD (mL)	DN FINAL pH	SAMPLING  FIELD-FILT Filtration Ed  INTENI ANALY AND/ METH	DED (SIS) OR	Y Type:	SAMF 16	PLING TIME O U FILTER	SAMPLE PUMP FLOW RATE
SAMPLED  Jilia  PUMP OR  DEPTH IN 10  DUPLICATION  SAMPLE	BY (PRINT) TUBING WELL (feet): E COLLECTE LE CONTAIN  # CONTAINER S	ER SPECIFIC	CATION	SAMPLER( TUBING MATERIAL  PRESERVA USED	SAI S) SIGI CODE:	MPLING DA NATURE(S): LE PRESERVATION ADDED IN FIELD (mL)	DN FINAL pH	SAMPLING  FIELD-FILT Filtration Ed  INTENI ANALY AND/ METH	DED (SIS) OR	Y Type:	SAMF 16	PLING TIME O U FILTER	R SIZE:  SAMPLE PUMP FLOW RATE [ml/min]

STABILIZATION CRITERIA

SITE NAME

pH:  $\pm$  0.2 units Temperature:  $\pm$  0.2 °C Specific Conductance:  $\pm$  5% Dissolved Oxygen:  $\pm$  0.2 mg/L or  $\pm$  10% Turbidity:  $\leq$  10 NTU or  $\pm$  10%

					PU		DATA	The second second			NOT			
ELL IAMETÉ	R (inches): 2	-	ell Depth (fe		35	DEPTH:	CREEN INTI	75 fee	STATIC t TO WAT	ER (fee	et):	95,500,0	IRGE PUMI R BAILER:	P TYPE
ELL VO	LUME PURGE	: 1 WELL VO	DLUME = (T = (	OTAL WI	ELL DEPTH fee	- STAT	IC DEPTH T	O WATER) feet)	X WELL (	CAPACI	TY gallons	foot :	=1	gallons
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
	D BY (PRINT)					MPLIN	G DATA		SAMPLING			SAMP	LING TIME	
JMP OF	RTUBING			TUBIN	IG				FIELD-FILT	ERED:	Ÿ N		FILTER	SIZE:
	WELL (feet): TE COLLECTE	D: Y	N	MATE	RIAL CODE	;			Filtration Eq	uipmen	t Type:			
SAM	PLE CONTAIN	ER SPECIFIC	ATION		SAMP	LE PRESE			INTENE ANALY AND/O METHO	SIS DR	EQI	MPLIN JIPMEI CODE	G NT	AMPLE PUMP FLOW RATE ml/min)
AMPLE CODE	CONTAINER S	MATERIA L CODE	VOLUME		SERVATIVE USED	ADDED II	N FIELD	FINAL pH						

WELL NO	Cloud ma	-6	7		SAMP	LE ID:	CATION:		lon i	•	DATE	-1	2-14	
					PU	IRGING	DATA							
	R (inches):	2	Vell Depth (fee		35	WELL SC	REEN INTE	35 Te	STATIC et TO WAT	DEPTH ER (fe	1 et) 27, 22	8 PI	JRGE PUM R BAILER	P TYPE
VELL VC	LUME PURGÉ	: 1 WELL V	OLUME = (TC = (	OTAL WE		- STATIC	DEPTH TO		X WELL C	CAPAC	ITY gallons	/foot	=	gallon
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	000
140			2223		5.15		103		5.90		1.61		Clega	moc
ELL CA	APACITY (Gallo	ns Per Foot):	<b>0.75"</b> = 0.02	; 1" = 0	.04; 1.2	5" = 0.06;	<b>2"</b> = 0.16;	3" = 0.3	7; <b>4</b> " = 0.65;	5"	= 1.02;	6" = 1.	47; <b>12"</b> =	5.88
AMPLET	D BY (PRINT)			SAMPLE		MPLING	DATA		SAMPLING	DATE:		SAME	LING TIME	
Willi PUMP OF	TUBING WELL (feet):	175		TUBING	the	af		_	/(-/2 -	/ <b>/</b>	Y	11	FILTER	
	TE COLLECTE	D: Y	0		,				1				- 0	
SAMI	PLE CONTAIN	ER SPECIFIC	CATION		SAMP	LE PRESER	/ATION		INTEND ANALYS AND/O METHO	SIS R	EQI	MPLIN JIPME CODE	IG NT	AMPLE PUMP FLOW RATE ml/min)
SAMPLE D CODE	CONTAINER S	MATERIA L CODE	VOLUME	US	RVATIVE SED	TOTAL VI ADDED IN F (mL)	IELD	FINAL pH						
	3	66	YOML	He		NA		IA	8260	13	1	3		
_						-					_	_		

STABILIZATION CRITERIA

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass;

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump;

REMARKS:

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

BP = Bladder Pump;

SM = Straw Method (Tubing Gravity Drain);

PP = Polypropylene; S = Silicone; T = Teflon;

ESP = Electric Submersible Pump;

O = Other (Specify)

O = Other (Specify)

PE = Polyethylene;

RFPP = Reverse Flow Peristaltic Pump;

B = Bailer;

SITE

· LLL IIIO	カルー	70									DATE		7	
VELL	2	Total V	Vell Depth (feel	t):	PU 35	WELL S	CDEENLE	ITCDVAL	ST	ATIC DEP	26. 2	DI	JRGE PUM	P TYPE
VELL VO	R (inches): 2 LUME PURGE	: 1 WELL V	OLUME = (TC			- STAT	C DEPTH	110 WATE	eet TO R) X W et) X	ELL CAP	(feet):263 ACITY gallon	s/foot	R BAILER:	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP_ (°C)	Δ	pH (su)	Δ	CON (µS)	Α.	D( (mg		TURB IDITY (NTU)	Δ	COLOR	ODOF
620		(gallons)	22.00		4.96		119		1.3	5	18.7		Class	M
										-				
						-								
							-			- 4				-
			0.75" = 0.02											
	BY (PRINT)	7		SAMPI 2	ER(S) SIGN	WPLIN NATURE(\$	3):	ГА		PLING DAT			PLING TIME 20	
DEPTH IN	WELL (feet):		(N)		RIAL CODE:				Filtrati	on Equipn	nent Type:	צ		
	PLE CONTAIN				SAMPI	LE PRESE	ERVATIO	N.	A	ITENDED NALYSIS AND/OR METHOD		AMPLIN CODE	IG NT	AMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME		ERVATIVE JSED	TOTAL ADDED (m	N FIELD	FINAL pH						
	3	C6	YomL	He	L	10.		14	8	260 D	13			
REMARK									_					

VAME:	Cloud	05					TE OCATION	TA	1 101	1 4	7	no 1	VOT	c 14	
VELL NO:	Cloud	Pu Te	?-1		SAMPL	E ID:						DATE	10	-14	
					PH	RGING	DAT	Δ							
VELL	1.1	Total W	/ell Depth (feet)	):		WELLSO	REENIN	ITERVAL	S	TATIC D	EPTH	226	PI	JRGE PUM	P TYPE
DIAMETER	R (inches): 💆	1 10000 1 100	OLUME = (TO	5	)	DEPTH:	95 fee	to 50 fe	et T	O WATE	R (fee	t) <b>62.7.7.</b>	2 0	RAILER:	
VELL VOL	OME PURGE	1 WELL V	= (	5	O fee	t -	23.	12 feet	x.	16		gallons	/foot	= B	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	CONI (μS)	A	(m	g/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
145	0		2100		5.88		25-		. 8	57		78.1		cl	500
000	4	DRy	Ax	4	541										
015	8														
630	12														_
	- 4										-				
				_		-			-						
									1						
														N. Control	
			·		-				-				1	d d	
WELL CA	PACITY (Gallo	ns Per Foot):	<b>0.75</b> <sup>n</sup> = 0.02;	1"					2	no	At	60		X I	= 5.88
777.43	PACITY (Gallo					MPLIN	G DAT		SAN	N G	A+	60	SAMI	PLING TIME	
SAMPLED	BY (PRINT)			SAMI	SAI PLER(S) SIG	MPLIN	G DAT		SAN //	PLING!	A F DATE:	6	SAMI	PLING TIME	: :
SAMPLED Wi	BY (PRINT)	ens Per Foot):		SAMI	SAI PLER(S) SIG	MPLING NATURE(S	G DAT		SAN //	N G	DATE:	6 C	SAMI	PLING TIME	::
SAMPLED PUMP OR DEPTH IN	BY (PRINT)	Ewi		SAMI	SAI PLER(S) SIGI	MPLING NATURE(S	G DAT		SAN //	PLING I	DATE:	6 C	SAMI	PLING TIME PLING TIME FILTER	E: R SIZE:
SAMPLED PUMP OR DEPTH IN DUPLICAT	BY (PRINT) TUBING TUBING	Ewi	ng	SAMI	SAI PLER(S) SIGI NG :RIAL CODE	MPLING NATURE(S	<b>G DA</b> 1	Ā	SAN // FIEL Filtra	PLING I	DATE: RED: RED: RED SIS	Y Y Y SA	SAMI	PLING TIME PLING TIME FILTER	!:
SAMPLED PUMP OR DEPTH IN DUPLICAT	BY (PRINT) TUBING WELL (feet):	Ewi	ng	TUBI MATE	SAI PLER(S) SIGI NG :RIAL CODE	MPLINO NATURE(S	G DAT	Ā	SAM / FIEL Filtre	MPLING INTENDIANALYS AND/O METHO	PATE: RED: RED: SIS R DD	Y It Type	SAMI	PLING TIME PLING TIME FILTER	SAMPLE PUMP FLOW RATE
SAMPLED PUMP OR DEPTH IN DUPLICAT  SAMPLE	BY (PRINT) TUBING WELL (feet): TE COLLECTE PLE CONTAIN	ER SPECIFIC	CATION	TUBI MATI	SAI PLER(S) SIGI NG ERIAL CODE SAMP	MPLING NATURE(S  : LE PRESE TOTAL ADDED IN	G DAT	FINAL	SAM / FIEL Filtre	PLING I	PATE: RED: RED: SIS R DD	Y Y Y SA	SAMI	PLING TIME PLING TIME FILTER	SAMPLE PUMP FLOW RATE
SAMPLED PUMP OR DEPTH IN DUPLICAT SAMPLE	D BY (PRINT) TUBING WELL (feet): FE COLLECTE  PLE CONTAIN  CONTAINER S	EWI ER SPECIFIC MATERIA L CODE	CATION VOLUME	TUBI MATI	SAI PLER(S) SIGI NG ERIAL CODE SAMP	MPLING NATURE(S  : LE PRESE TOTAL ADDED IN	G DAT  ):  RVATION  VOL   FIELD   .)	FINAL pH	SAM / FIEL Filtre	MPLING INTENDIANALYS AND/O METHO	PATE: RED: RED: SIS R DD	Y It Type	SAMI	PLING TIME PLING TIME FILTER	SAMPLE PUMP FLOW RATE
SAMPLED PUMP OR DEPTH IN DUPLICAT SAMPLE	D BY (PRINT) TUBING WELL (feet): FE COLLECTE  PLE CONTAIN  CONTAINER S	EWI ER SPECIFIC MATERIA L CODE	CATION VOLUME	TUBI MATI	SAI PLER(S) SIGI NG ERIAL CODE SAMP	MPLING NATURE(S  : LE PRESE TOTAL ADDED IN	G DAT  ):  RVATION  VOL   FIELD   .)	FINAL pH	SAM / FIEL Filtre	MPLING INTENDIANALYS AND/O METHO	PATE: RED: RED: SIS R DD	Y It Type	SAMI	PLING TIME PLING TIME FILTER	SAMPLE PUMP FLOW RATE
SAMPLED PUMP OR DEPTH IN DUPLICAT SAMPLE	D BY (PRINT) TUBING WELL (feet): FE COLLECTE  PLE CONTAIN  CONTAINER S	EWI ER SPECIFIC MATERIA L CODE	CATION VOLUME	TUBI MATI	SAI PLER(S) SIGI NG ERIAL CODE SAMP	MPLING NATURE(S  : LE PRESE TOTAL ADDED IN	G DAT  ):  RVATION  VOL   FIELD   .)	FINAL pH	SAM / FIEL Filtre	MPLING INTENDIANALYS AND/O METHO	PATE: RED: RED: SIS R DD	Y It Type	SAMI	PLING TIME PLING TIME FILTER	SAMPLE PUMP FLOW RATE

SAMPLING EQUIPMENT CODES:

APP = After Peristaltic Pump;

RFPP = Reverse Flow Peristaltic Pump;

B = Bailer; BP = Bladder Pump; ESP = Electr : Pump; SM = Straw Method (Tubing Gravity Drain);

ESP = Electric Submersible Pump; iravity Drain); O = Other (Specify)

	):	04-1			SAMPL	*			100 1		11-	10	1-14	
					PU	RGING								
VELL NAMETE	R (inches):	7 Total W	ell Depth (fee	t): _	70		REEN INTE		STATIC I	DEPTH ER (fee	11/5.4	20	URGE PLIMI R BAILER:	PTYPE
VELL VO	LUME PURGE	: 1 WELL VO	DLUME = (TC = (	TAL WE	LL DEPTH fee	- STATIC	5-42	WATER	) X WELL C	APAC	ITY gallons	-	5,51	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
450	0		23.65		6.23		94		1.18		7.46		Clean	10
500	4		22.58		9.43		113		2.51		_		Cloude	Ko
510	8	D	RY					IJ						
570	12													
	_													
							V							
						1 1		10						1
VELL CA	APACITY (Gallo	ons Per Foot):	0.75" = 0.02	; 1"=	0.04; <b>1.2</b> 5	g» = 0.06;	<b>2"</b> = 0.16;	3" = 0.3	37; <b>4"</b> = 0.65	5"	= 1.02;	6" = 1	.47; 12" =	5.88
SAMPLEI	D BY (PRINT)  R TUBING N WELL (feet):	ons Per Foot):	0.75" = 0.02	SAMPL	SAI ER(S) SIGN	MPLING NATURE(S):	DATA		37; 4" = 0.65    DT 9   SAMPLING	DATE:	+ 6 Y N	SAMI		
SAMPLEI PUMP OF DEPTH IN	D BY (PRINT)		0.75" = 0.02	SAMPL	SAI ER(S) SIGN	MPLING NATURE(S):	DATA		PRY SAMPLING 11-11-	DATE:	+ 6 Y N	SAMI	9/ PLING TIME 20 FILTER	:: R SIZE:
SAMPLEI PUMP OF DEPTH IN DUPLICA	D BY (PRINT) R TUBING N WELL (feet):	ED:		SAMPL	SAI ER(S) SIGN G RIAL CODE:	MPLING NATURE(S):	DATA		PRY SAMPLING 11-11-	DATE:  PERED:  Uipmer  DED  SIS  DR	Y N nt Type:	SAMI	PLING TIME 20 FILTER	SAMPLE PUMP FLOW RATE
SAMPLEI PUMP OF DEPTH IN DUPLICA	D BY (PRINT) R TUBING N WELL (feet): TE COLLECTE	ED:		SAMPL TUBINO MATER	SAI ER(S) SIGN G RIAL CODE:	MPLING NATURE(S):	DATA  EVATION		SAMPLING //-//- FIELD-FILTI Filtration Eq	DATE:  PERED:  Uipmer  DED  SIS  DR	Y N nt Type:	SAMI /S	PLING TIME 20 FILTER	SAMPLE PUMP
SAMPLEI  PUMP OF  DEPTH IN  DUPLICA  SAM  SAMPLE	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER	ER SPECIFIC	P (N)	SAMPL TUBINO MATER	SAI ER(S) SIGN  G RIAL CODE:  SAMPL  ERVATIVE	MPLING NATURE(S):  LE PRESER  TOTAL V ADDED IN 6	OL FIELD	FINAL	SAMPLING //-//- FIELD-FILTI Filtration Eq	DATE:  PERED:  uipmer  DED  SIS  DR  DD	Y N N Type:	SAMI /S	PLING TIME 20 FILTER	SAMPLE PUMP FLOW RATE
SAMPLEI  PUMP OF  DEPTH IN  DUPLICA  SAM  SAMPLE	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ER SPECIFIC  MATERIA L CODE	ATION VOLUME	SAMPL TUBING MATER	SAI ER(S) SIGN  G RIAL CODE:  SAMPL  ERVATIVE	MPLING NATURE(S):  LE PRESER  TOTAL V ADDED IN 6 (mL)	OL FIELD	FINAL pH	SAMPLING  //~ //~  FIELD-FILT!  Filtration Eq	DATE:  PERED:  uipmer  DED  SIS  DR  DD	Y N N Type:	SAMI /S	PLING TIME 20 FILTER	SAMPLE PUMP FLOW RATE
SAMPLEI  PUMP OF  DEPTH IN  DUPLICA  SAM  SAMPLE	D BY (PRINT)  R TUBING N WELL (feet): TE COLLECTE  PLE CONTAIN  CONTAINER S	ER SPECIFIC  MATERIA L CODE	ATION VOLUME	SAMPL TUBING MATER	SAI ER(S) SIGN  G RIAL CODE:  SAMPL  ERVATIVE	MPLING NATURE(S):  LE PRESER  TOTAL V ADDED IN 6 (mL)	OL FIELD	FINAL pH	SAMPLING  //~ //~  FIELD-FILT!  Filtration Eq	DATE:	Y N N Type:	SAMI /S	PLING TIME 20 FILTER	SAMPLE PUMP FLOW RATE

STABILIZATION CRITERIA

pH:  $\pm$  0.2 units Temperature:  $\pm$  0.2 °C Specific Conductance:  $\pm$  5% Dissolved Oxygen:  $\pm$  0.2 mg/L or  $\pm$  10% Turbidity:  $\leq$  10 NTU or  $\pm$  10%



SITE NAME:	Claa	95				S	SITE .OCATION: /	TAYI	be i	14	NK	1st	-6	
WELL NO	Cloa	-2			SAMPL	E ID:					DATE	- ι	0-14	
	•				PU		3 DATA				70	dia	â.	
		2	Well Depth (fee	7	5	DEPTH	CREEN INTER	75 feet		ER (fee	0:44.8		JRGE PUNI BAILER	TYPE
WELL VO	DLUME PURGE	: 1 WELL V	OLUME = (TC	TAL WEL			C DEPTH TO	WATER) feet)	X WELL C		TY gallons	/foot	= 5	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
1310	0		23.51		6.78		35		6.47	li .	1.08		(4	No
1320	5		23.24	1	7.11		63		5-85		359		L Land	10
133	10		23.35		6.52		71		4.84		976		Charly	NO
1340	15		23.43		6.63		74		4.90		-		CLOW!	16
-														
								1 1						

SAMPLING DATA

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

	BY (PRINT)	mein		SAMPLER(S) SIG			SAMPLING DATE: 1(-11-14	1340	TIME:
PUMP OF DEPTH IN	R TUBING N WELL (feet):		2	TUBING MATERIAL CODE			FIELD-FILTERED: 1		LTER SIZE:
DUPLICA	TE COLLECTE	D: Y	0						
SAM	PLE CONTAIN	ER SPECIFIC	CATION	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINER	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	66	your	HCL	NA	IVA	8260 B	B	
REMARK	S:								
MATERIA	AL CODES: A	G = Amber G	Glass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polypro	pylene; S = Silicone;	T = Teflon; O =	Other (Specify
SAMPLIN	IG EQUIPMEN	T CODES:		Peristaltic Pump; erse Flow Peristaltic		P = Bladder F raw Method (	Pump; ESP = Electric Fubing Gravity Drain);	Submersible Pump O = Other (Specify	

STABILIZATION CRITERIA

SITE

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

VELL	(inches): 2			_	SAMPL				n 17		111	0.		
IAMETER (	(inches): 2	Total 18												
NAMETER (	(inches): 2	Total M			PUI	RGING	DATA							
VELL VOLC	IME DI IDGE	ADVANCED COM	/ell Depth (feet	51	DEPTH	WELL SCF DEPTH: (	17 feet to	SZ fee	STATIC C TO WATE	R (fee	124.4	2 OF	RGE PUM	
	JIVIE PORGE.		= (	52	feet	- 24	1.42	feet)	× 16		gallons	/foot	4.5	gallons
	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND, (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOI
135	0	(ganono)	19.97	5	- 87	1	209		1.78		179		Clan	51
and the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of th	4.5		15.77	5	5.97		173		4 31		104		Clan	_
157	9		21.65		6.01		170		1.74		55.6		Clen	5/
200 1	17.5		20.99		6.03		175	2	1.58		178		cla	57
								-						
-								+			_			
			0.75" = 0.02				20 - 0 46	2" - 0.2	7: 4" - 0.65	5"	= 1.02	6" = 1	.47; 12"	= 5.88
WELL CAP	ACITY (Gallo	ons Per Foot):	0.75" = 0.02	; 1" = 0.					7, 4 = 0.00					
SAMPLED I	BY (PRINT)	r <sub>z.v.</sub>		SAMPLE		MPLING NATURE(S):		Land Market	SAMPLING		COSTANCE OF		PLING TIME	
PUMP OR T DEPTH IN V	TUBING WELL (feet):		ing	TUBING MATERI	AL CODE:				FIELD-FILTI Filtration Eq	ERED:	Y FN	7		R SIZE:
DUPLICATI	E COLLECTE	D: Y	(N)							V 200000				SAMPLE
SAMPI	LE CONTAIN	ER SPECIFIC	CATION		SAMPI	LE PRESER	RVATION		ANALY AND/O METHO	SIS	EQ	MPLII UIPME CODE	NG ENT	PUMP FLOW RATE (ml/min
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME		RVATIVE	ADDED IN (mL)	FIELD	FINAL pH						
	3	CG	40 MU	H	ÇL	NI		N/A	826	OB		B		

SAMPLING EQUIPMENT CODES:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene;

APP = After Peristaltic Pump; B = B RFPP = Reverse Flow Peristaltic Pump;

B = Bailer;

PP = Polypropylene;

SM = Straw Method (Tubing Gravity Drain);

BP = Bladder Pump;

T = Teflon;

O = Other (Specify)

ESP = Electric Submersible Pump;

S = Silicone;

O = Other (Specify)

				PU	IRGING DA	ΓΑ						
VELL	R (inches): 2	Total V	Well Depth (feet)	10	WELL SCREEN DEPTH: fe	INTERVAL eet to fee	STATIC et TO WAT	DEPTH ER (fee	t):3. 45	PI O	JRGE BUM BAILER:	TYPE
ELL VO	LUME PURGE	: 1 WELL V		TAL WELL DEPTH			X WELL					gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ pH (su)	Δ CO (μ	S) <sup>Δ</sup>	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
745	0	0	18.64	6.58		7	1.15		2.51		Cler	KO
05	17		19-29	6-63	1	16	2.86		538		Clan	M
40	34				,							
												1
								-				
								-	-			
					-						1	
AMPLEC	BY (PRINT)	ı Eu	ing	SA SAMPLER(S) SIG	MPLING DA	ıΤΑ	SAMPLING				PLING TIME	E:
DEPTH IN	TUBING WELL (feet):		7	TUBING MATERIAL CODE	i:		FIELD-FILT Filtration Eq	ERED:		)	FILTER	R SIZE:
JUPLICA	TE COLLECTE	D: Y	U,				INTEN	DED.	1			SAMPLE
SAM	PLE CONTAIN	ER SPECIFI	CATION	SAMF	PLE PRESERVATION	ON	ANALY AND/O	SIS OR	EQ	MPLII JIPME CODE	NT	PUMP FLOW RATE (ml/min)
SAMPLE D CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH						
	3	C6	HOML	HCL	NIA	N/A	826	03		B	_	
	C.											
EMARK.												

	Clouds Du-	-			SAMPL	E ID:	OCATION:		lor . Tu		DATE	1-1	C	
	Da-	3									11-6	J- (	γ	
					PU		DATA					_		
WELL DIAMETE WELL VO	R (inches):	2_	Vell Depth (fee	70	) DEPTH	DEPTH:	CREEN INTE	70 fe	et TO WATE	R (fee	et): 44.7	5 0	URGE PUM REVILER	P TYPE
			= (	70	feet		4.75	feet	) × .16	,	gallons	/foot	= 9	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)		pH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
1340	0	13	24.99	6.	52		123		2.63		11.1		cla	Si
350	4		22.66	6	.17		158		2.87		_		TAN	Sligh
400	8		27	()					M=584			_		
410	12		DI	9										
														-
WELL CA	PACITY (Gallo	ons Per Foot):	0.75" = 0.02	; 1" = 0.04	; 1.25	i" = 0.06;	<b>2"</b> = 0.16;	3" = 0.3	37; <b>4"</b> = 0.65;	5"	= 1.02;	6" = 1	47; 12" =	= 5.88
WELL CA	PACITY (Gallo	ons Per Foot):	0.75" = 0.02	; 1" = 0.04			2" = 0.16;		37; <b>4"</b> = 0.65;	5"	= 1.02;	6" = 1	.47; 12" =	= 5.88
SAMPLE	BY (PRINT)		0.75" = 0.02	SAMPLER(	SAI (S) SIGN	MPLIN	G DATA		SAMPLING	DATE		SAMI	PLING TIME	
SAMPLEI Willi	BY (PRINT)		0.75" = 0.02	SAMPLER(	SAI (S) SIGN	MPLIN	G DATA		SAMPLING	DATE:		SAMI	PLING TIME	
SAMPLEI Willi PUMP OF DEPTH IN	D BY (PRINT)  A ~ F  R TUBING  N WELL (feet):	viq		SAMPLER(	SAM (S) SIGN	MPLIN	G DATA		SAMPLING	DATE:	Y	SAMI	PLING TIME	
SAMPLEI Willi PUMP OF DEPTH IN	BY (PRINT)  A W E  TUBING	viq	0.75" = 0.02	SAMPLER(	SAM (S) SIGN	MPLIN	G DATA		SAMPLING	DATE:	Y	SAMI	PLING TIME 10 FILTER	E: R SIZE:
SAMPLEI W/// PUMP OF DEPTH IN DUPLICA	D BY (PRINT)  A ~ F  R TUBING  N WELL (feet):	viq	N	SAMPLER(	SAM (S) SIGN CODE:	MPLIN NATURE(S	G DATA		SAMPLING	DATE: -/ / RED: sipmer	Y (A)	SAMI	PLING TIME  // FILTER  NG ENT	
SAMPLEI  SAM  SAMPLE	D BY (PRINT)  A ~ F  R TUBING  N WELL (feet): TE COLLECTE	viq	N	SAMPLER(	SAMPL ATIVE	MPLIN NATURE(S	G DATA  3):  ERVATION  VOL N FIELD		SAMPLING  FELD-FILTE Filtration Equ  INTEND ANALYS AND/O	DATE: -/ / RED: sipmer	Y (A)	SAMI 14	PLING TIME  // FILTER  NG ENT	SAMPLE PUMP FLOW RATE
SAMPLEC SAMPLE SAMPLE	D BY (PRINT)  A WELL (feet): TE COLLECTE  PLE CONTAIN	D: Y  BER SPECIFIC  MATERIA	CATION	SAMPLER(  TUBING MATERIAL  PRESERVA	SAMPL SAMPL	MPLIN NATURE(S	G DATA  3):  ERVATION  VOL N FIELD L)	FINAL	SAMPLING  FELD-FILTE Filtration Equ  INTEND ANALYS AND/O	DATE: -/ Y RED: aipmer	Y (A)	SAMI 14 AMPLII UIPME CODE	PLING TIME  // FILTER  NG ENT	SAMPLE PUMP FLOW RATE
SAMPLEI  SAM  SAMPLE	D BY (PRINT)  A WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ED: Y  ER SPECIFIC  MATERIA L CODE	CATION	SAMPLER( TUBING MATERIAL  PRESERVA USED	SAMPL SAMPL	MPLIN NATURE(S	G DATA  3):  ERVATION  VOL N FIELD L)	FiNAL pH	SAMPLING  FELD-FILTE Filtration Equ  INTEND ANALYS AND/O METHO	DATE: -/ Y RED: aipmer	Y (A)	SAMI 14 AMPLII UIPME CODE	PLING TIME  // FILTER  NG ENT	SAMPLE PUMP FLOW RATE
SAMPLEI FUMP OF DEPTH IN DUPLICA	D BY (PRINT)  A WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	ED: Y  ER SPECIFIC  MATERIA L CODE	CATION	SAMPLER( TUBING MATERIAL  PRESERVA USED	SAMPL SAMPL	MPLIN NATURE(S	G DATA  3):  ERVATION  VOL N FIELD L)	FiNAL pH	SAMPLING  FELD-FILTE Filtration Equ  INTEND ANALYS AND/O METHO	DATE: -/ Y RED: aipmer	Y (A)	SAMI 14 AMPLII UIPME CODE	PLING TIME  // FILTER  NG ENT	SAMPLE PUMP FLOW RATE

SAMPLING EQUIPMENT CODES:

B = Bailer; BP = Bladder Pump; ESF = Electronic SM = Straw Method (Tubing Gravity Drain);

ESP = Electric Submersible Pump;

O = Other (Specify)

APP = After Peristaltic Pump; B = B.
RFPP = Reverse Flow Peristaltic Pump;

SITE

SITE NAME: (	loud.	2				SI	CATION	TAY	ilan i	Tu	oli	Ste	H	
WELL NO	Da-6	5			SAMPL	E ID:					DATE	10-	14	
WELL		Tatal	Vell Depth (fee	n+\=		RGING WELL SC		TEDVAI	STATIC	DEPTH		PI	URGE PUM	P TYPE
DIAMETE	R (inches):	2	weii Deptii (iee	7	0	DEPTH:	5 fee	to 70e	et TO WAT	ER (fee	et):466	1 0	RBAILER:	
WELL VO	LUME PURGE	: 1 WELL V	OLUME = (To	TAL WE	ELL DEPTH feet	- STATIO	6 4	TO WATER feet	× 16	APAC	ITY gallons	/foot	= 4	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	CONI (μS)	Δ.	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
200	0	1 19	22.21		6.86		8	7	4.04		40.9		20	ron
1210	4		1						in the					
(320	8		1/1	2	-/									
230	12				<u> </u>									
									2			_		
												_		
												_		
										-		-	ļ	
											-	-	-	
										-		₩		
											-	+	-	
										-		-		1
														1
WELL CA	APACITY (Galle	ons Per Foot)	0.75" = 0.02	2; 1" =	0.04; 1.25	5" = 0.06;	2" = 0.1	6; 3" = 0.3	37; <b>4"</b> = 0.65	5"	= 1.02;	6" = 1.	.47; 12"	= 5.88
					SAI	MPLING	DAT	Α						
	D BY (PRINT)		=	SAMP	LER(S) SIGN	NATURE(S)	SAMPLING				PLING TIME	Ē		
Willia	R TUBING	ving		2	ith c	Keay /1-12-14 /200						CIZE.		
	R TUBING N WELL (feet):			TUBIN	IG RIAL COD <b>≝</b>	1			FIELD-FILTERED: Y S FILTER SIZE: Filtration Equipment Type:					
	TE COLLECTI	ED: Y	0											
SAM	PLE CONTAIN	IER SPECIFI	CATION		SAMPI	LE PRESEF	RVATION		INTENDED ANALYSIS AND/OR METHOD			AMPLIN UIPME CODE	NG ENT	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	CONTAINER S	MATERIA L CODE	VOLUME		SERVATIVE USED	TOTAL ADDED IN (mL)	FIELD	FINAL pH						
	3	66	HOML	Ho	-6	NA	- ]	NA	8260	B		B		
		-				1	1		10					

REMARKS T = Teflon; O = Other (Specify) MATERIAL CODES: AG = Amber Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; CG = Clear Glass;

B = Bailer; BP = Bladder Pump; ESP = Elect Pump; SM = Straw Method (Tubing Gravity Drain); ESP = Electric Submersible Pump; APP = After Peristaltic Pump; SAMPLING EQUIPMENT CODES: RFPP = Reverse Flow Peristallic Pump;

STABILIZATION CRITERIA

SITE NAME: Clouds	SITE LOCATION: TAYL	
WELL NO: DW-7	SAMPLE IO:	DATE: 11-14
	DUDOING DATA	

					PU	RGING	DATA							
WELL DIAMETER	R (inches): 2		/ell Depth (fee	4	55-	DEPTH:	CREEN INTER		PURGE PUMP TYPE					
WELL VO	LUME PURGE	1 WELL VO	OLUME = (TC = (	OTAL W	ELL DEPTH fee	- STAT	4.79	WATER) feet)	X WELL C	APACI	TY gallons	/foot	= 5	gallons
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOF
035	0		2316		11.69		857		3.84		1.81		ch	Non
10 40	5		23.33		11.03		600		5.60		_		Cloudy	1
1050	10		23.04		16.42		185		8.08		-		closey	4
11:03	15		22,91		76.61		184		7.99		_		Cloud	NUN

#### SAMPLING DATA

PUMP OF	TUBING WELL (feet):	-		TUBING MATERIAL CODE			FIELD-FILTERED: Y FILTER SIZE: Filtration Equipment Type:						
2030 - 1000	TE COLLECTE		CATION	SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)				
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH							
	3	6	Youl	HCL	NA	NA	826013	B					
REMARK	S:												
MATERIA	L CODES: A	G = Amber G	Glass; CG = (	Clear Glass; PE	= Polyethylene;	PP = Polypro	pylene; S = Silicone;	T = Teflon; O =	Other (Specify				

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

	Du-9							TAY							
WELL		Total M	/ell Depth (fee	4).	1	RGING WELL SC	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon		STAT	IC DE	PTH		P	JRGE PUM	P TYPE
NAMETER	R (inches):	2		6	5	DEPTH: (	6 feet t	o 65 fe	et TOV	ATER	(feet)		14 01	REALER	
VELL VO	LUME PURGE	: 1 WELL V	DLUME = (TC = (	65	DEPTH feet	- STATIC	4. 44	feet)	x ./	L CAF	AGII	gallons/	foot	= 6.5	gallon
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP, (°C)		pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)		Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
1:45	0	22.10	2210	6	.03		58		1.4	8		8.64		(4	No
1:50	6.5		21.57	6	-01		44		1.1	-		1269		( (	AN
1:55	13		21.83		,08		41		2.9			53.9		CL	140
2:0)	19.5		21.80	6	.05		47		2.9	6		60.7		CL	No
WELL CA	PACITY (Gallo	ons Per Foot):	0.75" = 0.02	2; 1" = 0.04	1; 1.25	" = 0.06;	<b>2"</b> = 0.16	; 3" = 0.3	7; 4" = 1	0.65;	5" =	1.02;	6" = 1.	47; 12"	= 5.88
SAMPLED JIIV PUMP OF	BY (PRINT)	ons Per Foot):	0.75" = 0.02	SAMPLER TUBING	SAN (S) SIGN	MPLING	S DAT		SAMPL	ING DA	ATE:	Y	SAMI	PLING TIME	
SAMPLED VIII PUMP OF DEPTH IN	BY (PRINT)	Fully	0.75" = 0.02	SAMPLER	SAN (S) SIGN	MPLING	S DAT		SAMPL	ING DA	ATE:	Y	SAMI	PLING TIME	<u>:</u>
SAMPLED PUMP OF DEPTH IN DUPLICA	D BY (PRINT)  TUBING  WELL (feet)  TE COLLECTE	Fully ED: Y	0	SAMPLER TUBING	SAN (S) SIGN CODE:	MPLINC NATURE(S)	G DAT		SAMPL	ING DA	ATE:	Y Type:	SAMI	PLING TIME FILTER	<u>:</u>
SAMPLED PUMP OF DEPTH IN DUPLICA	D BY (PRINT)  R TUBING I WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER S	Fully ED: Y	CATION	SAMPLER  Z  TUBING MATERIAL  PRESERV USEI	SAMPL CODE: SAMPL ATIVE	MPLINC IATURE(S)	RVATION  VOL   FIELD	<b>A</b> FINAL pH	SAMPL  FIELD-F Filtration  INT AN AI ME	ING DA	ATE:	Y Type:	SAMI 1 2 MPLII DIPME CODE	PLING TIME FILTER	SAMPLI PUMP FLOW RATE
SAMPLEC SAMPLE SAMPLE	D BY (PRINT)  R TUBING I WELL (feet): TE COLLECTE  PLE CONTAIN  # CONTAINER	ED: Y NER SPECIFIC	CATION	SAMPLER TUBING MATERIAL	SAMPL CODE: SAMPL ATIVE	MPLING IATURE(S)  LE PRESER  TOTAL ADDED IN	RVATION  VOL   FIELD	<b>A</b>	SAMPL  FIELD-F Filtration  INT AN AI ME	ING DA	ATE:	Y Type:	SAMI 1 2 D	PLING TIME FILTER	SAMPL PUMP FLOW RATE

SAMPLING EQUIPMENT CODES:

B = Bailer;

APP = After Peristaltic Pump; B = B RFPP = Reverse Flow Peristaltic Pump;

BP = Bladder Pump;

SM = Straw Method (Tubing Gravity Drain);

O = Other (Specify)

ESP = Electric Submersible Pump;

VELL NO					SAMP	EID: F	31		ion i		16-	11-	14	
					PU	RGING [	ATA							
VELL DIAMETE	R (inches):	No.	Well Depth (fee	350		WELL SCRI	feet to	fee		ER (fee	et):	THE PROPERTY	JRGE PUM R BAILER:	P TYPE
VELL VO	LUME PURGE	: 1 WELL V	OLUME = (TO = (	OTAL WELL	DEPTH fee		EPTH TO	WATER) feet)	X WELL (	CAPAC	ITY gallons	/foot	=	gallon
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODO
														-
					-					+			-	-
										-				-
			-											
Mira.	D BY (PRINT)  Form R TUBING N WELL (feet):	7		SAMPLER TUBING MATERIA	tag		DATA		SAMPLING //- //- FIELD-FILT Filtration Eq	14 ERED:	Y	16	PLING TIME	
	TE COLLECTE	D: Y	1											SAMPLE
SAM	PLE CONTAIN	ER SPECIFI	CATION		SAMPI	LE PRESERV	ATION		ANALY AND/O METH	EQI	SAMPLING EQUIPMENT CODE			
SAMPLE D CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERV USE		TOTAL VO ADDED IN FII (mL)		INAL pH						
	3	CG	yomh	HCL		NA	K	A	8260	B	L	3		
											14			
REMARK	S:													

# **GROUNDWATER SAMPLING LOG**

		ELL NO:					= B	7	ylon: Two North			17-12-14		
						LE ID:	6				//	10	11	
					PU	RGING	DATA							
ELL	R (inches):	Total V	/ell Depth (fer	et):		WELL SO	CREEN INTER	RVAL feet	STATIC I				RGE PUM R BAILER:	P TYPE
ELL VO	LUME PURGE	: 1 WELL V	OLUME = (T = (	OTAL WE	ELL DEPTH fee	- STATI	C DEPTH TO	WATER) feet)	VATER) X WELL CAPACIT feet) X			Y gallons/foot = ga		
TIME	FIME VOLUME VOLUME PURGED PURGED (°C) (gallons) (gallons)				ρH (su)	Δ	COND. (μS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR
ELL CA	APACITY (Gallo	ons Per Foot):	0.75" = 0.00	2; 1" =	0.04; 1.2	5" = 0.06;	<b>2"</b> = 0.16;	3" = 0.37	; <b>4</b> " = 0.65	5"	= 1.02;	6" = 1.	47; 12" =	5,88
					SAI	MIDL IN	G DATA							

SAMPLED BY (PRINT)  Will'Lan En'n)				SAMPLER(S) SIG	NATURE(S):		11-12-14	SAMPLING			
PUMP OF DEPTH IN	R TUBING N WELL (feet):		3	TUBING MATERIAL CODE	5		FIELD-FILTERED: Y (N) FILTER SIZ Filtration Equipment Type:				
DUPLICA	TE COLLECTE	D: Y	0								
SAMPLE CONTAINER SPECIFICATION				SAMP	LE PRESERVATIO	N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)		
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
	3	6	HOML	HCL	NA	NA	8260B	D			
REMARK	S:										
MATERIA	AL CODES: A	G = Amber	Glass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polypro	pylene; S = Silicone;	T = Teflon; O =	Other (Specify		
SAMPLIN	IG EQUIPMEN	T CODES:		Peristaltic Pump; erse Flow Peristaltic		P = Bladder F aw Method (*	Pump; ESP = Electri Tubing Gravity Drain);	c Submersible Pump; O = Other (Specify			

## **GROUNDWATER SAMPLING LOG**

WELL NO					SAMPI	E ID:	DCATION: 7	3			11-1	3-1	14	
					PU	RGING	DATA							
WELL DIAMETE	R (inches):		ell Depth (fee			DEPTH:	CREEN INTER	feet	STATIC TO WAT	ER (fee	et):	5703	JRGE PUMI R BAILER:	PTYPE
WELL VO	LUME PURGE	: 1 WELL VO	)LUME = (T	OTAL WE	LL DEPTH fee	- STATI	C DEPTH TO	X WELL (	CAPAC	gallons.	foot	foot = gallons		
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP.	Δ	pH (su)	Δ	COND. (µS)	Δ	DO (mg/L)	Δ	TURB IDITY (NTU)	Δ	COLOR	ODOR

#### SAMPLING DATA

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLED	BY (PRINT)	do		SAMPLER(S) SIG	NATURE(S)		SAMPLING DATE: SAMPLING TIME: 11-13-14 1645				
PUMP OF		,,)		TUBING MATERIAL CODE	1		FIELD-FILTERED: Filtration Equipment		LTER SIZE:		
<b>DUPLICA</b>	TE COLLECTE	D: Y	N								
SAM	PLE CONTAIN	ER SPECIFI	CATION	SAMP	LE PRESERVATIO	)N	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)		
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
	3	6	York	HCL	IVA	NA	8260 B	B			
REMARK	S			<u></u>	п						
MATERIA	L CODES: A	<b>\G</b> = Amber (	Glass; CG =	Clear Glass; PE	= Polyethylene;	PP = Polypro	pylene; S = Silicone;	T = Teflon; O =	Other (Specify)		
SAMPLIN	G EQUIPMEN	T CODES:		Peristaltic Pump; verse Flow Peristaltic		RP = Bladder P raw Method (*	Pump; ESP = Electri Tubing Gravity Drain);	ic Submersible Pump; O = Other (Specify			

# APPENDIX C

**Groundwater Laboratory Analytical Report** 





#### ANALYTICAL REPORT

#### CLIENT

Crawford Environmental Services 15 Church Ave, SW Roanoke VA 24011

ATTENTION
Dan Fisher

PROJECT ID
Clouds Chevron

#### LABORATORY REPORT NUMBER

1411D32

**DATE** November 25, 2014

Ashley Amick

Chantelle Kanhai

Project Manager, Access Analytical

Secondary Data Review By

aamick@axs-inc.com

#### PLEASE NOTE:

Project Manager, AES

Primary Data Review By

- Unless otherwise noted, all analysis on this report performed at Analytical Environmental Services Inc. (AES Inc), 3080 Presidential Drive, Atlanta, GA 30340.
- AES is SCDHEC certified laboratory # 98016, NCDENR certified lab # 562, GA certified lab # FL-E87582, NELAP certified laboratory # E87582
- Local support services for this project are provided by Access Analytical, Inc. Access Analytical is a
  representative of AES serving client in the SC/NC/GA areas. All questions regarding this report should be directed
  to your local Access Analytical representative at 803.781.4243 or toll fee at 883.315.4243

Project Work Order # 14100 8 Access Analytical - Chain of Custody Record

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(A/A) (N/A) (N/A) (A/A) Program Area Codes. CWA = Clean Water Act (for wastewaters), SDWA = Safe Drinking Water Act (for drinking waters), SHW = Solid and Hazardous Wastes (for soils, ground waters and waste samples) Preservative Codes (place corresponding # in block above analysis field):
0 = None 1 = 4CL, 2 = 4MO, 3 = 4SSO, 4 = 8MOH, 5 = 8MSSO,
6 = Mother of 505s set wi NaHSO, & CHOH, 7 = NaOH/STOAC, 8 = H-PO. (if sample is a composite please use space below to note saur/finish times & dates) Phone: (803) 781-4243 Fax: 781-4303 ANALYTICAL, INC. Sample Temp, Upon Receipt (°C): "Matrix Codes (place corresponding code in matrix column);
GW = ground water, WWW = waste water, DW = dinkling water, S = soil,
SE = sludge, A = air, IW = industrial waste, WO = waste oil, OT = other (specify in comments socialon). NOTES / COMMENTS ပ္ပ ပ္ပ ပ္ပ ACCESS 2 www.axs-inc.com G = Glass, P = Plastic Samples Rec'd Laboratory ID: 7478 Carlisle Street Irmo, SC 29063 \*Container Type: 9:30 Time 1115114 Date (mm-66-tv) ナー Access Quote # Received By: MOTH JAMPT + AATT P 3 <u>ହାର୭୪୫</u> lo \*
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Project Work Order # 141

(Z/A) (N/A) (Z/A) (N/A) \*Program Area Codes: CWA = Clean Water Act (for wastewaters), SDWA = Sere Drinking Water Act (for drinking waters), SHW = Solid and Hazardous Wastes (for solis, ground waters and waste samples) \*Proservative Codes (place corresponding # in block above analysis field): 0 = None, 1 = HCL, 2 = HNOs, 3 = H.SO., 4 = NaOH; 5 = NaS.SO., 6 = Method 5035 set w/ NaHSO. & CHOH. 7 = NaOH/ZnOAC, 8 = H.PO. (if sample is a composite please use space below to note saur/finish times & dates) Phone: (803) 781-4243 Fax: 781-4303 ANALYTICAL, INC. \*Matrix Codes (place corresponding code in metrix column);
GW = ground water, WW = waste water, DW = drinking water, S = soli.
St= subgo, A = air, IW = industrial waste. WO = waste oil, OT = other (specify in comments section). Sample Temp, Upon Receipt (°C): NOTES / COMMENTS <u>ဂ</u> ် ACCESS 0 www.axs-inc.com G = Glass, P = Plastic Samples Rec'd Laboratory ID: 7478 Carlisle Street Irmo, SC 29063 Container Type: 9:30 Time (24HR) Date mm-dd-w) Access Quote Received By: M+3MAT+AA1 S 2100 88 lo a nsvisim batsšim tatsšim irvisims lo t nadistoo betralloo i rej tierlans James tota Potisto Potralio Pot Potrista lo le natistro lensilo red ted serfiere lo te bansho radistan radistan bo to consistence beto-fice to the file to a radiation barosilon teq teq actians lo \* confision boroslon profile sierlans lo to noistor lettello: lettello: seglecis a of consisted absorbal per per per per per Container Type: (\*see codes) † KEÖNEZLED FYB YMYFKZIZ: † Preservative: (\*see codes) Relinquished By: Email: Dfisher@ crawford enviornmental.com TOTAL \* of containers **(**1) Phone: 540 343 6256 Fax: 540343 6259 Ollected: Collected: (condo) Arra Say # O 3 方でいっているとする 340E S "10uds Chevron ల [[w]ng 0001 11/11/11 ころの 1300 27 27 14/4 508 32 18 11 hall 620 016141211 Project Location: Other 15 Church And Xsc S (specify) Rognoke VA <u>-</u> -<u>7</u> -<u>3</u> 7 7 ج ا ا Report To: Dan Fisher Company Name: Company Name: emailed/faxed by end of business day on date required) Turnaround Time: N 36 をいれて (For rush work, results FC MM ST ME NN 67 NW 70 NW 104 MNW 38 NE SO INW 31 Sample ID/Description \*Date Required: Sales Order # Standard Sampled By: RUSH\* Address: City: Page 3 of 86

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(N/A) (N/A) (N/A) \*Program Area Codes: CWA = Clean Water Act (for wastewaters), SDWA = Safe Drinking Water Act (for crinking waters), SHW = Solid and Hazardous Wastes (for solis, ground waters and waste samples) \*Preservative Codes (place corresponding # in block above analysis field): 0 = None, 1 = HCL, 2 = HNCs, 3 = HSO, 4 = NaOH, 5 = NaSSO, 6 = Method 5035 set w/ NaHSO. 8 CH-OH, 7 = NaOH/ZnOAC, 8 = H;-PO, (if sample is a composite please use space below to note startfinish times & dates) Phone: (803) 781-4243 Fax: 781-4303 ANALYTICAL, INC. \*\*Matrix Codes (place corresponding code in matrix column):

GW = ground water, WW = waste water, DW = drinking water, S = soil.

SE = sludge, A = air, WW = industrial waste, WO = waste oil, OT = other (specify in comments section). Sample Temp, Upon Receipt (°C): NOTES / COMMENTS ပ္ပ () () ပ္ပ ACCESS www.axs-inc.com 5 G = Glass, P = Plastic Samples Rec'd Laboratory ID: on Ice 7478 Carlisle Street Irmo, SC 29063 9:30 Time オスニ Date (mn-dd-w) Access Quote # Received By: 14 M+ X ST 38 HBT + 3 M AT + A A T orlecto.

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Project Work Order # |ユニロンス

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SE = sludge, A = air, IW = industrial waste, WO = waste oil, OT = other (specify in comments section) Sample Temp. Upon Receipt (°C): ပ္ပ ပ္ပ NOTES / COMMENT ACCESS www.axs-inc.com G = Glass, P = Plastic Samples Rec'd Laboratory ID: 7478 Carlisle Street Irmo, SC 29063 Container Type: 9.30 1115/14 Date mm-dd-yy) ナー Access Quote # reway Received By: OUNG 1 + X31381 810068 + 3MAT + AAT 6 5 Container Type: (\*see codes) enviko ry ( entiens rotockoc yeq sizylens laballo rsq isylans nanietni bazako teg teglene lo a manistra betrallo teq alcristra svejlen Let rer derfets req attilent ted | soshen Maris 1 KEÖNEZLED TYB YMYTKZIZ: 1 Preservative: (\*sec codes) Email: 17 Eisher@crawfordenviornmental.com Refinduished By: TOTAL # of containers 6 Phone: 540 343 6250 Fax: 5403436259 Date Time Type: Matrix: Program Collected: Collected: composite (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (see code) (s Nonz # 0 \(\frac{1}{2}\) Z Company Name: Crawford Enviornmental > SS 11/11/11/11/11/11/11/11 1 0021 MEYT Clouds Cherron MM14 1360 06:P 186/11 WIN 2 1940 2000 2 5 るえ Project Location: Dilly Fiving Other 15 Church Ave  $\chi_{\rm sc}$ S N N 113 ころ ころに Roanoke State: VA (specify) Jan Fisher emailed/faxed by end of business day on date required) NW 5AR Turnaround Time: (For rush work, results TO MY WW 28 0 2 5 KK MM ころ MW 20 MW 8 UN 7 TMA Sample ID/Description \*Date Required: Sales Order # X Standard Sampled By: Report To: RUSH\* Project ID: Öity:

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Project Work Order # (「一一 Access Analytical - Chain of Custody Record

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(N/A) (N/A) (N/A) (NA) \*Program Area Codes: CWA = Clean Water Act (for wastewaters), SDWA = Safe Drinking Water Act (for drinking waters), SHW = Solid and Hazardous Wastes (for solls, ground waters and waste samples) \*Preservative Codes (place corresponding # in block above analysis field): 0 = None, 1 = HCL, 2 = HNO,, 3 = H.SO,, 4 = NaOH, 5 = Na.S.O. 6 = Method 5035 set w/ NaHSO. 8 CH.OH, 7 = NaOH/ZnOAC, 8 = H.PO. (if sample is a composite please use space below to note start/linish times & dates) Phone: (803) 781-4243 Fax: 781-4303 ANALYTICAL, INC. Sample Temp, Upon Receipt (°C): \*Matrix Codes (place corresponding code in matrix column):

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SL = sludge, A = air, IW = industrial waste, WO = waste oil, OT = other NOTES / COMMENT ပ္ပ ် ပ္ပ ACCESS www.axs-inc.com 0 G = Glass, P = Plastic Samples Rec'd on Ice Laboratory ID: (specify in comments section, 7478 Carlisle Street Irmo, SC 29063 1:30 52 800 Time 24HB) *カトカト11* 11-11-11 11115/12 Date Access Quote # deway Received By: ABITAMAT + AAT 3 899013 lo a nanistro fotodio i 134 iirilens Container Type: (\*see codes) llected per per larges paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo pared paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo pared paredo paredo paredo paredo paredo paredo pared paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo paredo pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared pared par † KEÖNEZLED IVB VNYTKSIS! † Preservative: (\*see codes) JAM 13 Relinquished By: Email: Dfisher@crawfordenviornmental.com Date Tink Type: Matrix:Program Toru.
Collected: Collected: (cmposte) (seconds) Area "ed. 3 Phone: 540 343 6256 Fax: 540 343 6259 Many \$ 0 \* Company Lawer Enviornmental ලි となり 3 <u>0</u> Clouds Chevron 1230 11/0/w 1315 0 3 いと 11/11/11/940 11/11/11/11/11/11 Project Location: 1.131.1900 15 Church Ave Other S Billy Buing  $\times$  sc ROG NOKE VA (specify) 🚅 11010 Report To: Dan Fisher emailed/faxed by end of busi-S ≥ 7.00 ness day on date required) Turnaround Time: 言言の  $\overline{c}$ (For rush work, results DE MIN 5.2 N.W 33 3 38 Sample ID/Description 3 7 \*Date Required: Sales Order # X Standard Sampled By: RUSH\* Project ID: Address: City:

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(A/A) (A/Z) (N/A) (X/Z) \*Program Area Codes: CWA = Clean Water Act (for westewaters), SDWA. Safe Drinking Water Act (for drinking waters), SHW = Solid and Hazardous Wastes (for solis, ground waters and waste samples) \*Preservative Codes (place corresponding # in block above analysis field)\*
0 = None, 1 = HCL, 2 = HNOs, 3 = H.SOs, 4 = NAOH, 5 = NAS.So.
6 = Method 5035 set w/ NaHSO. 8 CH:OH, 7 = NeOHZnOAC, 8 = H.PO. (if simple is a composite please use space below to note start/finish times & dates.) Phone: (803) 781-4243 Fax: 781-4303 ANALYTICAL, INC. "Matrix Codes (place corresponding code in matrix column).

GW = ground water, WW = waste water, DW = drinking water, S = soil,
SE = sludge, A = air, NW = industrial waste, WO = waste oil, OT = other
(specify in comments section). Sample Temp, Upon NOTES / COMMENTS ပ္ ပ္ပ ပ္ပ ACCESS www.axs-inc.com 61 Container Type: G = Glass, P = Plastic Samples Rec'd on Ice Laboratory ID: 7478 Carlisle Street Irmo, SC 29063 9:30 Time 24HR) カーカー さびご Date ( Access Quote # deutar Received By: Same 810988 AAT TAME + ථ lo \* norderno barolleo uvilens e of mession collected profession sixilens to e rentation testacilos test siepticus ollocted per J per J per J borselloo teq tierliens lensellee Per sierlens batcalloo | rad | ereplens jo a nacistoo batosla jasq sisqians Container Type: (\*see codes) Preservative: (\*see codes) THEO TEB LAB ANALYSIS: Relinquished By: Email: Drisher@Crawfordenviornmental.com TOTAL # of 3 Fax: 540 343 62 59 Matrix: Program T 3 # 0 11/11/14 1240 G-GW ンよの川 Crawford Enviornmental Date Trine Type: 3 1 11/14 1630 Zip: WILL AND 1025 11 Miles 128 Clouds Cheuron 11/11/14 1530 11/4 15/30 11/11/11 860 000 EV 1/3/2/8/20 Project Location: Other Billy Ewing Xsc S 15 Church Are State: VA (specify) 540 343 6936 ブーニ Report To: Dan Fisher emailed/faxed by end of busi-ままかみ Roanoke ness day on date required) N CO Turnaround Time: NW 25 (For rush work, results 7 R 3 SIN Sample ID/Description 280 Company Name: 2 \*Date Required: Sales Order # XStandard Sampled By: RUSH\* Project ID: Phone: Address: City:

See Reverse for Terms and Conditions

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"Preservative Codes (place corresponding # in block above analysis field): 0 = None, 1 = HCL, 2 = HNO., 3 = H.SO., 4 = NOOH 5 = Na.SO., 6 = Method 5035 set w/ NaHSO. & CHOH, 7 = NaOHZnOAC, 8 = H.PO. \*Program Area Codes: CWA = Clean Water Act (for wastewaters); SDWA Safe Drinking Water Act (for drinking waters); SHW = Solid and Hazardous Wastes (for solls, ground waters and waste samples) 1NO 1 EO / CIVIIVIEIN 1 O (if sumple is a composite phene te space below to note startifinsh times & dates) Phone: (803) 781-4243 Fax: 781-4303 ANALYTICAL, INC. Project Work Order # 1411033 "Matrix Codes (place corresponding code in matrix column):

SL = ground water, WW = waste water, DW = drinking water, S = soil,

SL = sludge, A = Bir, IW = industrial waste, WO = waste oil, OT = other (specify in comments section) Sample Temp. Upon Receipt (°C): NOTES / COMMENTS ပ္ပ ပ္ပ 1. Q (°C) ACCESS www.axs-inc.com G = Glass, P = Plastic Z Samples Rec'd on Ice Laboratory ID: 7478 Carlisle Street Irmo, SC 29063 \*Container Type: 8:18 821 2-61-Time (24HB) Access Analytical - Chain of Custody Record セトセー ころえ Date mm-dd-w Access Quote # acusas Received By: Jano ABIT THMET THAT D 830013 lo e eranisimo barrallor i raj sierlieras 10 % snietro ouvellor 19q elefiens to t container collected per per ter ter banaloo | 194 | eirilers # of Mainer Mocted Per Mainer lo a ranistra batosilo asq asqism lo \* ranisim batollo: i raq kirilans Container Type: (\*see codes) Jan S Preservative: (\*see codes) t keguested lab analysis; t Relinquished By: Email: Dfisher@crawfordenviornmental.com Date Time Type: Matrix:Program Total Collected: Collected: components (see code) Area (see code) Connines S Phone: 540 343 6250 Fax: 540 343 62 59 200 か (2) (4) CompanyName: Ford Enviornmental 多の中で Rognoke VA Lip. Ayoll 15 Church Ave SW Clouds Chewon Willy 1530 11 12 14 1600 1132 ASO Project Location: Billy Ewing Other N N SC (specify) \_\_ 7 2 2 Į Report To: Dan Fisher LAB USE ONLY emailed/faxed by end of busi-Fir Blank rio Blank ness day on date required) Turnaround Time: (For rush work, results Durp 3 Dup 2 Sample ID/Description しばる \*Date Required: Sales Order # Sampled By: Standard RUSH\* Address:

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(NA)

(XX)

(N/A)

(NA)

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Client: Crawford Environmental Services

Project: Clouds Chevron Case Narrative

Date:

25-Nov-14

Lab ID: 1411D32

Sample "DW 14" was written as "DW 4" on the sample container. Sample "DW 13" was written as "DW 3" on the sample container. Sample "PW R-1" was written as "PW 1-R" on the sample container.

All samples were matched according the collection date and time and were logged in according to the COC.

Volatile Organic Compounds Analysis by Method 8260B:

Due to sample matrix, samples 1411D32-002A, -006A, -026A, -027A, -028A, -036A, -038A, -040A, -041A, -042A, -053A, and -055A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Sample 1411D32-026A as received did not meet method specified preservation requirements of pH <2. The laboratory proceeded with analysis.

Client: Crawford Environmental Services Client Sample ID: DW 6

Project Name: Clouds Chevron Collection Date: 11/12/2014 12:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-001 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW82601	3		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 01:50	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 01:50	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 01:50	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 01:50	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 01:50	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 01:50	NP
Surr: 4-Bromofluorobenzene	95.2		0	70-130	%REC	199515	1	11/20/2014 01:50	NP
Surr: Dibromofluoromethane	99.7		0	70-130	%REC	199515	1	11/20/2014 01:50	NP
Surr: Toluene-d8	94.9		0	70-130	%REC	199515	1	11/20/2014 01:50	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 01:50	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 01:50	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 01:50	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 ${\bf H} \qquad {\bf Holding\ times\ for\ preparation\ or\ analysis\ exceeded}$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 18

Project Name: Clouds Chevron Collection Date: 11/12/2014 3:30:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-002 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	3100		39	100	ug/L	199515	100	11/19/2014 23:47	NP
Ethylbenzene	560		40	100	ug/L	199515	100	11/19/2014 23:47	NP
Methyl tert-butyl ether	510		42	100	ug/L	199515	100	11/19/2014 23:47	NP
Naphthalene	290	J	20	500	ug/L	199515	100	11/19/2014 23:47	NP
Toluene	11000		38	100	ug/L	199515	100	11/19/2014 23:47	NP
Xylenes, Total	8700		83	100	ug/L	199515	100	11/19/2014 23:47	NP
Surr: 4-Bromofluorobenzene	99.3		0	70-130	%REC	199515	100	11/19/2014 23:47	NP
Surr: Dibromofluoromethane	97.9		0	70-130	%REC	199515	100	11/19/2014 23:47	NP
Surr: Toluene-d8	96.7		0	70-130	%REC	199515	100	11/19/2014 23:47	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	12000		950	10000	ug/L	199515	100	11/19/2014 23:47	NP
tert-Amyl methyl ether	BRL		100	1000	ug/L	199515	100	11/19/2014 23:47	NP
tert-Butyl Alcohol	BRL		680	10000	ug/L	199515	100	11/19/2014 23:47	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 45

Project Name: Clouds Chevron Collection Date: 11/11/2014 8:30:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-003 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 02:15	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 02:15	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 02:15	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 02:15	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 02:15	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 02:15	NP
Surr: 4-Bromofluorobenzene	88.8		0	70-130	%REC	199515	1	11/20/2014 02:15	NP
Surr: Dibromofluoromethane	98		0	70-130	%REC	199515	1	11/20/2014 02:15	NP
Surr: Toluene-d8	94.9		0	70-130	%REC	199515	1	11/20/2014 02:15	NP
Oxygenates SW8260B				(	SW5030	<b>OB</b> )			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 02:15	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 02:15	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 02:15	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 44

Project Name: Clouds Chevron Collection Date: 11/11/2014 8:15:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-004 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW82601	В		(	SW5030	<b>OB</b> )			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 02:39	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 02:39	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 02:39	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 02:39	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 02:39	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 02:39	NP
Surr: 4-Bromofluorobenzene	90.3		0	70-130	%REC	199515	1	11/20/2014 02:39	NP
Surr: Dibromofluoromethane	101		0	70-130	%REC	199515	1	11/20/2014 02:39	NP
Surr: Toluene-d8	95.5		0	70-130	%REC	199515	1	11/20/2014 02:39	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 02:39	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 02:39	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 02:39	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 16

Project Name: Clouds Chevron Collection Date: 11/12/2014 9:25:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-005 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	<b>OB</b> )			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 03:04	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 03:04	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 03:04	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 03:04	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 03:04	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 03:04	NP
Surr: 4-Bromofluorobenzene	91.4		0	70-130	%REC	199515	1	11/20/2014 03:04	NP
Surr: Dibromofluoromethane	97.8		0	70-130	%REC	199515	1	11/20/2014 03:04	NP
Surr: Toluene-d8	97.8		0	70-130	%REC	199515	1	11/20/2014 03:04	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 03:04	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 03:04	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 03:04	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 17

Project Name: Clouds Chevron Collection Date: 11/12/2014 9:10:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-006 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	32		3.9	10	ug/L	199515	10	11/20/2014 15:40	NP
Ethylbenzene	450		4.0	10	ug/L	199515	10	11/20/2014 15:40	NP
Methyl tert-butyl ether	BRL		4.2	10	ug/L	199515	10	11/20/2014 15:40	NP
Naphthalene	690		2.0	50	ug/L	199515	10	11/20/2014 15:40	NP
Toluene	3000		19	50	ug/L	199515	50	11/20/2014 00:12	NP
Xylenes, Total	8300		41	50	ug/L	199515	50	11/20/2014 00:12	NP
Surr: 4-Bromofluorobenzene	100		0	70-130	%REC	199515	50	11/20/2014 00:12	NP
Surr: 4-Bromofluorobenzene	102		0	70-130	%REC	199515	10	11/20/2014 15:40	NP
Surr: Dibromofluoromethane	100		0	70-130	%REC	199515	50	11/20/2014 00:12	NP
Surr: Dibromofluoromethane	94.2		0	70-130	%REC	199515	10	11/20/2014 15:40	NP
Surr: Toluene-d8	96.4		0	70-130	%REC	199515	50	11/20/2014 00:12	NP
Surr: Toluene-d8	95		0	70-130	%REC	199515	10	11/20/2014 15:40	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	270	J	95	1000	ug/L	199515	10	11/20/2014 15:40	NP
tert-Amyl methyl ether	BRL		10	100	ug/L	199515	10	11/20/2014 15:40	NP
tert-Butyl Alcohol	BRL		68	1000	ug/L	199515	10	11/20/2014 15:40	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 46

Project Name: Clouds Chevron Collection Date: 11/12/2014 8:45:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-007 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	<b>OB</b> )			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 03:29	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 03:29	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 03:29	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 03:29	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 03:29	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 03:29	NP
Surr: 4-Bromofluorobenzene	92.5		0	70-130	%REC	199515	1	11/20/2014 03:29	NP
Surr: Dibromofluoromethane	97.6		0	70-130	%REC	199515	1	11/20/2014 03:29	NP
Surr: Toluene-d8	96.4		0	70-130	%REC	199515	1	11/20/2014 03:29	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 03:29	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 03:29	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 03:29	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: FB 1

Project Name: Clouds Chevron Collection Date: 11/11/2014 4:45:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-008 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW82601	В		(	SW5030	OB)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/19/2014 22:34	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/19/2014 22:34	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/19/2014 22:34	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/19/2014 22:34	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/19/2014 22:34	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/19/2014 22:34	NP
Surr: 4-Bromofluorobenzene	91.3		0	70-130	%REC	199515	1	11/19/2014 22:34	NP
Surr: Dibromofluoromethane	101		0	70-130	%REC	199515	1	11/19/2014 22:34	NP
Surr: Toluene-d8	97		0	70-130	%REC	199515	1	11/19/2014 22:34	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/19/2014 22:34	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/19/2014 22:34	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/19/2014 22:34	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: FB 2

Project Name: Clouds Chevron Collection Date: 11/12/2014 4:45:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-009 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/19/2014 22:58	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/19/2014 22:58	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/19/2014 22:58	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/19/2014 22:58	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/19/2014 22:58	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/19/2014 22:58	NP
Surr: 4-Bromofluorobenzene	91		0	70-130	%REC	199515	1	11/19/2014 22:58	NP
Surr: Dibromofluoromethane	101		0	70-130	%REC	199515	1	11/19/2014 22:58	NP
Surr: Toluene-d8	96.8		0	70-130	%REC	199515	1	11/19/2014 22:58	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/19/2014 22:58	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/19/2014 22:58	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/19/2014 22:58	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: FB 3

Project Name: Clouds Chevron Collection Date: 11/13/2014 4:45:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-010 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/19/2014 23:22	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/19/2014 23:22	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/19/2014 23:22	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/19/2014 23:22	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/19/2014 23:22	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/19/2014 23:22	NP
Surr: 4-Bromofluorobenzene	91.6		0	70-130	%REC	199515	1	11/19/2014 23:22	NP
Surr: Dibromofluoromethane	102		0	70-130	%REC	199515	1	11/19/2014 23:22	NP
Surr: Toluene-d8	96.1		0	70-130	%REC	199515	1	11/19/2014 23:22	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/19/2014 23:22	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/19/2014 23:22	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/19/2014 23:22	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 $H \qquad \hbox{Holding times for preparation or analysis exceeded} \\$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 62

Project Name: Clouds Chevron Collection Date: 11/11/2014 4:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-011 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	51		0.39	1.0	ug/L	199515	1	11/20/2014 03:54	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 03:54	NP
Methyl tert-butyl ether	2.6		0.42	1.0	ug/L	199515	1	11/20/2014 03:54	NP
Naphthalene	65		0.20	5.0	ug/L	199515	1	11/20/2014 03:54	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 03:54	NP
Xylenes, Total	0.93	J	0.83	1.0	ug/L	199515	1	11/20/2014 03:54	NP
Surr: 4-Bromofluorobenzene	94.1		0	70-130	%REC	199515	1	11/20/2014 03:54	NP
Surr: Dibromofluoromethane	96.7		0	70-130	%REC	199515	1	11/20/2014 03:54	NP
Surr: Toluene-d8	98.8		0	70-130	%REC	199515	1	11/20/2014 03:54	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	730		9.5	100	ug/L	199515	1	11/20/2014 03:54	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 03:54	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 03:54	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 70

Project Name: Clouds Chevron Collection Date: 11/11/2014 4:20:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-012 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 04:19	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 04:19	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 04:19	NP
Naphthalene	1.5	J	0.20	5.0	ug/L	199515	1	11/20/2014 04:19	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 04:19	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 04:19	NP
Surr: 4-Bromofluorobenzene	90		0	70-130	%REC	199515	1	11/20/2014 04:19	NP
Surr: Dibromofluoromethane	99.5		0	70-130	%REC	199515	1	11/20/2014 04:19	NP
Surr: Toluene-d8	96		0	70-130	%REC	199515	1	11/20/2014 04:19	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 04:19	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 04:19	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 04:19	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: MW 40

Project Name: Clouds Chevron Collection Date: 11/11/2014 4:45:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-013 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	<b>OB</b> )			
Benzene	140		0.39	1.0	ug/L	199515	1	11/20/2014 19:22	NP
Ethylbenzene	300		8.1	20	ug/L	199515	20	11/20/2014 01:01	NP
Methyl tert-butyl ether	12		0.42	1.0	ug/L	199515	1	11/20/2014 19:22	NP
Naphthalene	150		4.0	100	ug/L	199515	20	11/20/2014 01:01	NP
Toluene	970		7.5	20	ug/L	199515	20	11/20/2014 01:01	NP
Xylenes, Total	2900		17	20	ug/L	199515	20	11/20/2014 01:01	NP
Surr: 4-Bromofluorobenzene	102		0	70-130	%REC	199515	20	11/20/2014 01:01	NP
Surr: 4-Bromofluorobenzene	104		0	70-130	%REC	199515	1	11/20/2014 19:22	NP
Surr: Dibromofluoromethane	88		0	70-130	%REC	199515	1	11/20/2014 19:22	NP
Surr: Dibromofluoromethane	97.9		0	70-130	%REC	199515	20	11/20/2014 01:01	NP
Surr: Toluene-d8	95.6		0	70-130	%REC	199515	1	11/20/2014 19:22	NP
Surr: Toluene-d8	97.2		0	70-130	%REC	199515	20	11/20/2014 01:01	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	600		9.5	100	ug/L	199515	1	11/20/2014 19:22	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 19:22	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 19:22	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: MW 39

Project Name: Clouds Chevron Collection Date: 11/12/2014 11:30:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-014 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260]	В		(	SW5030	0B)			
Benzene	11		0.39	1.0	ug/L	199515	1	11/20/2014 19:47	NP
Ethylbenzene	1000		8.1	20	ug/L	199515	20	11/20/2014 01:26	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 19:47	NP
Naphthalene	340		4.0	100	ug/L	199515	20	11/20/2014 01:26	NP
Toluene	1500		7.5	20	ug/L	199515	20	11/20/2014 01:26	NP
Xylenes, Total	3700		17	20	ug/L	199515	20	11/20/2014 01:26	NP
Surr: 4-Bromofluorobenzene	101		0	70-130	%REC	199515	20	11/20/2014 01:26	NP
Surr: 4-Bromofluorobenzene	104		0	70-130	%REC	199515	1	11/20/2014 19:47	NP
Surr: Dibromofluoromethane	89.2		0	70-130	%REC	199515	1	11/20/2014 19:47	NP
Surr: Dibromofluoromethane	94.2		0	70-130	%REC	199515	20	11/20/2014 01:26	NP
Surr: Toluene-d8	95.3		0	70-130	%REC	199515	1	11/20/2014 19:47	NP
Surr: Toluene-d8	96.3		0	70-130	%REC	199515	20	11/20/2014 01:26	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	220		9.5	100	ug/L	199515	1	11/20/2014 19:47	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 19:47	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 19:47	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 67

Project Name: Clouds Chevron Collection Date: 11/12/2014 11:40:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-015 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	)B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 04:43	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 04:43	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 04:43	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 04:43	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 04:43	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 04:43	NP
Surr: 4-Bromofluorobenzene	93.2		0	70-130	%REC	199515	1	11/20/2014 04:43	NP
Surr: Dibromofluoromethane	102		0	70-130	%REC	199515	1	11/20/2014 04:43	NP
Surr: Toluene-d8	96.6		0	70-130	%REC	199515	1	11/20/2014 04:43	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 04:43	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 04:43	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 04:43	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 ${\bf H} \qquad {\bf Holding\ times\ for\ preparation\ or\ analysis\ exceeded}$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 42

Project Name: Clouds Chevron Collection Date: 11/12/2014 11:50:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-016 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260I	3		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 07:52	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 07:52	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 07:52	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 07:52	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 07:52	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 07:52	NP
Surr: 4-Bromofluorobenzene	93.3		0	70-130	%REC	199515	1	11/20/2014 07:52	NP
Surr: Dibromofluoromethane	100		0	70-130	%REC	199515	1	11/20/2014 07:52	NP
Surr: Toluene-d8	95.7		0	70-130	%REC	199515	1	11/20/2014 07:52	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 07:52	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 07:52	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 07:52	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 38

Project Name: Clouds Chevron Collection Date: 11/12/2014 12:40:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-017 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 08:17	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 08:17	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 08:17	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 08:17	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 08:17	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 08:17	NP
Surr: 4-Bromofluorobenzene	90.4		0	70-130	%REC	199515	1	11/20/2014 08:17	NP
Surr: Dibromofluoromethane	102		0	70-130	%REC	199515	1	11/20/2014 08:17	NP
Surr: Toluene-d8	97.4		0	70-130	%REC	199515	1	11/20/2014 08:17	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 08:17	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 08:17	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 08:17	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 31

Project Name: Clouds Chevron Collection Date: 11/12/2014 1:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-018 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	30		0.39	1.0	ug/L	199515	1	11/20/2014 18:57	NP
Ethylbenzene	310		20	50	ug/L	199515	50	11/20/2014 00:37	NP
Methyl tert-butyl ether	4.1		0.42	1.0	ug/L	199515	1	11/20/2014 18:57	NP
Naphthalene	160		10	100	ug/L	199515	50	11/20/2014 00:37	NP
Toluene	9.8		0.38	1.0	ug/L	199515	1	11/20/2014 18:57	NP
Xylenes, Total	9.3		0.83	1.0	ug/L	199515	1	11/20/2014 18:57	NP
Surr: 4-Bromofluorobenzene	95.3		0	70-130	%REC	199515	50	11/20/2014 00:37	NP
Surr: 4-Bromofluorobenzene	102		0	70-130	%REC	199515	1	11/20/2014 18:57	NP
Surr: Dibromofluoromethane	101		0	70-130	%REC	199515	50	11/20/2014 00:37	NP
Surr: Dibromofluoromethane	91.7		0	70-130	%REC	199515	1	11/20/2014 18:57	NP
Surr: Toluene-d8	97.9		0	70-130	%REC	199515	50	11/20/2014 00:37	NP
Surr: Toluene-d8	98.5		0	70-130	%REC	199515	1	11/20/2014 18:57	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	460		9.5	100	ug/L	199515	1	11/20/2014 18:57	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 18:57	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 18:57	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: MW 37

Project Name: Clouds Chevron Collection Date: 11/12/2014 1:15:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-019 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW82601	3		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 14:51	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 14:51	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 14:51	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 14:51	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 14:51	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 14:51	NP
Surr: 4-Bromofluorobenzene	92.3		0	70-130	%REC	199515	1	11/20/2014 14:51	NP
Surr: Dibromofluoromethane	99.8		0	70-130	%REC	199515	1	11/20/2014 14:51	NP
Surr: Toluene-d8	95.3		0	70-130	%REC	199515	1	11/20/2014 14:51	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 14:51	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 14:51	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 14:51	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 36

Project Name: Clouds Chevron Collection Date: 11/12/2014 3:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-020 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW82601	3		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199515	1	11/20/2014 15:15	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199515	1	11/20/2014 15:15	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199515	1	11/20/2014 15:15	NP
Naphthalene	BRL		0.20	5.0	ug/L	199515	1	11/20/2014 15:15	NP
Toluene	BRL		0.38	1.0	ug/L	199515	1	11/20/2014 15:15	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199515	1	11/20/2014 15:15	NP
Surr: 4-Bromofluorobenzene	91.4		0	70-130	%REC	199515	1	11/20/2014 15:15	NP
Surr: Dibromofluoromethane	99.4		0	70-130	%REC	199515	1	11/20/2014 15:15	NP
Surr: Toluene-d8	97.6		0	70-130	%REC	199515	1	11/20/2014 15:15	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199515	1	11/20/2014 15:15	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199515	1	11/20/2014 15:15	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199515	1	11/20/2014 15:15	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: MW 30

Project Name: Clouds Chevron Collection Date: 11/12/2014 4:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-021 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260H	3		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/21/2014 01:33	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 01:33	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199525	1	11/21/2014 01:33	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 01:33	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/21/2014 01:33	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 01:33	NP
Surr: 4-Bromofluorobenzene	95.9		0	70-130	%REC	199525	1	11/21/2014 01:33	NP
Surr: Dibromofluoromethane	95.2		0	70-130	%REC	199525	1	11/21/2014 01:33	NP
Surr: Toluene-d8	93.2		0	70-130	%REC	199525	1	11/21/2014 01:33	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 01:33	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 01:33	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 01:33	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 ${\bf H} \qquad {\bf Holding\ times\ for\ preparation\ or\ analysis\ exceeded}$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

firmed Narr See case narrative

Client: Crawford Environmental Services Client Sample ID: MW 6

Project Name: Clouds Chevron Collection Date: 11/11/2014 2:30:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-022 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/21/2014 01:58	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 01:58	NP
Methyl tert-butyl ether	0.80	J	0.42	1.0	ug/L	199525	1	11/21/2014 01:58	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 01:58	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/21/2014 01:58	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 01:58	NP
Surr: 4-Bromofluorobenzene	91.9		0	70-130	%REC	199525	1	11/21/2014 01:58	NP
Surr: Dibromofluoromethane	98.4		0	70-130	%REC	199525	1	11/21/2014 01:58	NP
Surr: Toluene-d8	97.1		0	70-130	%REC	199525	1	11/21/2014 01:58	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 01:58	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 01:58	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 01:58	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 32

Project Name: Clouds Chevron Collection Date: 11/12/2014 3:15:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-023 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	4.0		0.39	1.0	ug/L	199525	1	11/22/2014 14:40	NP
Ethylbenzene	72		0.40	1.0	ug/L	199525	1	11/22/2014 14:40	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199525	1	11/22/2014 14:40	NP
Naphthalene	45		0.20	5.0	ug/L	199525	1	11/22/2014 14:40	NP
Toluene	13		0.38	1.0	ug/L	199525	1	11/22/2014 14:40	NP
Xylenes, Total	10		0.83	1.0	ug/L	199525	1	11/22/2014 14:40	NP
Surr: 4-Bromofluorobenzene	99.4		0	70-130	%REC	199525	1	11/22/2014 14:40	NP
Surr: Dibromofluoromethane	96.2		0	70-130	%REC	199525	1	11/22/2014 14:40	NP
Surr: Toluene-d8	100		0	70-130	%REC	199525	1	11/22/2014 14:40	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/22/2014 14:40	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/22/2014 14:40	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/22/2014 14:40	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 33

Project Name: Clouds Chevron Collection Date: 11/12/2014 3:45:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-024 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	130		0.39	1.0	ug/L	199525	1	11/24/2014 14:30	NP
Ethylbenzene	210		8.1	20	ug/L	199525	20	11/20/2014 17:19	NP
Methyl tert-butyl ether	1.2		0.42	1.0	ug/L	199525	1	11/24/2014 14:30	NP
Naphthalene	71		0.20	5.0	ug/L	199525	1	11/24/2014 14:30	NP
Toluene	410		7.5	20	ug/L	199525	20	11/20/2014 17:19	NP
Xylenes, Total	550		17	20	ug/L	199525	20	11/20/2014 17:19	NP
Surr: 4-Bromofluorobenzene	101		0	70-130	%REC	199525	1	11/24/2014 14:30	NP
Surr: 4-Bromofluorobenzene	96.3		0	70-130	%REC	199525	20	11/20/2014 17:19	NP
Surr: Dibromofluoromethane	91		0	70-130	%REC	199525	1	11/24/2014 14:30	NP
Surr: Dibromofluoromethane	96.8		0	70-130	%REC	199525	20	11/20/2014 17:19	NP
Surr: Toluene-d8	97.2		0	70-130	%REC	199525	1	11/24/2014 14:30	NP
Surr: Toluene-d8	94.2		0	70-130	%REC	199525	20	11/20/2014 17:19	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	1000		9.5	100	ug/L	199525	1	11/24/2014 14:30	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/24/2014 14:30	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/24/2014 14:30	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 34

Project Name: Clouds Chevron Collection Date: 11/12/2014 2:25:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-025 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260I	3		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/21/2014 02:23	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 02:23	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199525	1	11/21/2014 02:23	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 02:23	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/21/2014 02:23	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 02:23	NP
Surr: 4-Bromofluorobenzene	93.2		0	70-130	%REC	199525	1	11/21/2014 02:23	NP
Surr: Dibromofluoromethane	97.9		0	70-130	%REC	199525	1	11/21/2014 02:23	NP
Surr: Toluene-d8	95.7		0	70-130	%REC	199525	1	11/21/2014 02:23	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 02:23	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 02:23	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 02:23	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW 5

Project Name: Clouds Chevron Collection Date: 11/12/2014 2:10:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-026 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	6700		19	50	ug/L	199525	50	11/21/2014 20:21	NP
Ethylbenzene	240		20	50	ug/L	199525	50	11/21/2014 20:21	NP
Methyl tert-butyl ether	1400		21	50	ug/L	199525	50	11/21/2014 20:21	NP
Naphthalene	190	J	10	250	ug/L	199525	50	11/21/2014 20:21	NP
Toluene	380		19	50	ug/L	199525	50	11/21/2014 20:21	NP
Xylenes, Total	3100		41	50	ug/L	199525	50	11/21/2014 20:21	NP
Surr: 4-Bromofluorobenzene	98.8		0	70-130	%REC	199525	50	11/21/2014 20:21	NP
Surr: Dibromofluoromethane	92.9		0	70-130	%REC	199525	50	11/21/2014 20:21	NP
Surr: Toluene-d8	93.3		0	70-130	%REC	199525	50	11/21/2014 20:21	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	5300		480	5000	ug/L	199525	50	11/21/2014 20:21	NP
tert-Amyl methyl ether	110		1.0	10	ug/L	199525	1	11/21/2014 02:47	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 02:47	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 35

Project Name: Clouds Chevron Collection Date: 11/12/2014 1:30:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-027 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	6000		19	50	ug/L	199525	50	11/20/2014 16:30	NP
Ethylbenzene	2800		20	50	ug/L	199525	50	11/20/2014 16:30	NP
Methyl tert-butyl ether	330		21	50	ug/L	199525	50	11/20/2014 16:30	NP
Naphthalene	700		10	250	ug/L	199525	50	11/20/2014 16:30	NP
Toluene	7200		19	50	ug/L	199525	50	11/20/2014 16:30	NP
Xylenes, Total	7400		41	50	ug/L	199525	50	11/20/2014 16:30	NP
Surr: 4-Bromofluorobenzene	97.1		0	70-130	%REC	199525	50	11/20/2014 16:30	NP
Surr: Dibromofluoromethane	94.2		0	70-130	%REC	199525	50	11/20/2014 16:30	NP
Surr: Toluene-d8	95		0	70-130	%REC	199525	50	11/20/2014 16:30	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	4700	J	480	5000	ug/L	199525	50	11/20/2014 16:30	NP
tert-Amyl methyl ether	76	J	50	500	ug/L	199525	50	11/20/2014 16:30	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	199525	50	11/20/2014 16:30	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 3

Project Name: Clouds Chevron Collection Date: 11/11/2014 2:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-028 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	)B)			
Benzene	4600		19	50	ug/L	199525	50	11/21/2014 12:33	NP
Ethylbenzene	620		20	50	ug/L	199525	50	11/21/2014 12:33	NP
Methyl tert-butyl ether	1300		21	50	ug/L	199525	50	11/21/2014 12:33	NP
Naphthalene	280		10	250	ug/L	199525	50	11/21/2014 12:33	NP
Toluene	11000		38	100	ug/L	199525	100	11/24/2014 12:02	NP
Xylenes, Total	8700		41	50	ug/L	199525	50	11/21/2014 12:33	NP
Surr: 4-Bromofluorobenzene	99.6		0	70-130	%REC	199525	50	11/21/2014 12:33	NP
Surr: 4-Bromofluorobenzene	100		0	70-130	%REC	199525	100	11/24/2014 12:02	NP
Surr: Dibromofluoromethane	94.8		0	70-130	%REC	199525	50	11/21/2014 12:33	NP
Surr: Dibromofluoromethane	95.2		0	70-130	%REC	199525	100	11/24/2014 12:02	NP
Surr: Toluene-d8	95.4		0	70-130	%REC	199525	50	11/21/2014 12:33	NP
Surr: Toluene-d8	92.7		0	70-130	%REC	199525	100	11/24/2014 12:02	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		480	5000	ug/L	199525	50	11/21/2014 12:33	NP
tert-Amyl methyl ether	310	J	50	500	ug/L	199525	50	11/21/2014 12:33	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	199525	50	11/21/2014 12:33	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 26

Project Name: Clouds Chevron Collection Date: 11/11/2014 2:10:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-029 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260]	3		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/22/2014 15:05	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/22/2014 15:05	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199525	1	11/22/2014 15:05	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/22/2014 15:05	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/22/2014 15:05	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/22/2014 15:05	NP
Surr: 4-Bromofluorobenzene	91.4		0	70-130	%REC	199525	1	11/22/2014 15:05	NP
Surr: Dibromofluoromethane	98.8		0	70-130	%REC	199525	1	11/22/2014 15:05	NP
Surr: Toluene-d8	94.7		0	70-130	%REC	199525	1	11/22/2014 15:05	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/22/2014 15:05	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/22/2014 15:05	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/22/2014 15:05	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 7

Project Name: Clouds Chevron Collection Date: 11/11/2014 2:20:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-030 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	0.71	J	0.39	1.0	ug/L	199525	1	11/21/2014 03:36	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 03:36	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199525	1	11/21/2014 03:36	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 03:36	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/21/2014 03:36	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 03:36	NP
Surr: 4-Bromofluorobenzene	93		0	70-130	%REC	199525	1	11/21/2014 03:36	NP
Surr: Dibromofluoromethane	96.9		0	70-130	%REC	199525	1	11/21/2014 03:36	NP
Surr: Toluene-d8	94.2		0	70-130	%REC	199525	1	11/21/2014 03:36	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 03:36	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 03:36	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 03:36	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: MW 4

Project Name: Clouds Chevron Collection Date: 11/11/2014 1:50:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-031 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/21/2014 04:01	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 04:01	NP
Methyl tert-butyl ether	1.6		0.42	1.0	ug/L	199525	1	11/21/2014 04:01	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 04:01	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/21/2014 04:01	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 04:01	NP
Surr: 4-Bromofluorobenzene	93.9		0	70-130	%REC	199525	1	11/21/2014 04:01	NP
Surr: Dibromofluoromethane	96.5		0	70-130	%REC	199525	1	11/21/2014 04:01	NP
Surr: Toluene-d8	95		0	70-130	%REC	199525	1	11/21/2014 04:01	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 04:01	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 04:01	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 04:01	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 $H \qquad \hbox{Holding times for preparation or analysis exceeded} \\$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 8

Project Name: Clouds Chevron Collection Date: 11/11/2014 1:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-032 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/21/2014 04:26	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 04:26	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199525	1	11/21/2014 04:26	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 04:26	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/21/2014 04:26	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 04:26	NP
Surr: 4-Bromofluorobenzene	91.7		0	70-130	%REC	199525	1	11/21/2014 04:26	NP
Surr: Dibromofluoromethane	97.2		0	70-130	%REC	199525	1	11/21/2014 04:26	NP
Surr: Toluene-d8	96.4		0	70-130	%REC	199525	1	11/21/2014 04:26	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 04:26	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 04:26	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 04:26	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW 2

Project Name: Clouds Chevron Collection Date: 11/11/2014 1:40:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-033 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260I	3		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/21/2014 04:50	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 04:50	NP
Methyl tert-butyl ether	10.0		0.42	1.0	ug/L	199525	1	11/21/2014 04:50	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 04:50	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/21/2014 04:50	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 04:50	NP
Surr: 4-Bromofluorobenzene	93		0	70-130	%REC	199525	1	11/21/2014 04:50	NP
Surr: Dibromofluoromethane	99.9		0	70-130	%REC	199525	1	11/21/2014 04:50	NP
Surr: Toluene-d8	97.3		0	70-130	%REC	199525	1	11/21/2014 04:50	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 04:50	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 04:50	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 04:50	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 ${\rm H} \hspace{0.5cm} \hbox{ Holding times for preparation or analysis exceeded} \\$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 28

Project Name: Clouds Chevron Collection Date: 11/13/2014 8:15:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-034 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260I	3		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/21/2014 05:15	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 05:15	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199525	1	11/21/2014 05:15	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 05:15	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/21/2014 05:15	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 05:15	NP
Surr: 4-Bromofluorobenzene	93.2		0	70-130	%REC	199525	1	11/21/2014 05:15	NP
Surr: Dibromofluoromethane	101		0	70-130	%REC	199525	1	11/21/2014 05:15	NP
Surr: Toluene-d8	96.9		0	70-130	%REC	199525	1	11/21/2014 05:15	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 05:15	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 05:15	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 05:15	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 27

Project Name: Clouds Chevron Collection Date: 11/13/2014 8:30:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-035 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/21/2014 05:39	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 05:39	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199525	1	11/21/2014 05:39	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 05:39	NP
Toluene	BRL		0.38	1.0	ug/L	199525	1	11/21/2014 05:39	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 05:39	NP
Surr: 4-Bromofluorobenzene	94.3		0	70-130	%REC	199525	1	11/21/2014 05:39	NP
Surr: Dibromofluoromethane	99.6		0	70-130	%REC	199525	1	11/21/2014 05:39	NP
Surr: Toluene-d8	96.3		0	70-130	%REC	199525	1	11/21/2014 05:39	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 05:39	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 05:39	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 05:39	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 $H \qquad \hbox{Holding times for preparation or analysis exceeded} \\$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 22

Project Name: Clouds Chevron Collection Date: 11/13/2014 9:00:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-036 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	6300		190	500	ug/L	199525	500	11/21/2014 18:18	NP
Ethylbenzene	700		8.1	20	ug/L	199525	20	11/20/2014 17:44	NP
Methyl tert-butyl ether	BRL		8.5	20	ug/L	199525	20	11/20/2014 17:44	NP
Naphthalene	1200		4.0	100	ug/L	199525	20	11/20/2014 17:44	NP
Toluene	23000		190	500	ug/L	199525	500	11/21/2014 18:18	NP
Xylenes, Total	21000		410	500	ug/L	199525	500	11/21/2014 18:18	NP
Surr: 4-Bromofluorobenzene	101		0	70-130	%REC	199525	20	11/20/2014 17:44	NP
Surr: 4-Bromofluorobenzene	101		0	70-130	%REC	199525	500	11/21/2014 18:18	NP
Surr: Dibromofluoromethane	95.2		0	70-130	%REC	199525	500	11/21/2014 18:18	NP
Surr: Dibromofluoromethane	92.9		0	70-130	%REC	199525	20	11/20/2014 17:44	NP
Surr: Toluene-d8	94.7		0	70-130	%REC	199525	500	11/21/2014 18:18	NP
Surr: Toluene-d8	96		0	70-130	%REC	199525	20	11/20/2014 17:44	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	9600		190	2000	ug/L	199525	20	11/20/2014 17:44	NP
tert-Amyl methyl ether	BRL		20	200	ug/L	199525	20	11/20/2014 17:44	NP
tert-Butyl Alcohol	BRL		140	2000	ug/L	199525	20	11/20/2014 17:44	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: MW 5 AR

Project Name: Clouds Chevron Collection Date: 11/13/2014 9:15:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-037 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	<b>OB</b> )			
Benzene	830		3.9	10	ug/L	199525	10	11/24/2014 11:37	NP
Ethylbenzene	98		0.40	1.0	ug/L	199525	1	11/24/2014 11:12	NP
Methyl tert-butyl ether	13		0.42	1.0	ug/L	199525	1	11/24/2014 11:12	NP
Naphthalene	130		0.20	5.0	ug/L	199525	1	11/24/2014 11:12	NP
Toluene	180		0.38	1.0	ug/L	199525	1	11/24/2014 11:12	NP
Xylenes, Total	670		8.3	10	ug/L	199525	10	11/24/2014 11:37	NP
Surr: 4-Bromofluorobenzene	96.5		0	70-130	%REC	199525	10	11/24/2014 11:37	NP
Surr: 4-Bromofluorobenzene	101		0	70-130	%REC	199525	1	11/24/2014 11:12	NP
Surr: Dibromofluoromethane	93.3		0	70-130	%REC	199525	1	11/24/2014 11:12	NP
Surr: Dibromofluoromethane	98.1		0	70-130	%REC	199525	10	11/24/2014 11:37	NP
Surr: Toluene-d8	94.5		0	70-130	%REC	199525	10	11/24/2014 11:37	NP
Surr: Toluene-d8	98.1		0	70-130	%REC	199525	1	11/24/2014 11:12	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/24/2014 11:12	NP
tert-Amyl methyl ether	13		1.0	10	ug/L	199525	1	11/24/2014 11:12	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/24/2014 11:12	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 20

Project Name: Clouds Chevron Collection Date: 11/13/2014 9:30:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-038 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW82601	В		(	SW5030	0B)			
Benzene	1400		39	100	ug/L	199525	100	11/21/2014 19:32	NP
Ethylbenzene	500		40	100	ug/L	199525	100	11/21/2014 19:32	NP
Methyl tert-butyl ether	120		42	100	ug/L	199525	100	11/21/2014 19:32	NP
Naphthalene	1100		20	500	ug/L	199525	100	11/21/2014 19:32	NP
Toluene	12000		38	100	ug/L	199525	100	11/21/2014 19:32	NP
Xylenes, Total	14000		83	100	ug/L	199525	100	11/21/2014 19:32	NP
Surr: 4-Bromofluorobenzene	101		0	70-130	%REC	199525	100	11/21/2014 19:32	NP
Surr: Dibromofluoromethane	96.4		0	70-130	%REC	199525	100	11/21/2014 19:32	NP
Surr: Toluene-d8	93.7		0	70-130	%REC	199525	100	11/21/2014 19:32	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	BRL		950	10000	ug/L	199525	100	11/20/2014 16:05	NP
tert-Amyl methyl ether	BRL		100	1000	ug/L	199525	100	11/20/2014 16:05	NP
tert-Butyl Alcohol	BRL		680	10000	ug/L	199525	100	11/20/2014 16:05	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW 14

Project Name: Clouds Chevron Collection Date: 11/13/2014 11:25:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-039 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260I	3		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199525	1	11/21/2014 06:03	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199525	1	11/21/2014 06:03	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199525	1	11/21/2014 06:03	NP
Naphthalene	BRL		0.20	5.0	ug/L	199525	1	11/21/2014 06:03	NP
Toluene	1.0		0.38	1.0	ug/L	199525	1	11/21/2014 06:03	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199525	1	11/21/2014 06:03	NP
Surr: 4-Bromofluorobenzene	89.2		0	70-130	%REC	199525	1	11/21/2014 06:03	NP
Surr: Dibromofluoromethane	102		0	70-130	%REC	199525	1	11/21/2014 06:03	NP
Surr: Toluene-d8	98.6		0	70-130	%REC	199525	1	11/21/2014 06:03	NP
Oxygenates SW8260B				(	SW503	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199525	1	11/21/2014 06:03	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199525	1	11/21/2014 06:03	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199525	1	11/21/2014 06:03	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: DW 13

Project Name: Clouds Chevron Collection Date: 11/13/2014 12:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-040 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	2000		7.7	20	ug/L	199525	20	11/20/2014 18:33	NP
Ethylbenzene	2800		8.1	20	ug/L	199525	20	11/20/2014 18:33	NP
Methyl tert-butyl ether	23		8.5	20	ug/L	199525	20	11/20/2014 18:33	NP
Naphthalene	650		4.0	100	ug/L	199525	20	11/20/2014 18:33	NP
Toluene	20000		190	500	ug/L	199525	500	11/21/2014 18:43	NP
Xylenes, Total	10000		410	500	ug/L	199525	500	11/21/2014 18:43	NP
Surr: 4-Bromofluorobenzene	99		0	70-130	%REC	199525	500	11/21/2014 18:43	NP
Surr: 4-Bromofluorobenzene	97.8		0	70-130	%REC	199525	20	11/20/2014 18:33	NP
Surr: Dibromofluoromethane	96.3		0	70-130	%REC	199525	500	11/21/2014 18:43	NP
Surr: Dibromofluoromethane	91.3		0	70-130	%REC	199525	20	11/20/2014 18:33	NP
Surr: Toluene-d8	95.6		0	70-130	%REC	199525	500	11/21/2014 18:43	NP
Surr: Toluene-d8	94.3		0	70-130	%REC	199525	20	11/20/2014 18:33	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	2700		190	2000	ug/L	199525	20	11/20/2014 18:33	NP
tert-Amyl methyl ether	BRL		20	200	ug/L	199525	20	11/20/2014 18:33	NP
tert-Butyl Alcohol	BRL		140	2000	ug/L	199525	20	11/20/2014 18:33	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 23

Project Name: Clouds Chevron Collection Date: 11/13/2014 12:15:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-041 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260]	В		(	SW5030	)B)			
Benzene	890		19	50	ug/L	199600	50	11/21/2014 20:46	NP
Ethylbenzene	450		20	50	ug/L	199600	50	11/21/2014 20:46	NP
Methyl tert-butyl ether	BRL		21	50	ug/L	199600	50	11/21/2014 20:46	NP
Naphthalene	1200		10	250	ug/L	199600	50	11/21/2014 20:46	NP
Toluene	3600		19	50	ug/L	199600	50	11/21/2014 20:46	NP
Xylenes, Total	16000		41	50	ug/L	199600	50	11/21/2014 20:46	NP
Surr: 4-Bromofluorobenzene	100		0	70-130	%REC	199600	50	11/21/2014 20:46	NP
Surr: Dibromofluoromethane	94.2		0	70-130	%REC	199600	50	11/21/2014 20:46	NP
Surr: Toluene-d8	95.2		0	70-130	%REC	199600	50	11/21/2014 20:46	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	1500	J	480	5000	ug/L	199600	50	11/21/2014 20:46	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	199600	50	11/21/2014 20:46	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	199600	50	11/21/2014 20:46	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 ${\rm H} \hspace{0.5cm} \hbox{ Holding times for preparation or analysis exceeded} \\$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 19

Project Name: Clouds Chevron Collection Date: 11/13/2014 12:30:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-042 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	1400		19	50	ug/L	199600	50	11/21/2014 00:19	NP
Ethylbenzene	1600		20	50	ug/L	199600	50	11/21/2014 00:19	NP
Methyl tert-butyl ether	BRL		21	50	ug/L	199600	50	11/21/2014 00:19	NP
Naphthalene	1400		10	250	ug/L	199600	50	11/21/2014 00:19	NP
Toluene	28000		190	500	ug/L	199600	500	11/21/2014 19:07	NP
Xylenes, Total	24000		41	50	ug/L	199600	50	11/21/2014 00:19	NP
Surr: 4-Bromofluorobenzene	96.8		0	70-130	%REC	199600	500	11/21/2014 19:07	NP
Surr: 4-Bromofluorobenzene	98.4		0	70-130	%REC	199600	50	11/21/2014 00:19	NP
Surr: Dibromofluoromethane	91.8		0	70-130	%REC	199600	50	11/21/2014 00:19	NP
Surr: Dibromofluoromethane	97.2		0	70-130	%REC	199600	500	11/21/2014 19:07	NP
Surr: Toluene-d8	93.8		0	70-130	%REC	199600	50	11/21/2014 00:19	NP
Surr: Toluene-d8	94.4		0	70-130	%REC	199600	500	11/21/2014 19:07	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	1300	J	480	5000	ug/L	199600	50	11/21/2014 00:19	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	199600	50	11/21/2014 00:19	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	199600	50	11/21/2014 00:19	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 9

Project Name: Clouds Chevron Collection Date: 11/11/2014 9:40:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-043 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	380		39	100	ug/L	199600	100	11/21/2014 19:57	NP
Ethylbenzene	1900		40	100	ug/L	199600	100	11/21/2014 19:57	NP
Methyl tert-butyl ether	5.0		0.42	1.0	ug/L	199600	1	11/21/2014 06:28	NP
Naphthalene	650		20	500	ug/L	199600	100	11/21/2014 19:57	NP
Toluene	11000		38	100	ug/L	199600	100	11/21/2014 19:57	NP
Xylenes, Total	13000		83	100	ug/L	199600	100	11/21/2014 19:57	NP
Surr: 4-Bromofluorobenzene	99.8		0	70-130	%REC	199600	100	11/21/2014 19:57	NP
Surr: 4-Bromofluorobenzene	108		0	70-130	%REC	199600	1	11/21/2014 06:28	NP
Surr: Dibromofluoromethane	87.8		0	70-130	%REC	199600	1	11/21/2014 06:28	NP
Surr: Dibromofluoromethane	95.3		0	70-130	%REC	199600	100	11/21/2014 19:57	NP
Surr: Toluene-d8	94.4		0	70-130	%REC	199600	100	11/21/2014 19:57	NP
Surr: Toluene-d8	96.9		0	70-130	%REC	199600	1	11/21/2014 06:28	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	1100		9.5	100	ug/L	199600	1	11/21/2014 06:28	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 06:28	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 06:28	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 13

Project Name: Clouds Chevron Collection Date: 11/11/2014 10:10:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-044 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199600	1	11/22/2014 15:30	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/22/2014 15:30	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/22/2014 15:30	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/22/2014 15:30	NP
Toluene	BRL		0.38	1.0	ug/L	199600	1	11/22/2014 15:30	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/22/2014 15:30	NP
Surr: 4-Bromofluorobenzene	92.9		0	70-130	%REC	199600	1	11/22/2014 15:30	NP
Surr: Dibromofluoromethane	100		0	70-130	%REC	199600	1	11/22/2014 15:30	NP
Surr: Toluene-d8	97		0	70-130	%REC	199600	1	11/22/2014 15:30	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	26	J	9.5	100	ug/L	199600	1	11/21/2014 06:52	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 06:52	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 06:52	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 $H \qquad \hbox{Holding times for preparation or analysis exceeded} \\$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW 7

Project Name: Clouds Chevron Collection Date: 11/11/2014 11:00:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-045 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199600	1	11/22/2014 15:54	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/22/2014 15:54	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/22/2014 15:54	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/22/2014 15:54	NP
Toluene	BRL		0.38	1.0	ug/L	199600	1	11/22/2014 15:54	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/22/2014 15:54	NP
Surr: 4-Bromofluorobenzene	92.8		0	70-130	%REC	199600	1	11/22/2014 15:54	NP
Surr: Dibromofluoromethane	104		0	70-130	%REC	199600	1	11/22/2014 15:54	NP
Surr: Toluene-d8	97		0	70-130	%REC	199600	1	11/22/2014 15:54	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199600	1	11/21/2014 07:17	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 07:17	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 07:17	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 12

Project Name: Clouds Chevron Collection Date: 11/11/2014 11:25:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-046 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	<b>OB</b> )			
Benzene	990		3.9	10	ug/L	199600	10	11/24/2014 12:27	NP
Ethylbenzene	910		4.0	10	ug/L	199600	10	11/24/2014 12:27	NP
Methyl tert-butyl ether	21		0.42	1.0	ug/L	199600	1	11/21/2014 07:42	NP
Naphthalene	180		2.0	50	ug/L	199600	10	11/24/2014 12:27	NP
Toluene	19		0.38	1.0	ug/L	199600	1	11/21/2014 07:42	NP
Xylenes, Total	140		0.83	1.0	ug/L	199600	1	11/21/2014 07:42	NP
Surr: 4-Bromofluorobenzene	99.1		0	70-130	%REC	199600	10	11/24/2014 12:27	NP
Surr: 4-Bromofluorobenzene	101		0	70-130	%REC	199600	1	11/21/2014 07:42	NP
Surr: Dibromofluoromethane	90.8		0	70-130	%REC	199600	1	11/21/2014 07:42	NP
Surr: Dibromofluoromethane	96.1		0	70-130	%REC	199600	10	11/24/2014 12:27	NP
Surr: Toluene-d8	95.2		0	70-130	%REC	199600	10	11/24/2014 12:27	NP
Surr: Toluene-d8	96.7		0	70-130	%REC	199600	1	11/21/2014 07:42	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	3600		9.5	100	ug/L	199600	1	11/21/2014 07:42	NP
tert-Amyl methyl ether	14		1.0	10	ug/L	199600	1	11/21/2014 07:42	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 07:42	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 29

Project Name: Clouds Chevron Collection Date: 11/13/2014 8:00:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-047 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260I	3		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	199600	1	11/21/2014 13:22	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/21/2014 13:22	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/21/2014 13:22	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/21/2014 13:22	NP
Toluene	BRL		0.38	1.0	ug/L	199600	1	11/21/2014 13:22	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/21/2014 13:22	NP
Surr: 4-Bromofluorobenzene	90.2		0	70-130	%REC	199600	1	11/21/2014 13:22	NP
Surr: Dibromofluoromethane	101		0	70-130	%REC	199600	1	11/21/2014 13:22	NP
Surr: Toluene-d8	95.3		0	70-130	%REC	199600	1	11/21/2014 13:22	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199600	1	11/21/2014 13:22	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 13:22	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 13:22	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 59

Project Name: Clouds Chevron Collection Date: 11/11/2014 11:35:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-048 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	81		0.39	1.0	ug/L	199600	1	11/21/2014 13:47	NP
Ethylbenzene	730		4.0	10	ug/L	199600	10	11/24/2014 12:52	NP
Methyl tert-butyl ether	91		0.42	1.0	ug/L	199600	1	11/21/2014 13:47	NP
Naphthalene	96		0.20	5.0	ug/L	199600	1	11/21/2014 13:47	NP
Toluene	3.6		0.38	1.0	ug/L	199600	1	11/21/2014 13:47	NP
Xylenes, Total	14		0.83	1.0	ug/L	199600	1	11/21/2014 13:47	NP
Surr: 4-Bromofluorobenzene	97.3		0	70-130	%REC	199600	10	11/24/2014 12:52	NP
Surr: 4-Bromofluorobenzene	100		0	70-130	%REC	199600	1	11/21/2014 13:47	NP
Surr: Dibromofluoromethane	93.3		0	70-130	%REC	199600	1	11/21/2014 13:47	NP
Surr: Dibromofluoromethane	97.2		0	70-130	%REC	199600	10	11/24/2014 12:52	NP
Surr: Toluene-d8	95.4		0	70-130	%REC	199600	10	11/24/2014 12:52	NP
Surr: Toluene-d8	97.6		0	70-130	%REC	199600	1	11/21/2014 13:47	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	4500		9.5	100	ug/L	199600	1	11/21/2014 13:47	NP
tert-Amyl methyl ether	27		1.0	10	ug/L	199600	1	11/21/2014 13:47	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 13:47	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 ${\rm H} \hspace{0.5cm} \hbox{ Holding times for preparation or analysis exceeded} \\$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 53

Project Name: Clouds Chevron Collection Date: 11/11/2014 12:15:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-049 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199600	1	11/24/2014 09:59	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/24/2014 09:59	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/24/2014 09:59	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/24/2014 09:59	NP
Toluene	BRL		0.38	1.0	ug/L	199600	1	11/24/2014 09:59	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/24/2014 09:59	NP
Surr: 4-Bromofluorobenzene	91.9		0	70-130	%REC	199600	1	11/24/2014 09:59	NP
Surr: Dibromofluoromethane	100		0	70-130	%REC	199600	1	11/24/2014 09:59	NP
Surr: Toluene-d8	98.6		0	70-130	%REC	199600	1	11/24/2014 09:59	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199600	1	11/24/2014 09:59	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/24/2014 09:59	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/24/2014 09:59	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 11

Project Name: Clouds Chevron Collection Date: 11/11/2014 12:30:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-050 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	0.53	J	0.39	1.0	ug/L	199600	1	11/21/2014 14:36	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/21/2014 14:36	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/21/2014 14:36	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/21/2014 14:36	NP
Toluene	BRL		0.38	1.0	ug/L	199600	1	11/21/2014 14:36	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/21/2014 14:36	NP
Surr: 4-Bromofluorobenzene	92.1		0	70-130	%REC	199600	1	11/21/2014 14:36	NP
Surr: Dibromofluoromethane	97.2		0	70-130	%REC	199600	1	11/21/2014 14:36	NP
Surr: Toluene-d8	97.4		0	70-130	%REC	199600	1	11/21/2014 14:36	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	80	J	9.5	100	ug/L	199600	1	11/21/2014 14:36	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 14:36	NP
tert-Butyl Alcohol	58	J	6.8	100	ug/L	199600	1	11/21/2014 14:36	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 51

Project Name: Clouds Chevron Collection Date: 11/11/2014 12:40:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-051 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	<b>OB</b> )			
Benzene	BRL		0.39	1.0	ug/L	199600	1	11/21/2014 15:01	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/21/2014 15:01	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/21/2014 15:01	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/21/2014 15:01	NP
Toluene	BRL		0.38	1.0	ug/L	199600	1	11/21/2014 15:01	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/21/2014 15:01	NP
Surr: 4-Bromofluorobenzene	90.5		0	70-130	%REC	199600	1	11/21/2014 15:01	NP
Surr: Dibromofluoromethane	101		0	70-130	%REC	199600	1	11/21/2014 15:01	NP
Surr: Toluene-d8	96		0	70-130	%REC	199600	1	11/21/2014 15:01	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199600	1	11/21/2014 15:01	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 15:01	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 15:01	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: MW 43

Project Name: Clouds Chevron Collection Date: 11/11/2014 8:00:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-052 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	199600	1	11/21/2014 15:25	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/21/2014 15:25	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/21/2014 15:25	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/21/2014 15:25	NP
Toluene	BRL		0.38	1.0	ug/L	199600	1	11/21/2014 15:25	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/21/2014 15:25	NP
Surr: 4-Bromofluorobenzene	91.3		0	70-130	%REC	199600	1	11/21/2014 15:25	NP
Surr: Dibromofluoromethane	101		0	70-130	%REC	199600	1	11/21/2014 15:25	NP
Surr: Toluene-d8	95.4		0	70-130	%REC	199600	1	11/21/2014 15:25	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199600	1	11/21/2014 15:25	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 15:25	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 15:25	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 15

Project Name: Clouds Chevron Collection Date: 11/11/2014 10:25:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-053 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	<b>OB</b> )			
Benzene	40		3.9	10	ug/L	199600	10	11/24/2014 14:06	NP
Ethylbenzene	1200		4.0	10	ug/L	199600	10	11/24/2014 14:06	NP
Methyl tert-butyl ether	BRL		4.2	10	ug/L	199600	10	11/24/2014 14:06	NP
Naphthalene	1300		2.0	50	ug/L	199600	10	11/24/2014 14:06	NP
Toluene	6300		19	50	ug/L	199600	50	11/21/2014 00:44	NP
Xylenes, Total	16000		41	50	ug/L	199600	50	11/21/2014 00:44	NP
Surr: 4-Bromofluorobenzene	103		0	70-130	%REC	199600	50	11/21/2014 00:44	NP
Surr: 4-Bromofluorobenzene	100		0	70-130	%REC	199600	10	11/24/2014 14:06	NP
Surr: Dibromofluoromethane	93.1		0	70-130	%REC	199600	50	11/21/2014 00:44	NP
Surr: Dibromofluoromethane	91.5		0	70-130	%REC	199600	10	11/24/2014 14:06	NP
Surr: Toluene-d8	94.5		0	70-130	%REC	199600	50	11/21/2014 00:44	NP
Surr: Toluene-d8	95.7		0	70-130	%REC	199600	10	11/24/2014 14:06	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	400	J	95	1000	ug/L	199600	10	11/24/2014 14:06	NP
tert-Amyl methyl ether	BRL		10	100	ug/L	199600	10	11/24/2014 14:06	NP
tert-Butyl Alcohol	BRL		68	1000	ug/L	199600	10	11/24/2014 14:06	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 25

Project Name: Clouds Chevron Collection Date: 11/13/2014 8:45:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-054 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	38		0.39	1.0	ug/L	199600	1	11/24/2014 14:55	NP
Ethylbenzene	200		20	50	ug/L	199600	50	11/21/2014 01:08	NP
Methyl tert-butyl ether	1.9		0.42	1.0	ug/L	199600	1	11/24/2014 14:55	NP
Naphthalene	490		10	250	ug/L	199600	50	11/21/2014 01:08	NP
Toluene	140		0.38	1.0	ug/L	199600	1	11/24/2014 14:55	NP
Xylenes, Total	2600		41	50	ug/L	199600	50	11/21/2014 01:08	NP
Surr: 4-Bromofluorobenzene	97.6		0	70-130	%REC	199600	50	11/21/2014 01:08	NP
Surr: 4-Bromofluorobenzene	106		0	70-130	%REC	199600	1	11/24/2014 14:55	NP
Surr: Dibromofluoromethane	94.7		0	70-130	%REC	199600	50	11/21/2014 01:08	NP
Surr: Dibromofluoromethane	89.2		0	70-130	%REC	199600	1	11/24/2014 14:55	NP
Surr: Toluene-d8	94.3		0	70-130	%REC	199600	50	11/21/2014 01:08	NP
Surr: Toluene-d8	96		0	70-130	%REC	199600	1	11/24/2014 14:55	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	2800		9.5	100	ug/L	199600	1	11/24/2014 14:55	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/24/2014 14:55	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/24/2014 14:55	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: PW R-1

Project Name: Clouds Chevron Collection Date: 11/12/2014 10:30:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-055 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	850		19	50	ug/L	199600	50	11/21/2014 21:11	NP
Ethylbenzene	580		20	50	ug/L	199600	50	11/21/2014 21:11	NP
Methyl tert-butyl ether	BRL		21	50	ug/L	199600	50	11/21/2014 21:11	NP
Naphthalene	1300		10	250	ug/L	199600	50	11/21/2014 21:11	NP
Toluene	6900		19	50	ug/L	199600	50	11/21/2014 21:11	NP
Xylenes, Total	18000		41	50	ug/L	199600	50	11/21/2014 21:11	NP
Surr: 4-Bromofluorobenzene	102		0	70-130	%REC	199600	50	11/21/2014 21:11	NP
Surr: Dibromofluoromethane	91.7		0	70-130	%REC	199600	50	11/21/2014 21:11	NP
Surr: Toluene-d8	96.3		0	70-130	%REC	199600	50	11/21/2014 21:11	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		480	5000	ug/L	199600	50	11/21/2014 21:11	NP
tert-Amyl methyl ether	BRL		50	500	ug/L	199600	50	11/21/2014 21:11	NP
tert-Butyl Alcohol	BRL		340	5000	ug/L	199600	50	11/21/2014 21:11	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW 9

Project Name: Clouds Chevron Collection Date: 11/11/2014 12:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-056 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW82601	3		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	199600	1	11/21/2014 15:50	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/21/2014 15:50	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/21/2014 15:50	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/21/2014 15:50	NP
Toluene	2.8		0.38	1.0	ug/L	199600	1	11/21/2014 15:50	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/21/2014 15:50	NP
Surr: 4-Bromofluorobenzene	93.3		0	70-130	%REC	199600	1	11/21/2014 15:50	NP
Surr: Dibromofluoromethane	102		0	70-130	%REC	199600	1	11/21/2014 15:50	NP
Surr: Toluene-d8	95.5		0	70-130	%REC	199600	1	11/21/2014 15:50	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199600	1	11/21/2014 15:50	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 15:50	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 15:50	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 2

Project Name: Clouds Chevron Collection Date: 11/11/2014 3:30:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-057 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	<b>OB</b> )			
Benzene	140		0.39	1.0	ug/L	199600	1	11/21/2014 16:15	NP
Ethylbenzene	220		4.0	10	ug/L	199600	10	11/24/2014 13:17	NP
Methyl tert-butyl ether	410		4.2	10	ug/L	199600	10	11/24/2014 13:17	NP
Naphthalene	160		2.0	50	ug/L	199600	10	11/24/2014 13:17	NP
Toluene	300		3.8	10	ug/L	199600	10	11/24/2014 13:17	NP
Xylenes, Total	1300		8.3	10	ug/L	199600	10	11/24/2014 13:17	NP
Surr: 4-Bromofluorobenzene	100		0	70-130	%REC	199600	10	11/24/2014 13:17	NP
Surr: 4-Bromofluorobenzene	105		0	70-130	%REC	199600	1	11/21/2014 16:15	NP
Surr: Dibromofluoromethane	94.2		0	70-130	%REC	199600	1	11/21/2014 16:15	NP
Surr: Dibromofluoromethane	95.8		0	70-130	%REC	199600	10	11/24/2014 13:17	NP
Surr: Toluene-d8	95.3		0	70-130	%REC	199600	10	11/24/2014 13:17	NP
Surr: Toluene-d8	98.6		0	70-130	%REC	199600	1	11/21/2014 16:15	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	210		9.5	100	ug/L	199600	1	11/21/2014 16:15	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 16:15	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 16:15	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: DW 1

Project Name: Clouds Chevron Collection Date: 11/11/2014 3:20:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-058 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199600	1	11/24/2014 10:23	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/24/2014 10:23	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/24/2014 10:23	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/24/2014 10:23	NP
Toluene	BRL		0.38	1.0	ug/L	199600	1	11/24/2014 10:23	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/24/2014 10:23	NP
Surr: 4-Bromofluorobenzene	92.6		0	70-130	%REC	199600	1	11/24/2014 10:23	NP
Surr: Dibromofluoromethane	100		0	70-130	%REC	199600	1	11/24/2014 10:23	NP
Surr: Toluene-d8	95.6		0	70-130	%REC	199600	1	11/24/2014 10:23	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199600	1	11/21/2014 16:39	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 16:39	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 16:39	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 $H \qquad \hbox{Holding times for preparation or analysis exceeded} \\$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: MW 41

Project Name: Clouds Chevron Collection Date: 11/11/2014 4:30:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-059 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260]	В		(	SW503	0B)			
Benzene	BRL		0.39	1.0	ug/L	199600	1	11/21/2014 17:03	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199600	1	11/21/2014 17:03	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199600	1	11/21/2014 17:03	NP
Naphthalene	BRL		0.20	5.0	ug/L	199600	1	11/21/2014 17:03	NP
Toluene	BRL		0.38	1.0	ug/L	199600	1	11/21/2014 17:03	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199600	1	11/21/2014 17:03	NP
Surr: 4-Bromofluorobenzene	95.2		0	70-130	%REC	199600	1	11/21/2014 17:03	NP
Surr: Dibromofluoromethane	96.5		0	70-130	%REC	199600	1	11/21/2014 17:03	NP
Surr: Toluene-d8	94.7		0	70-130	%REC	199600	1	11/21/2014 17:03	NP
Oxygenates SW8260B				(	SW503	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199600	1	11/21/2014 17:03	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 17:03	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 17:03	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: DUP 1

Project Name: Clouds Chevron Collection Date: 11/11/2014 3:30:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-060 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	130		0.39	1.0	ug/L	199600	1	11/21/2014 17:28	NP
Ethylbenzene	200		4.0	10	ug/L	199600	10	11/24/2014 13:41	NP
Methyl tert-butyl ether	400		4.2	10	ug/L	199600	10	11/24/2014 13:41	NP
Naphthalene	150		2.0	50	ug/L	199600	10	11/24/2014 13:41	NP
Toluene	280		3.8	10	ug/L	199600	10	11/24/2014 13:41	NP
Xylenes, Total	1200		8.3	10	ug/L	199600	10	11/24/2014 13:41	NP
Surr: 4-Bromofluorobenzene	98.3		0	70-130	%REC	199600	10	11/24/2014 13:41	NP
Surr: 4-Bromofluorobenzene	103		0	70-130	%REC	199600	1	11/21/2014 17:28	NP
Surr: Dibromofluoromethane	93.3		0	70-130	%REC	199600	1	11/21/2014 17:28	NP
Surr: Dibromofluoromethane	95.3		0	70-130	%REC	199600	10	11/24/2014 13:41	NP
Surr: Toluene-d8	95.5		0	70-130	%REC	199600	10	11/24/2014 13:41	NP
Surr: Toluene-d8	97.9		0	70-130	%REC	199600	1	11/21/2014 17:28	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	200		9.5	100	ug/L	199600	1	11/21/2014 17:28	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199600	1	11/21/2014 17:28	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199600	1	11/21/2014 17:28	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Client: Crawford Environmental Services Client Sample ID: DUP 2

Project Name: Clouds Chevron Collection Date: 11/12/2014 4:00:00 PM

Date:

25-Nov-14

Lab ID: 1411D32-061 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	)B)			
Benzene	BRL		0.39	1.0	ug/L	199640	1	11/24/2014 10:48	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199640	1	11/24/2014 10:48	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199640	1	11/24/2014 10:48	NP
Naphthalene	BRL		0.20	5.0	ug/L	199640	1	11/24/2014 10:48	NP
Toluene	BRL		0.38	1.0	ug/L	199640	1	11/24/2014 10:48	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199640	1	11/24/2014 10:48	NP
Surr: 4-Bromofluorobenzene	92.3		0	70-130	%REC	199640	1	11/24/2014 10:48	NP
Surr: Dibromofluoromethane	103		0	70-130	%REC	199640	1	11/24/2014 10:48	NP
Surr: Toluene-d8	97.4		0	70-130	%REC	199640	1	11/24/2014 10:48	NP
Oxygenates SW8260B				(	SW5030	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199640	1	11/21/2014 17:53	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199640	1	11/21/2014 17:53	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199640	1	11/21/2014 17:53	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

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Client: Crawford Environmental Services Client Sample ID: DUP 3

Project Name: Clouds Chevron Collection Date: 11/13/2014 8:45:00 AM

Date:

25-Nov-14

Lab ID: 1411D32-062 Matrix: Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260	В		(	SW5030	0B)			
Benzene	35		0.39	1.0	ug/L	199640	1	11/24/2014 15:20	NP
Ethylbenzene	220		20	50	ug/L	199640	50	11/21/2014 12:58	NP
Methyl tert-butyl ether	1.8		0.42	1.0	ug/L	199640	1	11/24/2014 15:20	NP
Naphthalene	460		10	250	ug/L	199640	50	11/21/2014 12:58	NP
Toluene	170		0.38	1.0	ug/L	199640	1	11/24/2014 15:20	NP
Xylenes, Total	2900		41	50	ug/L	199640	50	11/21/2014 12:58	NP
Surr: 4-Bromofluorobenzene	98		0	70-130	%REC	199640	50	11/21/2014 12:58	NP
Surr: 4-Bromofluorobenzene	106		0	70-130	%REC	199640	1	11/24/2014 15:20	NP
Surr: Dibromofluoromethane	97.2		0	70-130	%REC	199640	50	11/21/2014 12:58	NP
Surr: Dibromofluoromethane	89.5		0	70-130	%REC	199640	1	11/24/2014 15:20	NP
Surr: Toluene-d8	95.5		0	70-130	%REC	199640	50	11/21/2014 12:58	NP
Surr: Toluene-d8	98		0	70-130	%REC	199640	1	11/24/2014 15:20	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	2800		9.5	100	ug/L	199640	1	11/24/2014 15:20	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199640	1	11/24/2014 15:20	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199640	1	11/24/2014 15:20	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

 $H \qquad \hbox{Holding times for preparation or analysis exceeded} \\$ 

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

> Greater than Result value < Less than Result value

Narr See case narrative

Client:Crawford Environmental ServicesClient Sample ID:TRIP BLANKProject Name:Clouds ChevronCollection Date:11/15/2014

Project Name:Clouds ChevronCollection Date:11/15/2014Lab ID:1411D32-063Matrix:Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW82601	В		(	SW503	)B)			
Benzene	BRL		0.39	1.0	ug/L	199640	1	11/21/2014 11:43	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199640	1	11/21/2014 11:43	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199640	1	11/21/2014 11:43	NP
Naphthalene	BRL		0.20	5.0	ug/L	199640	1	11/21/2014 11:43	NP
Toluene	BRL		0.38	1.0	ug/L	199640	1	11/21/2014 11:43	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199640	1	11/21/2014 11:43	NP
Surr: 4-Bromofluorobenzene	94.4		0	70-130	%REC	199640	1	11/21/2014 11:43	NP
Surr: Dibromofluoromethane	98.5		0	70-130	%REC	199640	1	11/21/2014 11:43	NP
Surr: Toluene-d8	94.8		0	70-130	%REC	199640	1	11/21/2014 11:43	NP
Oxygenates SW8260B				(	SW503	)B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199640	1	11/21/2014 11:43	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199640	1	11/21/2014 11:43	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199640	1	11/21/2014 11:43	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Date:

25-Nov-14

> Greater than Result value < Less than Result value

Narr See case narrative

Client: Crawford Environmental Services Client Sample ID: TRIP BLANK II

Project Name:Clouds ChevronCollection Date:11/15/2014Lab ID:1411D32-064Matrix:Groundwater

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS	SW8260I	3		(	SW5030	0B)			
Benzene	BRL		0.39	1.0	ug/L	199640	1	11/21/2014 12:08	NP
Ethylbenzene	BRL		0.40	1.0	ug/L	199640	1	11/21/2014 12:08	NP
Methyl tert-butyl ether	BRL		0.42	1.0	ug/L	199640	1	11/21/2014 12:08	NP
Naphthalene	BRL		0.20	5.0	ug/L	199640	1	11/21/2014 12:08	NP
Toluene	BRL		0.38	1.0	ug/L	199640	1	11/21/2014 12:08	NP
Xylenes, Total	BRL		0.83	1.0	ug/L	199640	1	11/21/2014 12:08	NP
Surr: 4-Bromofluorobenzene	89.5		0	70-130	%REC	199640	1	11/21/2014 12:08	NP
Surr: Dibromofluoromethane	99.9		0	70-130	%REC	199640	1	11/21/2014 12:08	NP
Surr: Toluene-d8	95.1		0	70-130	%REC	199640	1	11/21/2014 12:08	NP
Oxygenates SW8260B				(	SW5030	0B)			
tert-Amyl alcohol	BRL		9.5	100	ug/L	199640	1	11/21/2014 12:08	NP
tert-Amyl methyl ether	BRL		1.0	10	ug/L	199640	1	11/21/2014 12:08	NP
tert-Butyl Alcohol	BRL		6.8	100	ug/L	199640	1	11/21/2014 12:08	NP

Qualifiers: \* Value exceeds maximum contaminant level

BRL Not detected at MDL

H Holding times for preparation or analysis exceeded

N Analyte not NELAC certified

B Analyte detected in the associated method blank

NC Not confirmed

E Estimated value above quantitation range

S Spike Recovery outside limits due to matrix

J Estimated value detected below Reporting Limit

Date:

25-Nov-14

> Greater than Result value < Less than Result value

Narr See case narrative

# Sample/Cooler Receipt Checklist

Client Accels		Work Order	Number <u>/4/1032</u>	
Checklist completed by N810 Date	15/14			
Carrier name: FedEx UPS Courier Client US	Mail Other	5 <u> </u>	_	$\mathfrak{e}_{\gamma_2}$
Shipping container/cooler in good condition?	Yes 🗹	No	Not Present	
Custody seals intact on shipping container/cooler?	Yes	No	Not Present	
Custody seals intact on sample bottles?	Yes	No	Not Present	
Container/Temp Blank temperature in compliance? (4°C±2)*	Yes _	No	9	
Cooler #1 1.9 Cooler #2 Cooler #3	_ Cooler #4 _	Coo	oler#5 Cooler #6	· · · · · · · · · · · · · · · · · · ·
Chain of custody present?	Yes 🗹	No		
Chain of custody signed when relinquished and received?	Yes 🗹	No		
Chain of custody agrees with sample labels?	Yes 🗹	No		
Samples in proper container/bottle?	Yes 🖊	No		
Sample containers intact?	Yes 🖊	No		9
Sufficient sample volume for indicated test?	Yes 🗹	No		
All samples received within holding time?	Yes 🗹	No		
Was TAT marked on the COC?	Yes 🖊	No		
Proceed with Standard TAT as per project history?	Yes	No	Not Applicable	
Water - VOA vials have zero headspace? No VOA vials su	bmitted	Yes 🖊	No	
Water - pH acceptable upon receipt?	Yes /	No	Not Applicable	
Adjusted?				
Sample Condition: Good Other(Explain)	3.40			
(For diffusive samples or AIHA lead) Is a known blank includ	ed? Yes	_ ^	10	

See Case Narrative for resolution of the Non-Conformance.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample-Receipt Checklists\Sample\_Cooler\_Receipt\_Checklist

<sup>\*</sup> Samples do not have to comply with the given range for certain parameters.

**Date:** 28-Nov-14

Client: Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT Project Name: Clouds Chevron Workorder: 1411D32 BatchID: 199515

Sample ID: MB-199515 SampleType: MBLK	Client ID: TestCode:	Volatile Organic Compou	ads by GC/MS	SW8260B	Uni Bat	its: ug/L chID: 199515		Date: 11/	19/2014 19/2014	Run No: 28040 Seq No: 59292	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	1.0									
Ethylbenzene	BRL	1.0									
Methyl tert-butyl ether	BRL	1.0									
Naphthalene	BRL	5.0									
Toluene	BRL	1.0									
Xylenes, Total	BRL	1.0									
Surr: 4-Bromofluorobenzene	45.18	0	50.00		90.4	70	130				
Surr: Dibromofluoromethane	49.47	0	50.00		98.9	70	130				
Surr: Toluene-d8	47.42	0	50.00		94.8	70	130				
Sample ID: MB-199515 SampleType: MBLK	Client ID: TestCode:	Oxygenates SW8260B			Uni Bat	its: ug/L chID: 199515		Date: 11/	19/2014 19/2014	Run No: <b>28040</b> 0 Seq No: <b>59293</b>	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Amyl alcohol	BRL	100									
tert-Amyl methyl ether	BRL	10									
tert-Butyl Alcohol	BRL	100									
Sample ID: LCS-199515	Client ID:				Uni	its: ug/L	Prej	Date: 11/	19/2014	Run No: 28040	0
SampleType: LCS	TestCode:	Volatile Organic Compour	nds by GC/MS	SW8260B	Bat	chID: 199515	Ana	lysis Date: 11/	19/2014	Seq No: 59292	36
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.86	1.0	50.00		99.7	70	130				
Ethylbenzene	52.02	1.0	50.00		104	70	130				
Naphthalene	44.06	5.0	50.00		88.1	70	130				
Toluene	50.55	1.0	50.00		101	70	130				
Xylenes, Total	154.5	1.0	150.0		103	70	130				
Surr: 4-Bromofluorobenzene	48.92	0	50.00		97.8	70	130				
Qualifiers: > Greater than Result v	alue		< Less	than Result value			В	Analyte detected in the	associated method	blank	

Greater than Result value

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Client: Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT

**Date:** 28-Nov-14

Project Name: Clouds Chevron Workorder: 1411D32

BatchID: 199515

Sample ID: LCS-199515 SampleType: LCS	Client ID:	Volatile Organic Compo	unds by GC/MS	SW8260B	Un	its: ug/L		Date:	11/19/2014	Run No: 28040 Seq No: 59292	
SampleType. LCS	resicode.	volatile Organic Compo	unds by Ge/Mis	5110200D	Dat	CIII). 199313	Alla	iysis Date.	11/19/2014	Seq 10. 3929.	230
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RPI	RPD Limit	Qual
Surr: Dibromofluoromethane	48.70	0	50.00		97.4	70	130				
Surr: Toluene-d8	47.23	0	50.00		94.5	70	130				
Sample ID: LCS-199515	Client ID:				Un	its: ug/L	Prej	Date:	11/19/2014	Run No: 28040	00
SampleType: LCS	TestCode:	Oxygenates SW82601	В		Bat	chID: 199515	Ana	lysis Date:	11/19/2014	Seq No: 59293	311
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RPI	RPD Limit	Qual
tert-Amyl alcohol	1013	100	1000		101	70	130				
tert-Amyl methyl ether	217.6	10	200.0		109	70	130				
tert-Butyl Alcohol	973.0	100	1000		97.3	70	130				
Sample ID: 1411D32-002AMS	Client ID:	MW 18			Un	its: ug/L	Prej	Date:	11/19/2014	Run No: 2804	14
SampleType: MS	TestCode:	Volatile Organic Compo	unds by GC/MS	SW8260B	Bat	chID: 199515	Ana	lysis Date:	11/20/2014	Seq No: 59300	)99
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RPI	RPD Limit	Qual
Benzene	8629	100	5000	3115	110	70.2	138				
Ethylbenzene	6136	100	5000	558.0	112	71.9	133				
Naphthalene	5000	500	5000	288.0	94.2	54.6	130				
Toluene	16220	100	5000	10530	114	70	139				
Xylenes, Total	25820	100	15000	8710	114	70.7	136				
Surr: 4-Bromofluorobenzene	5114	0	5000		102	70	130				
Surr: Dibromofluoromethane	4977	0	5000		99.5	70	130				
Surr: Toluene-d8	4838	0	5000		96.8	70	130				
Sample ID: 1411D32-002AMS	Client ID:				Un	its: ug/L	Prej	Date:	11/19/2014	Run No: 2804	14
SampleType: MS	TestCode:	Oxygenates SW82601	В		Bat	chID: 199515	Ana	lysis Date:	11/20/2014	Seq No: 59322	243
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RPI	O RPD Limit	Qual

Qualifiers:

Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Client: Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT

**Date:** 28-Nov-14

Project Name: Clouds Chevron Workorder: 1411D32

BatchID: 199515

Sample ID: 1411D32-002AMS SampleType: MS	Client ID: TestCode:	MW 18 Oxygenates SW8260B	ı		Uni Bat	ts: ug/L chID: 199515	2000000	Date: 11/19/ allysis Date: 11/20/		Run No: 280414 Seq No: 5932243
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
tert-Amyl alcohol	125100	10000	100000	11570	114	54.6	145			
tert-Amyl methyl ether	22130	1000	20000		111	71.1	129			
tert-Butyl Alcohol	106100	10000	100000		106	50.3	149			
Sample ID: 1411D32-002AMSD SampleType: MSD	Client ID: TestCode:	MW 18 Volatile Organic Compou	ands by GC/MS	SW8260B	Uni Bat	ts: ug/L chID: 199515		Date: 11/19/ allysis Date: 11/20/		Run No: 280414 Seq No: 5930125
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Benzene	8483	100	5000	3115	107	70.2	138	8629	1.71	20
Ethylbenzene	6077	100	5000	558.0	110	71.9	133	6136	0.966	20
Naphthalene	5342	500	5000	288.0	101	54.6	130	5000	6.61	21.4
Toluene	15820	100	5000	10530	106	70	139	16220	2.48	20
Xylenes, Total	25490	100	15000	8710	112	70.7	136	25820	1.28	20
Surr: 4-Bromofluorobenzene	4987	0	5000		99.7	70	130	5114	0	0
Surr: Dibromofluoromethane	4918	0	5000		98.4	70	130	4977	0	0
Surr: Toluene-d8	4840	0	5000		96.8	70	130	4838	0	0
Sample ID: 1411D32-002AMSD	Client ID:	MW 18			Uni	ts: ug/L	Prej	Date: 11/19/	2014	Run No: 280414
SampleType: MSD	TestCode:	Oxygenates SW8260B	•		Bat	chID: 199515	Ana	alysis Date: 11/20/	2014	Seq No: 5932244
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
tert-Amyl alcohol	129300	10000	100000	11570	118	54.6	145	125100	3.33	23.5
tert-Amyl methyl ether	21720	1000	20000		109	71.1	129	22130	1.87	20
tert-Butyl Alcohol	116100	10000	100000		116	50.3	149	106100	9.01	33.5

Qualifiers: > Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT

**Date:** 28-Nov-14

Project Name: Clouds Chevron Workorder: 1411D32

BatchID: 199525

Sample ID: MB-199525 SampleType: MBLK	Client ID: TestCode: Vol	atile Organic Compou	ands by GC/MS	SW8260B	Un Bat	its: ug/L chID: 199525	A	Date: 11/2 llysis Date: 11/2		Run No: 2 Seq No: 3	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD I	Limit Qua
Benzene	BRL	1.0									
Ethylbenzene	BRL	1.0									
Methyl tert-butyl ether	BRL	1.0									
Naphthalene	BRL	5.0									
Γoluene	BRL	1.0									
Xylenes, Total	BRL	1.0									
Surr: 4-Bromofluorobenzene	44.80	0	50.00		89.6	70	130				
Surr: Dibromofluoromethane	50.29	0	50.00		101	70	130				
Surr: Toluene-d8	47.24	0	50.00		94.5	70	130				
Sample ID: MB-199525 SampleType: MBLK	Client ID: TestCode: Oxy	genates SW8260B	1		Un: Bat	its: ug/L chID: 199525		Date: 11/2 llysis Date: 11/2		Run No: 2 Seq No: 5	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD I	Limit Qua
tert-Amyl alcohol	BRL	100									
ert-Amyl methyl ether	BRL	10									
ert-Butyl Alcohol	BRL	100									
Sample ID: LCS-199525	Client ID:				Un	its: ug/L	Prep	Date: 11/2	0/2014	Run No: 2	280414
SampleType: LCS	TestCode: Vol	atile Organic Compou	inds by GC/MS	SW8260B	Bat	chID: 199525	Ana	lysis Date: 11/2	0/2014	Seq No:	5929756
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD I	Limit Qua
Benzene	55.41	1.0	50.00		111	70	130				
Ethylbenzene	57.65	1.0	50.00		115	70	130				
Vaphthalene	50.46	5.0	50.00		101	70	130				
Toluene	56.83	1.0	50.00		114	70	130				
Kylenes, Total	171.3	1.0	150.0		114	70	130				
Surr: 4-Bromofluorobenzene	49.12	0	50.00		98.2	70	130				
Qualifiers: > Greater than Result v	alue		< Less	than Result value			В	Analyte detected in the a	ssociated method	olank	

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT

**Date:** 28-Nov-14

Clouds Chevron Project Name: Workorder: 1411D32

BatchID: 199525

Sample ID: LCS-199525	Client ID:				Un		2000000	P. Control Special Controls	/20/2014	Run No:	
SampleType: LCS	TestCode:	Volatile Organic Compou	mds by GC/MS	SW8260B	Bat	tchID: 199525	Ana	alysis Date: 11	/20/2014	Seq No:	5929756
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Va	l %RPD	RPD	Limit Qua
Surr: Dibromofluoromethane	49.29	0	50.00		98.6	70	130				
Surr: Toluene-d8	46.99	0	50.00		94.0	70	130				
Sample ID: LCS-199525	Client ID:				Un	its: ug/L	Pre	p Date: 11	/20/2014	Run No:	280414
SampleType: LCS	TestCode:	Oxygenates SW8260E	i		Bat	tchID: 199525	Ana	alysis Date: 11	/20/2014	Seq No:	5932240
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Va	l %RPD	RPD	Limit Qua
tert-Amyl alcohol	1228	100	1000		123	70	130				
tert-Amyl methyl ether	226.4	10	200.0		113	70	130				
tert-Butyl Alcohol	1166	100	1000		117	70	130				
Sample ID: 1411D32-038AMS	Client ID:	MW 20			Un	its: ug/L	Pre	p Date: 11	/20/2014	Run No:	280414
SampleType: MS	TestCode:	Volatile Organic Compo	inds by GC/MS	SW8260B	Bat	tchID: 199525	Ana	alysis Date: 11	/20/2014	Seq No:	5932189
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Va	ıl %RPD	RPD	Limit Qua
Benzene	6653	100	5000	1430	104	70.2	138				
Ethylbenzene	6233	100	5000	494.0	115	71.9	133				
Naphthalene	7960	500	5000	1171	136	54.6	130				S
Гoluene	17490	100	5000	12050	109	70	139				
Xylenes, Total	31180	100	15000	13730	116	70.7	136				
Surr: 4-Bromofluorobenzene	5118	0	5000		102	70	130				
Surr: Dibromofluoromethane	4697	0	5000		93.9	70	130				
Surr: Toluene-d8	4771	0	5000		95.4	70	130				
Sample ID: 1411D32-038AMS	Client ID:	MW 20			Un	its: ug/L	Pre	p Date: 11	/20/2014	Run No:	280414
SampleType: MS	TestCode:	Oxygenates SW8260B	1		Bat	tchID: 199525	Ana	alysis Date: 11	/20/2014	Seq No:	5932259
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC		High Limit	RPD Ref Va	l %RPD	222	Limit Qua

Qualifiers:

Greater than Result value

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT Clouds Chevron

Project Name: BatchID: 199525 Workorder: 1411D32

Sample ID: 1411D32-038AMS	Client ID:				Uni	-	1000000A		0/2014	Run No: 28041	
SampleType: MS	TestCode:	Oxygenates SW8260E	•		Bat	chID: 199525	Ana	lysis Date: 11/20	0/2014	Seq No: 59322	.59
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Amyl alcohol	121600	10000	100000		122	54.6	145				
tert-Amyl methyl ether	22030	1000	20000		110	71.1	129				
tert-Butyl Alcohol	115900	10000	100000		116	50.3	149				
Sample ID: 1411D32-038AMSD	Client ID:				Uni	ts: ug/L	Prep	Date: 11/20	0/2014	Run No: 28041	4
SampleType: MSD	TestCode:	Volatile Organic Compou	mds by GC/MS	SW8260B	Bat	chID: 199525	Ana	lysis Date: 11/20	0/2014	Seq No: 59321	90
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	6443	100	5000	1430	100	70.2	138	6653	3.21	20	
Ethylbenzene	5989	100	5000	494.0	110	71.9	133	6233	3.99	20	
Naphthalene	6021	500	5000	1171	97.0	54.6	130	7960	27.7	21.4	R
Toluene	16680	100	5000	12050	92.7	70	139	17490	4.69	20	
Xylenes, Total	29880	100	15000	13730	108	70.7	136	31180	4.27	20	
Surr: 4-Bromofluorobenzene	4935	0	5000		98.7	70	130	5118	0	0	
Surr: Dibromofluoromethane	4646	0	5000		92.9	70	130	4697	0	0	
Surr: Toluene-d8	4696	0	5000		93.9	70	130	4771	0	0	
Sample ID: 1411D32-038AMSD SampleType: MSD	Client ID: TestCode:	MW 20 Oxygenates SW8260B	1		Uni Bat	ts: ug/L chID: 199525		Date: 11/20 Olysis Date: 11/20	0/2014 0/2014	Run No: <b>28041</b> Seq No: <b>59322</b>	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Amyl alcohol	119900	10000	100000		120	54.6	145	121600	1.39	23.5	
tert-Amyl methyl ether	21240	1000	20000		106	71.1	129	22030	3.65	20	
tert-Butyl Alcohol	115800	10000	100000		116	50.3	149	115900	0.105	33.5	

Qualifiers: Greater than Result value

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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**Date:** 28-Nov-14

**Date:** 28-Nov-14

Crawford Environmental Services Project Name:

ANALYTICAL QC SUMMARY REPORT Clouds Chevron

BatchID: 199600 Workorder: 1411D32

Sample ID: MB-199600 SampleType: MBLK	Client ID: TestCode: Vol	latile Organic Compou	mds by GC/MS	SW8260B	Uni Bat	ts: <b>ug/L</b> chID: <b>199600</b>		ep Date: 11/20 alysis Date: 11/20		Run No: 28052 Seq No: 59328	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	1.0									
Ethylbenzene	BRL	1.0									
Methyl tert-butyl ether	BRL	1.0									
Naphthalene	BRL	5.0									
Toluene	BRL	1.0									
Xylenes, Total	BRL	1.0									
Surr: 4-Bromofluorobenzene	46.88	0	50.00		93.8	70	130				
Surr: Dibromofluoromethane	47.04	0	50.00		94.1	70	130				
Surr: Toluene-d8	46.47	0	50.00		92.9	70	130				
Sample ID: MB-199600 SampleType: MBLK	Client ID: TestCode: Ox	ygenates SW8260B	1		Uni Bat	ts: ug/L chID: 199600		ep Date: 11/20 alysis Date: 11/20		Run No: <b>28052</b> Seq No: <b>59330</b>	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Amyl alcohol	BRL	100									
tert-Amyl methyl ether	BRL	10									
tert-Butyl Alcohol	BRL	100									
Sample ID: LCS-199600 SampleType: LCS	Client ID: TestCode: Vol	latile Organic Compou	ands by GC/MS	SW8260B	Uni Bat	ts: ug/L chID: 199600		ep Date: 11/20 alysis Date: 11/20		Run No: 28052 Seq No: 59328	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	46.15	1.0	50.00		92.3	70	130				
Ethylbenzene	49.37	1.0	50.00		98.7	70	130				
Naphthalene	47.77	5.0	50.00		95.5	70	130				
Toluene	47.52	1.0	50.00		95.0	70	130				
Xylenes, Total	147.7	1.0	150.0		98.4	70	130				
Surr: 4-Bromofluorobenzene	50.72	0	50.00		101	70	130				
Qualifiers: > Greater than Result v	value		< Less	than Result value			В	Analyte detected in the ass	sociated method l	blank	
BRL Below reporting limi	t		E Estim	ated (value above quantit	ation range)		н	Holding times for preparat	tion or analysis e	xceeded	

BRL Below reporting limit

Estimated value detected below Reporting Limit Rpt Lim Reporting Limit

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Client: Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT

**Date:** 28-Nov-14

Project Name: Clouds Chevron Workorder: 1411D32

BatchID: 199600

Sample ID: LCS-199600	Client ID:				Un	-	2000000	a terroritation in	11/20/2014	Run No:	
SampleType: LCS	TestCode:	Volatile Organic Compo	inds by GC/MS	SW8260B	Bat	tchID: 199600	Ana	alysis Date:	11/20/2014	Seq No:	5932800
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RI	PD RPD	Limit Qual
Surr: Dibromofluoromethane	47.43	0	50.00		94.9	70	130				
Surr: Toluene-d8	46.72	0	50.00		93.4	70	130				
Sample ID: LCS-199600	Client ID:				Un	its: ug/L	Pre	p Date:	11/20/2014	Run No:	280599
SampleType: LCS	TestCode:	Oxygenates SW8260E	•		Bat	tchID: 199600	Ana	alysis Date:	11/22/2014	Seq No:	5934589
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RI	PD RPD	Limit Qual
tert-Amyl alcohol	1034	100	1000		103	70	130				
tert-Amyl methyl ether	207.0	10	200.0		103	70	130				
tert-Butyl Alcohol	1019	100	1000		102	70	130				
Sample ID: 1411D32-041AMS	Client ID:	MW 23			Un	its: ug/L	Pre	p Date:	11/20/2014	Run No:	280604
SampleType: MS	TestCode:	Volatile Organic Compo	inds by GC/MS	SW8260B	Bat	tchID: 199600	Ana	alysis Date:	11/24/2014	Seq No:	5937205
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RI	PD RPD	Limit Qual
Benzene	26060	500	25000	785.0	101	70.2	138				
Ethylbenzene	26560	500	25000		106	71.9	133				
Naphthalene	22590	2500	25000	820.0	87.1	54.6	130				
Гoluene	29230	500	25000	3060	105	70	139				
Xylenes, Total	93220	500	75000	11910	108	70.7	136				
Surr: 4-Bromofluorobenzene	25590	0	25000		102	70	130				
Surr: Dibromofluoromethane	23470	0	25000		93.9	70	130				
Surr: Toluene-d8	23640	0	25000		94.5	70	130				
Sample ID: 1411D32-041AMS	Client ID:	MW 23			Un	its: ug/L	Pre	p Date:	11/20/2014	Run No:	280604
SampleType: MS	TestCode:	Oxygenates SW8260E	3		Bat	tchID: 199600	Ana	alysis Date:	11/24/2014	Seq No:	5937214
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	T T ::4	High Limit	RPD Ref	Val %RI	ממם מכ	Limit Qual

Qualifiers:

Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

J Estimated value detected below Re
Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Client: Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT

BatchID: 199600

Project Name: Clouds Chevron Workorder: 1411D32

Sample ID: 1411D32-041AMS Client ID: MW 23 Units: Prep Date: Run No: 280604 ug/L 11/20/2014 TestCode: Oxygenates SW8260B BatchID: 199600 SampleType: MS Analysis Date: 11/24/2014 Seq No: 5937214 Analyte Result RPT Limit SPK value SPK Ref Val %REC Low Limit High Limit RPD Ref Val %RPD RPD Limit Qual

597500 50000 500000 119 54.6 145 tert-Amyl alcohol tert-Amyl methyl ether 107600 5000 100000 108 71.1 129 tert-Butyl Alcohol 584800 50000 500000 117 50.3 149

Sample ID: 1411D32-041AMSD SampleType: MSD	Client ID: TestCode:	MW 23 Volatile Organic Compou	ands by GC/MS	SW8260B	Uni Bat	ts: <b>ug/L</b> chID: <b>199600</b>		Date: 11/20 lysis Date: 11/24		Run No: <b>280604</b> Seq No: <b>593720</b>	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	25390	500	25000	785.0	98.4	70.2	138	26060	2.59	20	
Ethylbenzene	25900	500	25000		104	71.9	133	26560	2.52	20	
Naphthalene	23920	2500	25000	820.0	92.4	54.6	130	22590	5.72	21.4	
Toluene	28140	500	25000	3060	100	70	139	29230	3.78	20	
Xylenes, Total	90600	500	75000	11910	105	70.7	136	93220	2.86	20	
Surr: 4-Bromofluorobenzene	24430	0	25000		97.7	70	130	25590	0	0	
Surr: Dibromofluoromethane	23350	0	25000		93.4	70	130	23470	0	0	
Surr: Toluene-d8	23470	0	25000		93.9	70	130	23640	0	0	

Sample ID: 1411D32-041AMSD SampleType: MSD	Client ID: MW TestCode: Oxyg	://=a:	•		Uni Bate	ts: ug/L chID: 199600		Date: 11/20 lysis Date: 11/24		Run No: <b>280604</b> Seq No: <b>5937219</b>
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
tert-Amyl alcohol	638000	50000	500000		128	54.6	145	597500	6.57	23.5
tert-Amyl methyl ether	104100	5000	100000		104	71.1	129	107600	3.34	20
tert-Butyl Alcohol	632500	50000	500000		127	50.3	149	584800	7.84	33.5

Qualifiers: > Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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**Date:** 28-Nov-14

Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT

**Date:** 28-Nov-14

Project Name: Clouds Chevron BatchID: 199640 Workorder: 1411D32

Sample ID: MB-199640 SampleType: MBLK	Client ID: TestCode:	Volatile Organic Compour	ids by GC/MS	SW8260B	Uni Bat	its: <b>ug/L</b> chID: <b>199640</b>	2000000	Date: 11/2		Run No: <b>280596</b> Seq No: <b>593450</b>	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	1.0									
Ethylbenzene	BRL	1.0									
Methyl tert-butyl ether	BRL	1.0									
Naphthalene	BRL	5.0									
Toluene	BRL	1.0									
Xylenes, Total	BRL	1.0									
Surr: 4-Bromofluorobenzene	47.47	0	50.00		94.9	70	130				
Surr: Dibromofluoromethane	48.09	0	50.00		96.2	70	130				
Surr: Toluene-d8	46.50	0	50.00		93.0	70	130				
Sample ID: MB-199640 SampleType: MBLK	Client ID: TestCode:	Oxygenates SW8260B			Uni Bat	its: ug/L chID: 199640	2000000	p Date: 11/2		Run No: <b>280596</b> Seq No: <b>593453</b>	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Amyl alcohol	BRL	100									
tert-Amyl methyl ether	BRL	10									
tert-Butyl Alcohol	BRL	100									
Sample ID: LCS-199640	Client ID:				Uni					Run No: 280596	
SampleType: LCS	TestCode:	Volatile Organic Compour	nds by GC/MS	SW8260B	Bat	chID: 199640	Ana	alysis Date: 11/2	21/2014	Seq No: 593450	2
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.03	1.0	50.00		102	70	130				
Ethylbenzene	54.26	1.0	50.00		109	70	130				
Naphthalene	44.13	5.0	50.00		88.3	70	130				
Toluene	52.58	1.0	50.00		105	70	130				
Xylenes, Total	161.0	1.0	150.0		107	70	130				
Surr: 4-Bromofluorobenzene	49.86	0	50.00		99.7	70	130				
Qualifiers: > Greater than Result v	alue		< Less	than Result value			В	Analyte detected in the	associated method	blank	

BRL Below reporting limit

Rpt Lim Reporting Limit

Estimated value detected below Reporting Limit

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Crawford Environmental Services Clouds Chevron

ANALYTICAL QC SUMMARY REPORT

**Date:** 28-Nov-14

Project Name: Workorder: 1411D32 BatchID: 199640

Sample ID: LCS-199640	Client ID:				Un	its: ug/L	Pre	p Date:	11/21/2014	Run No:	280596
SampleType: LCS	TestCode:	Volatile Organic Compou	mds by GC/MS	SW8260B	Bat	tchID: 199640	Ana	alysis Date:	11/21/2014	Seq No:	5934502
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RF	D RPD	Limit Qua
Surr: Dibromofluoromethane	47.67	0	50.00		95.3	70	130				
Surr: Toluene-d8	47.98	0	50.00		96.0	70	130				
Sample ID: LCS-199640	Client ID:				Un	its: ug/L	Pre	p Date:	11/21/2014	Run No:	280596
SampleType: LCS	TestCode:	Oxygenates SW8260E	•		Bat	tchID: 199640	Ana	alysis Date:	11/21/2014	Seq No:	5934529
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RF	D RPD	Limit Qua
tert-Amyl alcohol	1237	100	1000		124	70	130				
tert-Amyl methyl ether	218.5	10	200.0		109	70	130				
tert-Butyl Alcohol	1182	100	1000		118	70	130				
Sample ID: 1411D32-062AMS	Client ID:	DUP 3			Un	its: ug/L	Pre	p Date:	11/21/2014	Run No:	280604
SampleType: MS	TestCode:	Volatile Organic Compo	inds by GC/MS	SW8260B	Bat	tchID: 199640	Ana	alysis Date:	11/24/2014	Seq No:	5937226
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref	Val %RF	D RPD	Limit Qua
Benzene	2595	50	2500	39.50	102	70.2	138				
Ethylbenzene	2931	50	2500	224.0	108	71.9	133				
Naphthalene	2684	250	2500	461.0	88.9	54.6	130				
Гoluene	2802	50	2500	169.0	105	70	139				
Xylenes, Total	11070	50	7500	2919	109	70.7	136				
Surr: 4-Bromofluorobenzene	2616	0	2500		105	70	130				
Surr: Dibromofluoromethane	2402	0	2500		96.1	70	130				
Surr: Toluene-d8	2405	0	2500		96.2	70	130				
Sample ID: 1411D32-062AMS	Client ID:	DUP 3			Un	its: ug/L	Pre	p Date:	11/21/2014	Run No:	280604
SampleType: MS	TestCode:	Oxygenates SW8260B			Bat	tchID: 199640	Ana	alysis Date:	11/24/2014	Seq No:	5937250
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC		High Limit	RPD Ref	Val %RF	D DDD	Limit Qua

Qualifiers:

Greater than Result value

BRL Below reporting limit

Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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Client: Crawford Environmental Services

ANALYTICAL QC SUMMARY REPORT

**Date:** 28-Nov-14

Project Name: Clouds Chevron
Workerder: 1411D32

 Workorder:
 1411D32
 BatchID:
 199640

Sample ID: 1411D32-062AMS SampleType: MS	Client ID: TestCode:	DUP 3 Oxygenates SW8260B			Uni Bat	ts: <b>ug/L</b> chID: <b>199640</b>		p Date: 11/2 alysis Date: 11/2	1/2014 4/2014	Run No: <b>280604</b> Seq No: <b>593725</b>	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Amyl alcohol	56470	5000	50000		113	54.6	145				
tert-Amyl methyl ether	10770	500	10000		108	71.1	129				
tert-Butyl Alcohol	55980	5000	50000		112	50.3	149				
Sample ID: 1411D32-062AMSD SampleType: MSD	Client ID: TestCode:	DUP 3 Volatile Organic Compou	nds by GC/MS	SW8260B	Uni Bat	ts: <b>ug/L</b> chID: <b>199640</b>		p Date: 11/2 alysis Date: 11/2	1/2014 4/2014	Run No: 280604 Seq No: 593722	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2572	50	2500	39.50	101	70.2	138	2595	0.890	20	
Ethylbenzene	2820	50	2500	224.0	104	71.9	133	2931	3.86	20	
Naphthalene	2635	250	2500	461.0	87.0	54.6	130	2684	1.82	21.4	
Toluene	2756	50	2500	169.0	103	70	139	2802	1.69	20	
Xylenes, Total	10770	50	7500	2919	105	70.7	136	11070	2.73	20	
Surr: 4-Bromofluorobenzene	2460	0	2500		98.4	70	130	2616	0	0	
Surr: Dibromofluoromethane	2422	0	2500		96.9	70	130	2402	0	0	
Surr: Toluene-d8	2410	0	2500		96.4	70	130	2405	0	0	
Sample ID: 1411D32-062AMSD SampleType: MSD	Client ID: TestCode:	DUP 3 Oxygenates SW8260B			Uni Bat	ts: <b>ug/L</b> chID: <b>199640</b>		p Date: 11/2 alysis Date: 11/2	1/2014 4/2014	Run No: 280604 Seq No: 593725	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Amyl alcohol	57830	5000	50000		116	54.6	145	56470	2.37	23.5	
tert-Amyl methyl ether	10910	500	10000		109	71.1	129	10770	1.24	20	
tert-Butyl Alcohol	57030	5000	50000		114	50.3	149	55980	1.85	33.5	

Qualifiers: > Greater than Result value

BRL Below reporting limit

J Estimated value detected below Reporting Limit

Rpt Lim Reporting Limit

< Less than Result value

E Estimated (value above quantitation range)

N Analyte not NELAC certified

S Spike Recovery outside limits due to matrix

B Analyte detected in the associated method blank

H Holding times for preparation or analysis exceeded

R RPD outside limits due to matrix

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# APPENDIX D

**Data Verification Checklist** 



Item #:	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	Yes		
2	Is UST Owner/Operator name, address, provided?			n/a
3	Is name, address, & phone number of current property owner provided?	Yes		
4	Is the SCDHEC Certified UST Site Rehabilitation Contractor's name, address, phone number, and certification number provided?	Yes		
5	Is the name, address ,telephone number, and certification number of the well driller that installed the boring/monitoring wells provided?			n/a
6	Is the name, address, telephone number, and certification number of the certified laboratories performing analytical analyses provided	Yes		
7	Has the facility history be summarized?			n/a
8	Has the regional geology and hydrogeology been summarized?			n/a
9	Are the receptor survey results provided as required?			n/a
10	Has the current use of the site and adjacent land been described?	Yes		
11	Has the site specific geology been described?			n/a
12	Has the primary soil type been described?			n/a
13	Have the field screening results been described?			n/a
14	Has a description of the soil sample collection and preservation been detailed?			n/a
15	Has the field screening methodology been detailed?			n/a
16	Has the monitoring well installation and development dates been provided?			n/a
17	Has the method of well development been detailed? (Table 2)			n/a
18	Has the justification been provided for the locations of the monitoring wells?			n/a
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	Yes		
20	Has the groundwater sampling methodology been detailed?	Yes		
21	Have the groundwater sampling dates and groundwater measurements been provided?	Yes		
22	Has the purging methodology been detailed?	Yes		
23	Has the volume of water purged from each well been provided along with the measurements to verify purging is complete?	Yes		
24	If free-product is present, has the thickness been provided?			n/a
25	Does the report include a brief discussion of the assessment done and the results?			n/a