

# Memorandum



**To:** Carol Minsk - SCDHEC  
**CC:** Matt Marron – Itron, Inc.  
**From:** Aaron Council and James Flynn – URS  
**Project:** Itron, Inc. Remedial Investigation – Greenwood, SC  
**Date:** 5/9/2014  
**Re:** Proposed Debris Pile Investigation

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As required by Voluntary Cleanup Contract (VCC) 13-6078-RP between South Carolina Department of Environmental Control (SCDHEC) and Itron, Inc., this memo serves as notification that URS plans to conduct soil sampling at the referenced facility in addition to the sampling described in the Remedial Investigation (RI) Work Plan, dated November 14, 2013 and subsequently approved by DHEC on February 3, 2014.

During a visual survey of the site in April 2012, a debris pile that appeared to consist of only relatively inert materials such as concrete and scrap metal was discovered in the woods on the eastern portion of the site. As shown on the attached figure, the debris pile is located approximately 90 feet east-southeast of existing groundwater monitoring well MW-4. During a follow-up site visit by URS (represented by Aaron Council) and SCDHEC (represented by Ms. Carol Minsk) on January 21, 2014, the area of the debris pile was reexamined and one partially buried 55-gallon drum was observed.

URS and Itron have recently discussed the discovery of the partially buried drum and decided it would be prudent to further investigate conditions in this area by collecting soil samples from two soil borings. The proposed scope of work for the investigation is outlined below:

- Review health and safety issues associated with steep terrain, debris areas, and potential unknowns and update the existing health and safety plan as needed to address this investigation;
- Clear underground utilities at the boring locations through the use of a private utility locator;
- Soil borings will be advanced by hand auger at two locations within one to two feet of the aforementioned drum;

- Soil sampling and analysis procedures described in the Field Sampling and Analysis Plan (Appendix B) of the RI Work Plan will be followed with the exception of the deviations described below:
  - The soil samples will be collected via hand auger as opposed to a direct-push drill rig;
  - The borings will be advanced to a depth of up to five feet unless refusal occurs first. In the event a boring is refused, at least one additional attempt will be made to complete the boring to the target depth by relocating the boring within a foot of the previous location.
  - The two soil samples with the highest PID readings will be selected for laboratory analysis. If PID readings are zero, a near-surface sample (1 to 2 feet bgs) and the deepest sample (up to 4 to 5 feet bgs) will be selected for lab analysis.
  - Decontamination procedures outlined in Attachment B-1 of the Field Sampling and Analysis Plan (FSAP) [see Decontamination item 2: Sampling equipment during sampling] will be followed. Because each hand auger bucket will recover a potential sample for analysis, the hand auger will be decontaminated prior to each use (i.e., at approximately 1-foot intervals);
  - One rinsate blank will be collected and included for analysis (25 percent of the samples). The samples will be included with the shipment of other samples (monitoring well soil samples) collected during the same time period. Therefore due to the small increase in the total number of samples, no additional quality control samples are considered necessary;
  - The sample locations will be designated as borings SB-59 and SB-60 and the specific sample depths will be denoted in parenthesis following that sampling nomenclature already established for the project. These two borings are included on the attached addendum for Table B-1 of the Field Sampling and Analysis Plan (FSAP);
  - If there is no evidence the soils are contaminated (PID readings at background levels), the hand auger borings will be backfilled using native soils, per South Carolina Well Standards R. 61-71 for borings five feet in depth or shallower. However, if there is evidence of contamination (PID readings greater than background levels), the borings will be backfilled by a licensed well driller using a neat cement-grout bentonite mixture, using a tremie pipe, as detailed for the direct-push borings in the FSAP.
  - If the borings are not backfilled with cuttings, the soil will be managed as described in the FSAP. The investigative derived waste (IDW) from the proposed borings will be stored in 55-gallon drums and staged at a designated location on site until analytical results have been received allowing the waste to be profiled for disposal.

May 9, 2014

- Complete work during planned RI activities during the week of May 12, 2014; and
- Report results to DHEC in next quarterly report and draft RI Report.

A preliminary visual survey of the eastern portion of the site in mid-April did not identify any other debris piles or suspect containers. However, to confirm that there are no other areas of suspect debris, URS will conduct a systematic visual survey of the area indicated on the attached figure. The procedure will include three URS personnel walking the wooded area east of the fence line in a grid-pattern, to investigate the presence of additional debris. Specifically, the team will survey the area in a northwest-southeast direction walking approximately parallel to the fence line with each team member spaced about 10 feet apart in a northeast-south west direction. Each northwest-southeast pass would survey an area about 750 feet long (northwest to southeast) and 40 feet wide (northeast to southwest). With approximately 8 north-south transects, the entire area will be surveyed visually. The locations of existing monitoring wells MW-4 and MW-5 as well as proposed monitoring wells MW-12 and MW-13 will be included in the reconnaissance area. Any area of debris or suspect containers will be documented in photos and located on a site map.

If suspect areas are identified during the visual survey, then soil sampling of up to two additional borings in these areas will be conducted per the procedures outlined above. If it is determined that any additional borings are warranted, Itron and URS will contact SCDHEC to discuss next steps. The results of this survey will be included in the next quarterly report and in the draft RI report.

**Attachments:**

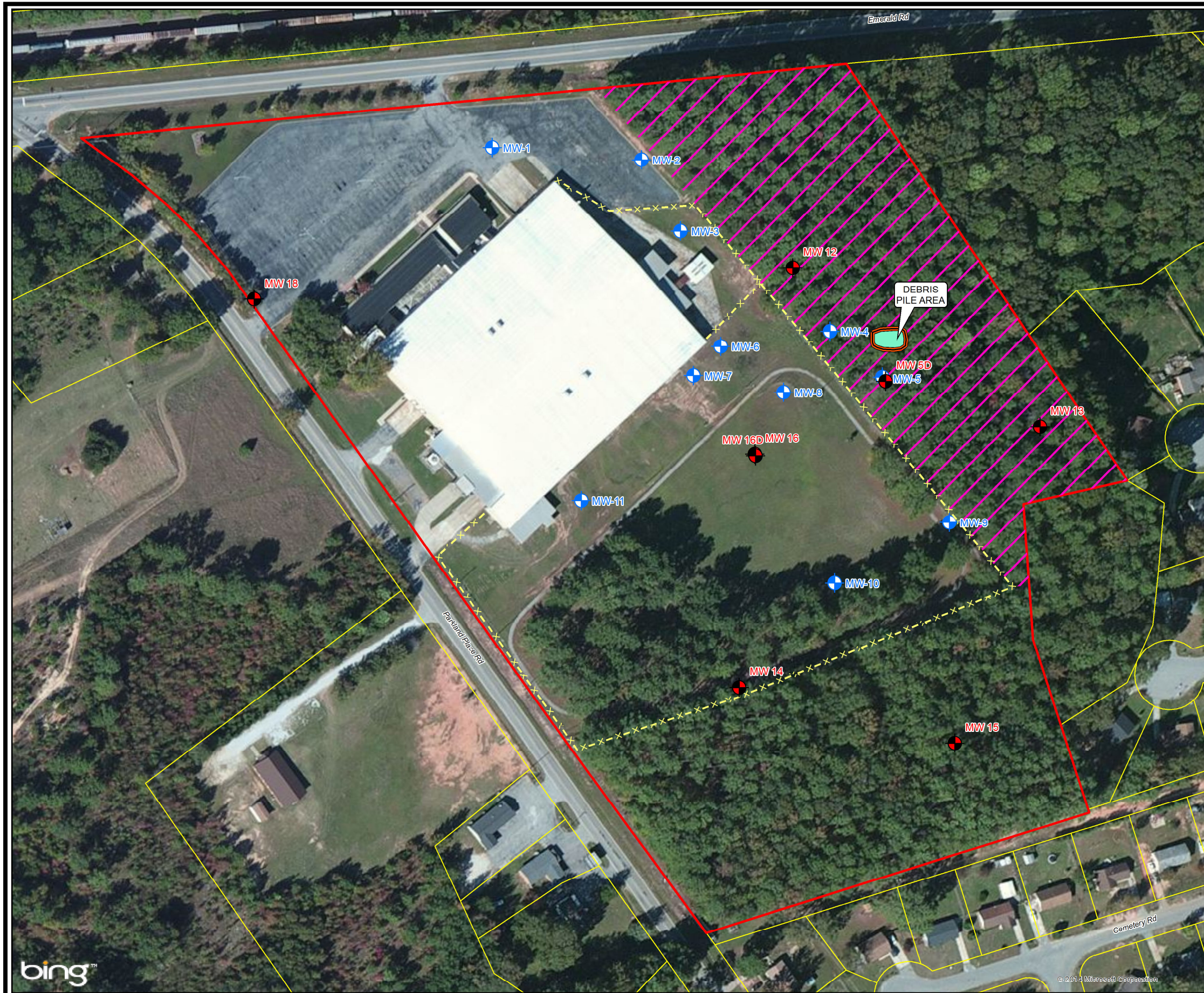
Figure 1 – Proposed Debris Pile Investigation Map

Table B-1 Addendum – Sample Nomenclature Summary






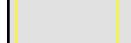

Table B-2 Addendum – Sample Analysis Summary




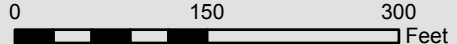
**Figure 1  
Proposed Debris Pile  
Investigation Map**



**Legend**

-  Monitoring Well
-  Proposed Monitoring Well Location
-  Visual Survey Area
-  Debris Pile Area
-  Itron Property Line
-  Parcel
-  Fence Line

South Carolina State Plane, NAD 83  
Zone 3900, International Feet  
Aerial: 2012 from Bing

File: U:\Projects\GIS\ITRON  
DebrisPile-Map\_4-14.mxd  
Job No. 33763353  
Date: April, 2014





**Table B-1 Addendum  
Sample Nomenclature Summary**

*Remedial Investigation Work Plan  
Itron, Inc.  
Greenwood, South Carolina*

Area	Location Number	Sample Identification	Estimated Sampling Depth	Sample Media	VOCs (8260B)	DBCP and EDB (8011)	PAHs (8270D)	TOC Walkley-Black
<b>Proposed Surface Soil Sample Locations</b>								
Steel Sump	SB-20	SB-20 (0-1')	0-1 ft bgs	Surface Soil	X			
	SB-21	SB-21 (0-1')	0-1 ft bgs	Surface Soil	X			
	SB-22	SB-22 (0-1')	0-1 ft bgs	Surface Soil	X			
	SB-25	SB-25 (0-1')	0-1 ft bgs	Surface Soil	X			
	SB-26	SB-26 (0-1')	0-1 ft bgs	Surface Soil	X			
Cardboard Storage Room/Vicinity	SB-42	SB-42 (0-1')	0-1 ft bgs	Surface Soil	X		X	
	SB-45	SB-45 (0-1')	0-1 ft bgs	Surface Soil	X		X	
	SB-46	SB-46 (0-1')	0-1 ft bgs	Surface Soil	X		X	
	SB-47	SB-47 (0-1')	0-1 ft bgs	Surface Soil	X		X	
	SB-50	SB-50 (0-1')	0-1 ft bgs	Surface Soil	X		X	
UST/Gasoline Dispenser	SB-56	SB-56 (0-1')	0-1 ft bgs	Surface Soil	X		X	
	SB-57	SB-57 (0-1')	0-1 ft bgs	Surface Soil	X		X	
<b>Proposed Subsurface Soil Sample Locations</b>								
Steel Sump	SB-19	SB-19 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-19	SB-19 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-20	SB-20 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-20	SB-20 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-21	SB-21 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-21	SB-21 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-22	SB-22 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-22	SB-22 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-23	SB-23 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-23	SB-23 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-24	SB-24 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-24	SB-24 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-25	SB-25 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-25	SB-25 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-26	SB-26 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-26	SB-26 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-27	SB-27 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-27	SB-27 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-28	SB-28 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-28	SB-28 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-29	SB-29 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-29	SB-29 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-30	SB-30 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-30	SB-30 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-31	SB-31 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-31	SB-31 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-32	SB-32 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-32	SB-32 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-33	SB-33 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-33	SB-33 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-34	SB-34 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-34	SB-34 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-35	SB-35 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-35	SB-35 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-36	SB-36 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			
	SB-36	SB-36 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X			

**Table B-1 Addendum  
Sample Nomenclature Summary**

*Remedial Investigation Work Plan  
Itron, Inc.  
Greenwood, South Carolina*

Area	Location Number	Sample Identification	Estimated Sampling Depth	Sample Media	VOCs (8260B)	DBCP and EDB (8011)	PAHs (8270D)	TOC Walkley-Black
<b>Proposed Subsurface Soil Sample Locations - Continued</b>								
Cardboard Storage Room/Vicinity	SB-37	SB-37 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-37	SB-37 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-38	SB-38 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-38	SB-38 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-39	SB-39 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-39	SB-39 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-40	SB-40 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-40	SB-40 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-41	SB-41 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-41	SB-41 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-42	SB-42 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-42	SB-42 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-43	SB-43 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-43	SB-43 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-44	SB-44 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-44	SB-44 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-45	SB-45 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-45	SB-45 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-46	SB-46 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-46	SB-46 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-47	SB-47 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-47	SB-47 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-48	SB-48 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-48	SB-48 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-49	SB-49 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-49	SB-49 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-50	SB-50 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-50	SB-50 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
SB-51	SB-51 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X		
SB-51	SB-51 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X		
SB-52	SB-52 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X		
SB-52	SB-52 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X		
SB-53	SB-53 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X		
SB-53	SB-53 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X		
<b>Proposed Subsurface Soil Sample Locations - Continued</b>								
UST/Gasoline Dispenser	SB-54	SB-54 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-54	SB-54 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-55	SB-55 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-55	SB-55 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-56	SB-56 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-56	SB-56 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-57	SB-57 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-57	SB-57 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
	SB-58	SB-58 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X	
SB-58	SB-58 (Sample Depth)	Up to 30 feet bgs	Subsurface Soil	X		X		
<b>Proposed Subsurface Soil Sample Locations - Continued</b>								
Debris Pile	SB-59	SB-59 (Sample Depth)	Up to 5 feet bgs	Subsurface Soil	X		X	
	SB-59	SB-59 (Sample Depth)	Up to 5 feet bgs	Subsurface Soil	X		X	
	SB-60	SB-60 (Sample Depth)	Up to 5 feet bgs	Subsurface Soil	X		X	
	SB-60	SB-60 (Sample Depth)	Up to 5 feet bgs	Subsurface Soil	X		X	

**Table B-1 Addendum  
Sample Nomenclature Summary**

*Remedial Investigation Work Plan  
Itron, Inc.  
Greenwood, South Carolina*

Area	Location Number	Sample Identification	Estimated Sampling Depth	Sample Media	VOCs (8260B)	DBCP and EDB (8011)	PAHs (8270D)	TOC Walkley-Black
<b>Proposed Soil Samples at Monitoring Well Locations</b>								
Entire Site	MW-12	MW-12 (Sample Depth)	Above Water Table	Subsurface Soil	X			
	MW-12	MW-12 (Sample Depth)	Above Water Table	Subsurface Soil	X			
	MW-13	MW-13 (Sample Depth)	Above Water Table	Subsurface Soil	X			X
	MW-13	MW-13 (Sample Depth)	Above Water Table	Subsurface Soil	X			X
	MW-14	MW-14 (Sample Depth)	Above Water Table	Subsurface Soil	X			X
	MW-14	MW-14 (Sample Depth)	Above Water Table	Subsurface Soil	X			X
	MW-15	MW-15 (Sample Depth)	Above Water Table	Subsurface Soil	X			X
	MW-15	MW-15 (Sample Depth)	Above Water Table	Subsurface Soil	X			X
	MW-16	MW-16 (Sample Depth)	Above Water Table	Subsurface Soil	X			
	MW-16	MW-16 (Sample Depth)	Above Water Table	Subsurface Soil	X			
	MW-17	MW-17 (Sample Depth)	Above Water Table	Subsurface Soil	X			
	MW-17	MW-17 (Sample Depth)	Above Water Table	Subsurface Soil	X			
	MW-18	MW-18 (Sample Depth)	Above Water Table	Subsurface Soil	X			X
	MW-18	MW-18 (Sample Depth)	Above Water Table	Subsurface Soil	X			X
	MW-5D	MW-5D (Sample Depth)	Above Water Table	Subsurface Soil	X			
	MW-5D	MW-5D (Sample Depth)	Above Water Table	Subsurface Soil	X			
	MW-9D	MW-9D (Sample Depth)	Above Water Table	Subsurface Soil	X			X
	MW-9D	MW-9D (Sample Depth)	Above Water Table	Subsurface Soil	X			X
MW-10D	MW-10D (Sample Depth)	Above Water Table	Subsurface Soil	X				
MW-10D	MW-10D (Sample Depth)	Above Water Table	Subsurface Soil	X				
MW-16D	MW-16D (Sample Depth)	Above Water Table	Subsurface Soil	X				
MW-16D	MW-16D (Sample Depth)	Above Water Table	Subsurface Soil	X				
<b>Proposed Groundwater Samples</b>								
Entire Site	MW-1	MW-1	Screened Interval	Groundwater	X	X	X	
	MW-2	MW-2	Screened Interval	Groundwater	X	X	X	
	MW-3	MW-3	Screened Interval	Groundwater	X	X	X	
	MW-4	MW-4	Screened Interval	Groundwater	X		X	
	MW-5	MW-5	Screened Interval	Groundwater	X		X	
	MW-6	MW-6	Screened Interval	Groundwater	X	X	X	
	MW-7	MW-7	Screened Interval	Groundwater	X			
	MW-8	MW-8	Screened Interval	Groundwater	X			
	MW-9	MW-9	Screened Interval	Groundwater	X			
	MW-10	MW-10	Screened Interval	Groundwater	X			
	MW-11	MW-11	Screened Interval	Groundwater	X			
	MW-12	MW-12	Screened Interval	Groundwater	X	X	X	
	MW-13	MW-13	Screened Interval	Groundwater	X			
	MW-14	MW-14	Screened Interval	Groundwater	X			
	MW-15	MW-15	Screened Interval	Groundwater	X			
	MW-16	MW-16	Screened Interval	Groundwater	X			
	MW-17	MW-17	Screened Interval	Groundwater	X	X	X	
	MW-18	MW-18	Screened Interval	Groundwater	X		X	
MW-5D	MW-5D	Screened Interval	Groundwater	X		X		
MW-9D	MW-9D	Screened Interval	Groundwater	X				
MW-10D	MW-10D	Screened Interval	Groundwater	X				
MW-16D	MW-16D	Screened Interval	Groundwater	X				

Notes:

- ft bgs - Feet below ground surface
- PAH- Polynuclear aromatic hydrocarbons
- TPH - Total petroleum hydrocarbons
- VOC - Volatile organic compounds

**Table B-2 Addendum  
Sample Analysis Summary**

*Remedial Investigation Work Plan  
Itron, Inc.  
Greenwood, South Carolina*

Analyte	Method	Number of Samples						Subtotal	No. of Equipment Blanks see Note (1)	No. of Trip Blanks see Note (2)	Field Duplicates (1)	No. of MS see Note (1)	No. of MSD see Note (1)
		Steel Sump	Cardboard Storage	UST/Gas	Entire Site	Debris Pile							
<b>Surface soil</b>													
VOCs	SW 5035A 8260B	5	5	2	0	0	12	1	1	0	0	0	
PAHs	SW 8270D-SIM	0	5	2	0	0	7	1	0	1	1	1	
Subtotal:		5	10	4	0	0	19	2	1	1	1	1	
<b>Subsurface soil</b>													
VOCs	SW 5035A/8260B	36	34	10	22	4	106	7	6	6	6	6	
PAHs	SW 8270D-SIM	0	34	10	0	4	48	3	0	3	3	3	
TOC	Walkley-Black	0	0	0	10	0	10	1	0	1	1	1	
Subtotal:		36	68	20	32	8	164	11	6	10	10	10	
<b>Groundwater</b>													
VOCs	SW 8260B	0	0	0	22	0	22	2	2	2	2	2	
VOCs	SW 8011	0	0	0	6	0	6	0	0	0	0	0	
PAHs	SW 8270D-SIM	0	0	0	10	0	10	1	0	1	1	1	
Subtotal:		0	0	0	38	0	38	3	2	3	3	3	

In addition, six (6) composite soil samples and six (6) water samples will be analyzed for TCLP VOCs by SW-846 1311/8260B.

Notes:

MS/MSD - Matrix Spike/Matrix Spike Duplicate

PAHs - Polynuclear Aromatic Hydrocarbons

TCLP - Toxicity Characteristic Leaching Procedure

TOC - Total Organic Carbon

VOCs - Volatile organic compounds

(1) Equipment blanks, field duplicates, and MS and MSD - 5% of total number of samples collected per method and matrix. Note: Equipment blanks will be collected only when using non-dedicated sampling equipment

(2) Trip blanks will be included in each shipment of soil and GW samples submitted to the laboratory for a VOA analysis.