

**From:** Gerald, Walter <WALTER.GERALD@aecom.com>  
**Sent:** Monday, April 10, 2017 3:53 PM  
**To:** Walker, Adelaide  
**Cc:** Bill Penn; Alexander, Leslee (Greenville)  
**Subject:** Delavan Site - Progress Update and Monitoring Well Request

Hi Addie,

Per our recent discussions at the Clemson Symposium, please find attached an update on the progress of the groundwater delineation in the limestone aquifer unit adjacent to the Delavan Spray Technologies facility in Bamberg, SC. We are requesting monitoring well approval for the installation of the three recommended limestone aquifer monitoring wells. In the meantime, we will be submitting to you under separate cover the bi-monthly progress report for the site activities.

Thanks again for your cooperation with this project. Please feel free to call me if you have any questions or need additional information.

Regards,  
Walter

**Walter C. Gerald**, PG  
Manager - Earth Sciences Mid-Southeast  
Design and Consulting Services Group  
D +1-864-234-8925  
M +1-864-313-4722  
[walter.gerald@aecom.com](mailto:walter.gerald@aecom.com)

**AECOM**  
10 Patewood Drive  
Building 6, Suite 500  
Greenville, SC 29615, USA  
T +1-864-234-3000  
[aecom.com](http://aecom.com)



AECOM  
10 Patewood Drive  
Bldg. 6, Suite 500  
Greenville, South Carolina 29615  
www.aecom.com

864 234 3000 tel  
864 234 3069 fax

April 10, 2017

Ms. Addie Walker, Project Manager  
SC Department of Health and Environmental Control  
Bureau of Land and Waste Management  
2600 Bull Street  
Columbia, SC 29201

Re: Status Report and Monitoring Well Installation Request  
Groundwater Delineation  
Delavan Spray Technologies Site  
Bamberg, South Carolina  
SCDHEC VCC Number 13-4762-RP  
SCDHEC File Number 51778  
AECOM Project Number 60314964

Dear Ms. Walker:

On behalf of United Technologies Corporation Aerospace Systems (UTAS), AECOM is providing you this second status report on the progress for the off-Site Groundwater Delineation relating to the Delavan Spray Technologies Site. The drilling and groundwater screening within the deeper limestone aquifer has been completed on the forested property across US Highway 301 from the Delavan facility in accordance with the approved work plan.

Nine borings were advanced into the limestone aquifer unit. Soils were screened for organic vapors with a photoionization detector (PID) and groundwater samples collected by the AECOM geologist for PCE screening by Shealy Environmental Services.

Soil boring locations GW-DPT-1D through GW-DPT-10D are illustrated on Figure 4, attached. Note, proposed boring GW-DPT-3D was located in a wet/boggy area that was inaccessible to the drilling and support equipment and was therefore not installed. A summary of the soil and groundwater screening results and sampling intervals is also attached in tabular format for your information.

Groundwater field screening data indicated that PCE was detected in all limestone aquifer groundwater screening samples analyzed at concentrations ranging from 9.8 to 210 µg/L (see attached table and Figure 4).

Based on this preliminary information, AECOM anticipates that additional delineation efforts beyond the scope of the current approved Work Plan will be necessary. However, any additional drilling and sampling may occur on property whose owners are yet to be identified. Based on the field findings and interpreted plume geometry from prior investigations, AECOM recommends that permanent monitoring wells be installed in the limestone aquifer unit at the following DPT boring locations to provide interim monitoring points:

- GW-DPT-2D,
- GW-DPT-6D, and
- GW-DPT-10D.

The screen zone for these wells will target the limestone aquifer immediately above the cemented sandstone and is expected to be approximately 50-60 feet below ground surface based on the DPT borings.

Ms. Addie Walker  
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The water quality results from these monitoring wells, coupled with the site-wide semi-annual data to be collected in April will help define the plume in the limestone within the limits explored and determine the next steps in the investigation.

With respect to the findings to date, AECOM recommends submitting a Technical Memorandum to SCDHEC with the data collected during the current field sampling effort and recommending potential next steps to complete the groundwater delineation.

Thank you for your cooperation with this project. If you have any questions or require further information, please feel free to contact me.

Sincerely,  
**AECOM Technical Services, Inc.**

A handwritten signature in black ink that reads "Walter C. Gerald". The signature is fluid and cursive, with the first and last names being more prominent.

Walter C. Gerald, P.G.  
Project Manager  
864-234-8925  
[walter.gerald@aecom.com](mailto:walter.gerald@aecom.com)

Enclosures

cc: Mr. Bill Penn – United Technologies Corporation

Off-Site Deep Limestone Aquifer PID Screening  
UTC Delavan Spray Technologies Site

DEPTH IN FEET	Organic Vapor Screening (ppm)									DEPTH IN FEET
	Powerline ROW			Logging Road						
	DPT-1D	DPT-2D	DPT-4D	DPT-5D	DPT-6D	DPT-7D	DPT-8D	DPT-9D	DPT-10D	
5			0							5
	0.1	0.0								
	0.4	0.1	0.3		0.9	0.0		0.0		
				0.0	1.0				0.4	
10	0.2	0.0	0.1	0.0			0.0			10
				0.0	0.0	0.0	0.0			
	0.0	0.2					0.0			
			0.4	0.0						
15	0.3	0.1				0.0		1.2	0.6	15
								0.0		
	0.1	0.3	0.6							
				0.0		0.0				
20	0.4	0.2	0.8	0.0						20
				3.4		0.0		0.0		
	0.7	0.4	0.5	0.8	0.0	0.0				
				0.2	0.0	0.0				
25	0.5	0.3		0.0					0.5	25
			0.6	0.0						
	0.8	0.3	1	0.0		0.0		0.0	0.6	
				0.0						
30	0.7	0.1	0.8							30
									1	
	0.6	0.1	0.3	0.2		0.0		1.8		
						0.0			1.7	
35	0.6	0.5	0.9	2.6	0.0	0.2				35
				0.1	0.0	0.4		2.0		
	0.9	0.3							1.2	
			0.7							
40	0.8	0.2					0.0			40
			0.4	0.1			0.0	1.7		
	0.5	0.4					0.0			
			0.7							
45	0.3	0.6		0			0.1			45
								2.0		
	0.4	0.7	0.6	2.1		0.0				
				0.0	1.0	0.0	0.2			
50	0.9	1.0		0.0					1.1	50
			0.1	0.0						
	0.8	0.9		0.0				2.2	1.9	
			0.5	0.0						
55	0.9	1.3	0.6	0.0	0.0					55
				0.0						
	0.7		0.5	0.0		0.0	0.0		2.3	
		1.4		0.1	0.1	0.0		2.4		
60	1.0		0.4	0.0		0.0			2.6	60
				2.0	0.2	1.4	0.1			
	0.8	1.5				0.4		1.5	2.8	
			0.6			0.8				
65	0.9	1.7	0.8	0.0						65
		1.3		0.0				1.1		
	0.6			0.0					2.6	
		1.5		0.0	0.0			0.6		
70	0.3			0.0	0.0					70
		1.5		0.2	0.6		0.4		2.8	
	0.5			0.1	1.2	0.8	0.8			
		1.4		0.4	1.3		1.2		2.9	
75	0.9			EOB = 57 ft					EOB = 57 ft	75
		1.2	2.0							
	0.8							0.3		
	EOB = 60 ft	1	EOB = 60 ft					0.1		
80		0.8			EOB = 62 ft	EOB = 62 ft	EOB = 62 ft			80
		EOB = 64 ft						0.1		
85										85
								EOB = 67 ft		
90	Groundwater Screening Results (ug/L)									90
	9.8	15	--	--	--	--	--	140	120	
	59	47	20	61	210	73	130	99	120	

Key

No Recovery Interval

GW Sample Interval

Shallow Sand/Clay Aquifer Unit

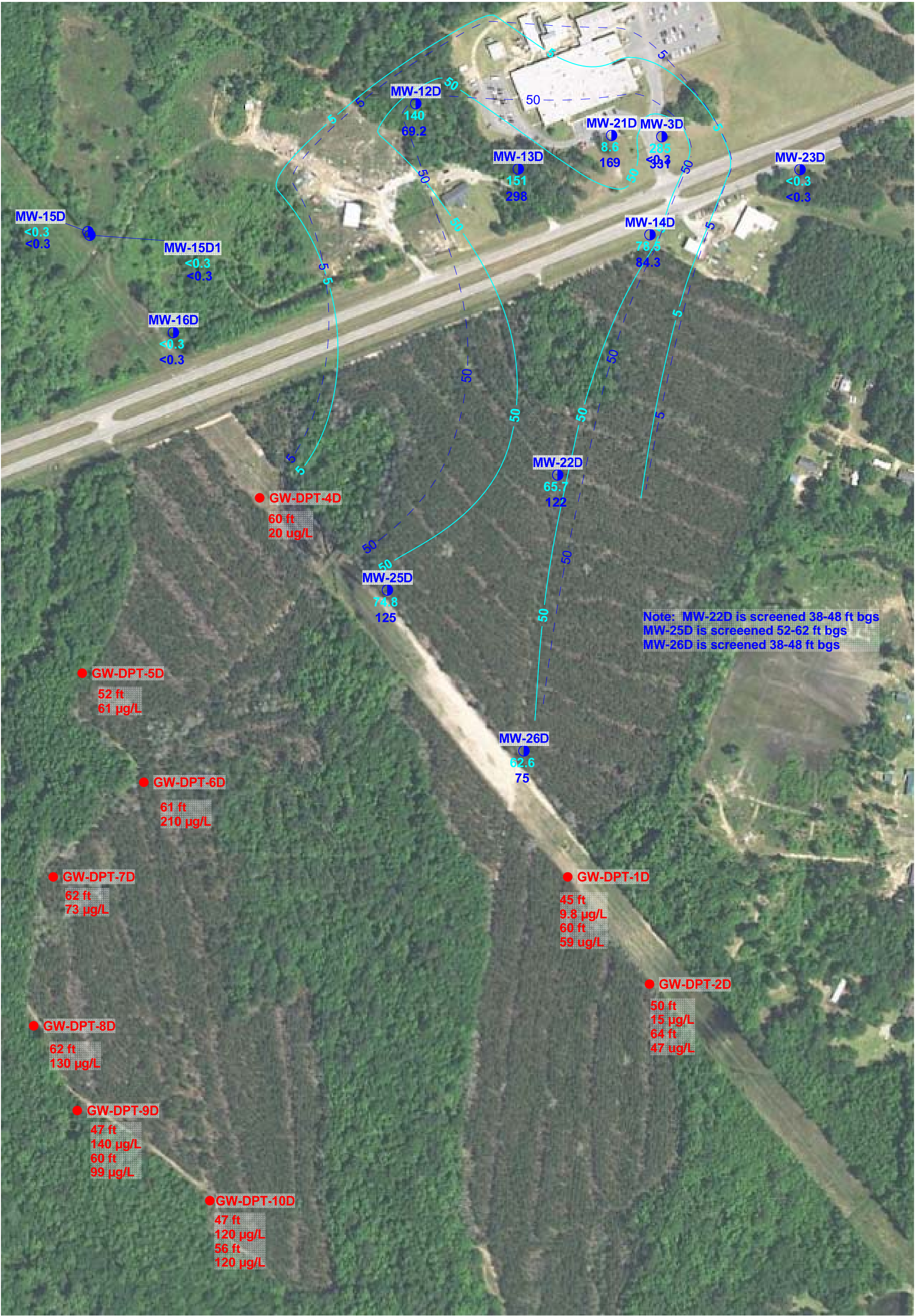
Limestone Aquifer Unit

Cemented Sandstone Unit

Monitoring Well Screened Interval

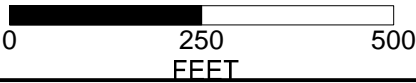
EOBEnd of Boring (Total Exploration Depth)


Reported Void in Limestone



LEGEND

- DEEPER AQUIFER BORING LOCATION WITH PCE RESULT (µg/L)
- EXISTING DEEPER AQUIFER MONITORING WELL
- PCE ISOCONCENTRATION CONTOUR (µg/L) - APRIL 2016
- - PCE ISOCONCENTRATION CONTOUR (µg/L) - OCTOBER 2016



		10 Patewood Drive, Building 6, Suite 500 Greenville, SC 29615 T: (864)234-3000 F: (864)234-3069	
UTC Delavan Spray Technologies Site Bamberg, South Carolina			
DEEPER AQUIFER SAMPLE LOCATIONS AND RESULTS			
PROJECT NO. 60314964	PREPARED BY: LJA	DATE: September 2016	<b>Figure 4</b>