

**Table 1. Analytical Methods**

Sample Type	Parameter	Analytical Method	Reference
Ground water	VOCs	USEPA Methods 5030B/8000C/8260B	1
Soil	VOCs	USEPA Methods 5035/8000C/8260B	1
Ground water	SVOCs	USEPA Methods 3510C/3520C/8000C/8270C	1
Soil	SVOCs	USEPA Method 3541/3550B/8000C/8270C	1
Ground water	Total Metals	USEPA Methods 3005A/6010B	1
Soil	Total Metals	USEPA Methods 3050B/6010B	1
Ground water	Total Mercury	USEPA Method 7470A	1
Soil	Total Mercury	USEPA Method 7471A	1
Ground water	Total Cyanide	USEPA Method 9010B/9012A	1
Soil	Total Cyanide	USEPA Method 9010B/9012A	1
Soil	TCLP preparation	USEPA Method 1311	1
Soil	Percent solids	SM 2540G	2

**NOTES:**  
VOCs indicates volatile organic compounds  
SVOCs indicates semivolatile organic compounds  
USEPA indicates United States Environmental Protection Agency  
TCLP indicates toxicity characteristic leachate procedure

1. United States Environmental Protection Agency (USEPA). 2004. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846*, 3rd Edition, Update III B. Washington D.C.
2. American Water Works Association (AWWA), American Public Health Association (APHA) and Water Environment Federation (WEF). 1992. *Standard Methods for the Examination of Water and Wastewater*, 18th Edition. Washington, D.C.

Source: O'Brien & Gere

Table 2. Field Sampling Summary

Parameter (Method)	Matrix	Sample Containers and Volumes	Preservation	Holding Times	Number of Investigative Samples	QC sample frequency			
						Field Duplicate	Trip Blank	MS/MSD and Spike Duplicate**	Field Blank***
VOCs (USEPA Methods 5030B/8000C/8260B) <sup>1</sup>	Groundwater	3 40-milliliter glass vials with Teflon® lined septum caps	4°C HCL to pH 2 FC	Analysis within 14 days from collection for analysis for preserved samples.	TBD	One per 20 samples or one per matrix (for less than 20 samples)	1 each in cooler with VOC samples	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required
VOCs Low Level™ (USEPA Methods 5035/8000C/8260B) <sup>1</sup>	Soil	Encore sampler in accordance with USEPA Method 5035.  Alternatively, 5 grams of sample in Encore sampler weighed in the field in pre-weighed vial with stir bar and a sodium bisulfate preservative solution	4°C	For Encore sampler, transferred to soil container within 48 hours from collection. If not transferred to soil container then 48 hours from collection for analysis. If transferred, analysis within 14 days from collection	TBD	One per 20 samples or one per matrix (for less than 20 samples)	1 each in cooler with VOC samples	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required
VOCs Medium Level™ (USEPA Methods 5035/8000C/8260B) <sup>1</sup>	Soil	1-40 milliliter pre-weighed glass vials with Teflon® lined septum caps; 5 grams of sample with methanol prepared in accordance with USEPA Method 5035 10 grams sample volume required.	4°C	14 days from collection for analysis	TBD	One per 20 samples or one per matrix (for less than 20 samples)	One ea. per cooler with VOC samples. Methanol preservation trip blank.	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required
VOCs using TCLP preparation (USEPA Methods 8000C/8260B) <sup>1</sup>	Soil	120 milliliter wide mouth glass container with Teflon® lined lid. 25 grams sample volume required.	4°C	For TCLP preparation, 14 days from collection to TCLP extract generation and 14 days from TCLP extract generation to analysis.	TBD	One per 20 samples or one per matrix (for less than 20 samples)	1 each in cooler with VOC samples	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required

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Parameter (Method)	Matrix	Sample Containers and Volumes	Preservation	Holding Times	Number of Investigative Samples	QC sample frequency			
						Field Duplicate	Trip Blank	MS/MSD and Spike Duplicate**	Field Blank***
SVOCs (USEPA Method 3610C/3520C/8000C/8270C) <sup>1</sup>	Groundwater	1-one liter amber glass container with Teflon® lined screw caps	4°C	7 days from collection to extraction; 40 days from extraction to analysis	TBD	One per 20 samples or one per matrix (for less than 20 samples)	NA	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required
SVOCs (USEPA Method 3641/3550B/8000C/8270C) <sup>1</sup>	Soil	250 milliliter wide mouth glass container with Teflon® lined lid, 100 grams sample volume required. For TCLP preparation, 100 grams sample volume required.	4°C	14 days from collection to extraction; 40 days from extraction to analysis For TCLP preparation, 14 days from collection to TCLP extract generation and 7 days from TCLP extract generation to SVOC extraction, 40 days from SVOC extraction to analysis.	TBD	One per 20 samples or one per matrix (for less than 20 samples)	NA	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required
Metals (USEPA Methods 3005A/6010B) <sup>1</sup>	Groundwater	1-250 milliliter polyethylene or fluorocarbon (TFE or PFA) container, 100 milliliters sample volume required.	4°C HNO <sub>3</sub> to pH<2	180 days from collection for analysis	TBD	One per 20 samples or one per matrix (for less than 20 samples)	NA	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required
Metals (USEPA Methods 3050B/6010B) <sup>1</sup>	Soil	4 ounce wide mouth polyethylene or fluorocarbon (TFE or PFA) container, 50 grams sample volume required. For TCLP preparation, 100 grams sample volume required.	4°C	180 days from collection for analysis For TCLP preparation, 180 days from collection to TCLP extract generation and 180 days from TCLP extraction to analysis	TBD	One per 20 samples or one per matrix (for less than 20 samples)	NA	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required

Table 2. Field Sampling Summary

Parameter (Method)	Matrix	Sample Containers and Volumes	Preservation	Holding Times	Number of Investigative Samples	QC sample frequency			
						Field Duplicate	Trip Blank	MS/MSD and Spike Duplicate**	Field Blank***
Mercury (USEPA Method 7470A) <sup>1</sup>	Groundwater	1-250 milliliter polyethylene or fluorocarbon (TFE or PFA) container. 200 milliliters sample volume required.	4°C HNO <sub>3</sub> to pH<2	28 days from collection for analysis	TBD	One per 20 samples or one per matrix (for less than 20 samples)	NA	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required
Mercury (USEPA Method 7471A) <sup>1</sup>	Soil	4 ounce wide mouth polyethylene or fluorocarbon (TFE or PFA) container. 50 grams sample volume required. For TCLP preparation, 100 grams sample volume required.	4°C	28 days from collection for analysis For TCLP preparation, 28 days from collection to TCLP extract generation and 28 days from TCLP extraction to analysis.	TBD	One per 20 samples or one per matrix (for less than 20 samples)	NA	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required
Cyanide (USEPA Methods 9010B/9012A) <sup>1</sup>	Groundwater	1-500 milliliter plastic bottle. 100 milliliters sample volume required.	NaOH to pH>12, 4°C OA	14 days from collection for analysis	TBD	One per 20 samples or one per matrix (for less than 20 samples)	NA	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required
Cyanide (USEPA Methods 9010B/9012A) <sup>1</sup>	Soil	4 ounce wide mouth glass container with Teflon® lined lid. 50 grams sample volume required.	4°C	14 days from collection for analysis	TBD	One per 20 samples or one per matrix (for less than 20 samples)	NA	One per 20 samples or one per matrix (for less than 20 samples)	One per 10 samples or one per day as required

Table 2. Field Sampling Summary

Parameter (Method)	Matrix	Sample Containers and Volumes	Preservation	Holding Times	Number of Investigative Samples	QC sample frequency		
						Field Duplicate	Trip Blank	MS/MSD and Spike Duplicates**
<p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>* Indicates that USEPA Method 5030A, involving utilizing bulk sample vials for preparation, will not be performed for solid samples submitted for VOC analysis.</li> <li>**MS/MSD indicates matrix spike/matrix spike duplicate sample for organic analyses. Spike duplicate is performed for inorganic analyses.</li> <li>*** Field blank is required at a frequency of one per 10 samples or one per day if less than 10 samples are collected for each matrix type. Field blank is not required if disposable equipment is used.</li> </ul> <p>FC indicates that if free chlorine is present in samples, it must be removed by the appropriate addition of sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) or ascorbic acid</p> <p>VOCs indicates volatile organic compounds.</p> <p>SVOCs indicates semivolatile organic compounds.</p> <p>TCLP indicates toxicity characteristic leachate procedure</p> <p>HCL indicates hydrochloric acid.</p> <p>HN03 indicates nitric acid.</p> <p>NaOH indicates sodium hydroxide.</p> <p>TBD indicates that the number of environmental samples to be determined at a later date.</p>								
<p>1. United States Environmental Protection Agency (USEPA). 2004. <i>Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, 3rd Edition, Update IIIB</i>. Washington D.C.</p>								

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