January 12, 2010

Mr. Thomas Simmons
US Army Corps of Engineers – Kansas City District
CENWK-PM-ES
Federal Building
601 E. 12th Street
Kansas City, MO 64106-2896

Re: Contract No. DACW41-02-D-0005
Claremont Polychemical Superfund Site – LTRA
SAIC Project - 158510.00.02.04.422.422.000

Dear Mr. Simmons:

Attached are edited pages for the Sampling and Analysis Plan (SAP) for the Claremont Polychemical site. These pages of the SAP have been updated to reflect a change in the frequency of sampling and analysis of metals in site groundwater monitoring wells from quarterly to annually. Please replace the pages in the previous July 2007 version of the SAP with the attached pages. This revision of the SAP will result in full compliance of the Claremont sampling and analysis program with current EPA procedures and requirements.

Please contact me if you have any questions or comments regarding this matter.

Sincerely,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Richard C. Cronce

Richard C, Cronce, Ph.D.
LTRA Program Manager

cc: Mr. Rodney Myers

FIELD SAMPLING PLAN

FOR GROUNDWATER TREATMENT O&M

AT THE

CLAREMONT POLYCHEMICAL SUPERFUND SITE

OLD BETHPAGE, NEW YORK

July 2007

(Selected page changes January 2010)

Draft – For Review and Comment

4.3 Sampling Activities

Site sampling activities may include groundwater monitoring well sampling, groundwater extraction well sampling, process water sampling, effluent water sampling, treatment plant waste sampling for off-site disposal, air monitoring, solid sampling for off-site recycling/disposal, surface water sampling, sediment sampling, and quality control sampling. Each of these work elements is described in the following sections. Analytes, methods, and sampling frequencies are listed in Tables 4-2, 4-3, and 4-4.

Sampling from the GWTF will include 6 locations as identified in the O&M manual (SAIC, 2002). These include the extraction wells and process locations identified on Table 4-2. The three existing extraction wells are identified as EX-1, EX-2, and EX-3 (see Figure 1-2). The process sampling locations are identified on Table 4-2 and include the flow equalization tank, inlet and effluent to two liquid-phase carbon adsorbers, and the plant discharge. Air monitoring is performed at the influent and effluent points of the vapor phase carbon vessels.

4.3.1 Groundwater Monitoring Wells - Groundwater at the Claremont Polychemical Site will be routinely monitored for piezometric head or sampled for required analyses. Low-stress (or low-flow) purging and sampling will be used to collect samples for groundwater monitoring. Both dedicated and non-dedicated sampling equipment (e.g., dedicated and non-dedicated bladder pumps) will be used for sampling groundwater monitoring wells. Some wells are sampled by splitting samples with other entities. Detailed procedures for collecting groundwater samples are provided in Section 4.5.

As shown on Table 4-2, groundwater samples will be collected quarterly. Each well will be monitored for dissolved oxygen (DO), oxidation-reduction potential (ORP), conductivity, pH, temperature, and turbidity using a field water quality instrument and flow-through cell. Samples collected for off-site laboratory analysis will be analyzed for VOCs on a quarterly basis, while selected total metals using the CLP methods specified in Table 4-2 (Location No. 11) will only be analyzed annually during the third quarterly groundwater sampling event. Analyses will be completed on unfiltered samples from each sampled location. QC samples (including replicates, matrix spike/matrix spike duplicate (MS/MSD), equipment rinsate blanks, and trip blank samples) will be collected as indicated for location No. 11 on Table 4-3 and in accordance with the QAPP. Off-site laboratory analyses of the groundwater samples should be provided at the confirmatory level of documentation. Off-site laboratory analyses of the groundwater samples during monitoring well installation should be provided at the screening level of documentation. The analytical protocol used for all sampling events will be completed in accordance with the QAPP.

4.4 Water Level Measurements

Groundwater at the Claremont Polychemical Site will be monitored for piezometric head on a quarterly basis. The depth from a pre-surveyed location (see Table 4-2) to the groundwater static elevation will be measured with a conductivity probe (water level indicator meter) at all well locations. All readings will be reported on the Water Level Data Sheet (see Appendix B). Groundwater levels in all accessible wells should be measured with an electronic water level indicator on a single day prior to any site groundwater purging and sampling activities. The measurement will be made to the nearest 3 mm (0.01 ft) from the top of the pump cap (for wells with dedicated pumps), the marked top of the riser pipe of the well, or other designated reference elevation point (see Table 4-2). This measurement procedure will be repeated at least two times to ensure an accurate measurement.

Due to well access limitations, the depth to the phreatic water table in the extraction wells will be measured in reference to the elevation at the top of the access hole in the top of the well covering (Table 4-1). Measurement must be taken with a water level indicator having a diameter of 0.62 inches or less.

4.5 Sampling Procedures

This section describes standardized procedures or protocols to collect the samples necessary to conduct operations, maintenance, monitoring, and other investigations at the Site. Matrices to be sampled include: groundwater from monitoring and extraction wells; treatment plant process water; plant effluent or discharge; treatment plant waste, and IDW; process or emission gas; ambient air; surface debris; soil, surface water, and sediment.

4.5.1 Monitoring Well Groundwater Sampling - In order to observe the effect that the GWTF is having on the aquifer, all identified monitoring wells will be sampled once each calendar quarter. Groundwater samples will be analyzed for DO, ORP, specific conductance, pH, temperature, and turbidity in the field. VOCs will be analyzed quaterly; and metals will be analyzed annually by an off-site laboratory (see Table 4-2). Prior to sampling, the wells will have their water levels measured using an electronic water level meter (see Section 4.5).

Low-flow purging (low-flow rate) techniques will be used whenever feasible to sample all groundwater monitoring wells. Sampling will be conducted normally using a combination of dedicated and non-dedicated bladder pumps. Monitoring wells with a dedicated bladder pump installed, and those that will use a non-dedicated bladder pump are identified in Table 4-1 of this FSP. The collection of groundwater samples from monitoring wells using low-flow sampling will be accomplished in three general steps:

Table 4-2 Sampling and Analysis Frequency
Claremont Polychemical Superfund Site

Task No./ Location No.[1]	Description and analytes	Method	Matrix	Monthly	Quarterly	Annually	As needed
1	**Groundwater from 3 extraction wells (EX-1, EX-2, EX-3)**		groundwater				
	Field indicator parameters (DO, ORP, conductivity, pH, temp., turbidity)	field multimeter & flow-through cell			x		
	Volatile Organic Compounds (VOCs)	SOM 01.2			x		
	total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES			x		
	total metals (Pb, Sb, Se)	ILM 05.4 ICP MS			x		
	total suspended solids (TSS)	160.2			x		
2	**Inlet to equalization tank**		process H_2O				
	VOCs	SOM 01.2			x		
	total Fe and Mn	ILM 05.4 ICP AES			x		
	total dissolved solids (TDS)	160.1			x		
	TSS	160.2			x		
7a or 7b Sample one on alternate quarters	**Inlet to 2 liquid GAC units**		process H_2O				
	VOCs	SOM 01.2			x		
	total Fe and Mn	ILM 05.4 ICP AES			x		
	total organic carbon (TOC)	9060			x		
	TSS	160.2			x		
8a,b	**Effluent from 2 liquid GAC units**		process H_2O				
	VOCs	SOM 01.2			x		
	TOC	9060			x		
	TSS	160.2			x		
9	**Plant discharge**		process H_2O				
	field pH	field meter		x^2			
	field temperature	field meter		x^2			
	VOCs	SOM 01.2		x^2			
	SVOCs (base neutral extractable only)	SOM 01.2		x			
	total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES			x^2		
	total metals (Pb, Sb, Se)	ILM 05.4 ICP MS			x^2		
	hexavalent chromium (Cr^{+6})	7196A			x^2		
	total kjeldahl nitrogen	351.4			x^2		
	TDS	160.1			x^2		
	anions (Cl^-, F^-, SO_4)	300.0			x		
10	**Sludge storage tank**		sludge				
	VOCs	OLM 04.3					x
	RCRA metals	ILM 05.4					x
11	**Groundwater from monitoring wells**		groundwater				
	Field indicator parameters (DO, ORP, conductivity, pH, temp., turbidity)	field multimeter & flow-through cell			x		
	VOCs	SOM 01.2			x		
	total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES				x^3	
	total metals (Pb, Sb, Se)	ILM 05.4 ICP MS				x^3	
12	**Vapor phase carbon vessel influent & effluent**		air				
	field VOCs	PID		biweekly			
13	**Solid waste characterization samples**		soil/solid				
	field VOCs	PID					x
	Zero Headspace/TCLP Extraction	SW 846-1311					x
	TCLP VOCs (or total)	SW 846-8260B					x
	TCLP Metals (or total)	SW 846-6010A, 3020A, or 7000 series					x
	Qualitative Asbestos	EPA 600/R93/116					x
	TCLP SVOCs/BNAs (or total)	SW 846-8270C					x
	TCLP Pesticides and PCBs (or total)	SW 846 8081					x
	TCLP Herbicides (or total)	SW 846 8151A					x
14	**Surface water**		surface water				
	VOCs	SOM 01.2 or 8260B					x
	SVOCs/BNAs	SOM 01.2 or 8270C					x
	total metals	ILM 05.4 or 6010B					x
15	**Sediment and soils**		sediment/soil				
	VOCs	OLM 04.3 or 8260B					x
	SVOCs/BNAs	OLM 04.3 or 8270C					x
	Metals	ILM 05.4 or 6010B					x
16	**Discrete interval groundwater sampling/Other groundwater sampling**		groundwater				
	VOCs	SOM 01.2 or 8260B					x
	SVOCs/BNAs	SOM 01.2 or 8270C					x
	total metals	ILM 05.4 or 6010B					x

Notes:

1: Except for Nos. 1, 11, 13 - 16, tasks correspond to process locations.

2: Modified from March 2002 SAP in accordance with revised NYSDEC discharge permit requirements.

3: Annual sampling for metals will be conducted as part of the 3rd quarter sampling events.

Table 4-3 Annual Analytical Matrix - GWTF Related Samples
Claremont Polychemical Superfund Site

Task/Location and Description	Method	No. of samples	QC replicates[1]	Matrix spike[1,6]	Matrix spike duplicate[1,6]	Equipment rinsate blank[2]	Trip blank[3]	Total no.
1. Groundwater from 3 extraction wells (EX-1, EX-2, EX-3)								
Field analysis								
Field indicator parameters (DO, ORP, conductivity, pH, temp., turbidity)	field multimeter and flow-through cell	12	-	-	-	-	-	12
EPA CLP off-site analysis								
Volatile Organic Compounds (VOCs)	SOM 01.2	12	4	-	-	-	1 per cooler	16
total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES	12	4	4	4	-	-	24
total metals (Pb, Sb, Se)	ILM 05.4 ICP MS	12	4	4	4	-	-	24
Off-site contract lab analysis								
total suspended solids (TSS)	160.2	12	4	-	-	-	-	16
2. Inlet to equalization tank								
EPA CLP off-site analysis								
VOCs	SOM 01.2	4	4	-	-	-	1 per cooler	8
total Fe and Mn	ILM 05.4 ICP AES	4	4	4	4	-	-	16
Off-site contract lab analysis								
total dissolved solids (TDS)	160.1	4	4	-	-	-	-	8
TSS	160.2	4	4	-	-	-	-	8
7. Inlet to 2 liquid GAC units (Sample one on alternate quarters)								
EPA CLP off-site analysis								
VOCs	SOM 01.2	4	-	-	-	-	1 per cooler	4
total Fe and Mn	ILM 05.4 ICP AES	4	4	4	4	-	-	16
Off-site contract lab analysis								
total organic carbon (TOC)	9060	4	4	4	4	-	-	16
TSS	160.2	4	-	-	-	-	-	4
8. Effluent from 2 liquid GAC units								
EPA CLP off-site analysis								
VOCs	SOM 01.2	8	-	-	-	-	1 per cooler	8
Off-site contract lab analysis								
TOC	9060	8	-	-	-	-	-	8
TSS	160.2	8	-	-	-	-	-	8
9. Plant discharge								
Field analysis								
pH	9040A	52	-	-	-	-	-	52
temperature	170.1	52	-	-	-	-	-	52
EPA CLP off-site analysis								
VOCs	SOM 01.2	12	12	-	-	-	1 per cooler	24
SVOCs (base neutral extractable only)	SOM 01.2	12	12	-	-	-	-	24
total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES	4	4	4	4	-	-	16
total metals (Pb, Sb, Se)	ILM 05.4 ICP MS	4	4	4	4	-	-	16
Off-site contract lab analysis								
hexavalent chromium (Cr^{+6})	7196A	4	4	4	4	-	-	16
total kjeldahl nitrogen	351.4	4	4	4	4	-	-	16

Table 4-3 Annual Analytical Matrix - GWTF Related Samples
Claremont Polychemical Superfund Site

Task/Location and Description	Method	No. of samples	QC replicates[1]	Matrix spike[1,6]	Matrix spike duplicate[1,6]	Equipment rinsate blank[2]	Trip blank[3]	Total no.
TDS	160.1	4	4	-	-	-	-	8
anions (Cl^-, F^-, SO_4^{2-})	300.0	4	4	4	4	-	-	16
10. Sludge storage tank[4]								
EPA CLP off-site analysis								
VOCs	OLM 04.3	4	4	-	-	4	1 per cooler	12
RCRA metals	ILM 05.4	4	4	4	4	4	-	20
11. Groundwater from monitoring wells								
Field analysis								
Field indicator parameters (DO, ORP, conductivity, pH, temp., turbidity)	field multimeter and flow-through cell	132	-	-	-	-	-	132
EPA CLP off-site analysis								
VOCs	SOM 01.2	132	8	-	-	4	1 per cooler	144
total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES	33	2	2	2	1	-	40
total metals (Pb, Sb, Se)	ILM 05.4 ICP MS	33	2	2	2	1	-	40
12. Vapor phase carbon vessel influent and effluent air emission monitoring (2 loc.)								
Field analysis								
VOCs	PID	104	-	-	-	-	-	104
16. Discrete Interval Groundwater Sampling/Other Groundwater Sampling								
EPA CLP or contract lab off-site analysis								
VOCs	SOM 01.2 or 8260B	TBD	1 per 20 samples	-	-	-	1 per cooler	TBD
SVOCs/BNAs	SOM 01.2 or 8270C	TBD	1 per 20 samples	-	-	-	-	TBD
total metals	ILM 05.4 or 6010B	TBD	1 per 20 samples	1 per 20 samples	1 per 20 samples	-	-	TBD

1: For CLP lab, 1 per 20 field samples; for other lab, 10% per method per matrix per sampling event.
2: 10% per method per matrix per sampling event for non-dedicated equipment
3: 1 per shipping cooler containing VOC samples
4: assuming quarterly sampling; actual sampling on an "as needed" basis
5: may also occur as part of other environmental-related sampling activities; see Table 4-4.
6: Current EPA policy does not require submission of additional MS or MSD samples in support of VOC and SVOC analysis (Adly Michael, EPA, July 17, 2007).

Sampling assumptions:
Assume task nos. 1-8 will be collected in 1 day.
For No. 9, assume that quarterly samples will be collected at the same time as the other quarterly samples.
Assume No. 11 will be collected in 4 days.

Figure 8-1. Typical Operation and Maintenance Schedule
Claremont Polychemical Superfund Site

	ACTIVITY	FREQ.	Week Ending												
			Month 1				Month 2					Month 3			
			5	12	19	26	2	9	16	23	30	7	14	21	28
	SAMPLING & ANALYSIS														
Location ID, description, & sampling parameters															
1	Groundwater from extraction wells (3) [fld. Indicators*, VOCs, total metals***, TSS]	Quarterly								■					
2	Inlet to Equalization Tank (1) [VOCs, total Fe & Mn, TDS, TSS]	Quarterly								■					
7A, 7B	Inlet to Liquid GAC Units (2) [VOCs, TOC, total Fe & Mn, TSS] (Sample one on alternate quarters)	Quarterly								■					
8A, 8B	Effluent from liquid GAC Units (2) [VOCs, TOC, TSS]	Quarterly								■					
9	Plant Discharge (1) [pH*, Temp.*]	Weekly	■	■	■	■	■	■	■	■	■	■	■	■	■
9	Plant Discharge (1) [VOCs, SVOCs-BN]	Monthly			■						■			■	
9	Plant Discharge (1) [total metals**, TDS, TKN, Cr(VI), Chloride, Fluoride, Sulfate]	Quarterly									■				
10	Sludge Storage Tank (1) [VOCs, RCRA metals]	As Required													
11	Groundwater Monitoring wells [fld. Indicators*, VOCs]	Quarterly								■					
11	Groundwater Monitoring wells [Total metals***]	Annually****								■					
	MEASURE WATER LEVELS IN WELLS														
1	Groundwater from extraction wells (3)	Quarterly								■					
11	Groundwater Monitoring wells	Quarterly								■					
	OFF-GAS (GAC) MONITORING														
12	Vapor Phase Carbon Vessel Influent [VOCs - PID*]	Biweekly	■	■	■	■	■	■	■	■	■	■	■	■	■
12	Vapor Phase Carbon Vessel Effluent [VOCs - PID*]	Biweekly	■	■	■	■	■	■	■	■	■	■	■	■	■
	REPORTING/SUBMITTALS														
	O&M Manual	As Required													
	SSHP Revision	As Required													
	SAP (FSP & QAPP) Revision	As Required													
	Progress Reports	Monthly	■				■					■			
	Status Report	Annually													
	Contractor Daily Quality Control (DQC) Report (submit weekly)	Weekly	■	■	■	■	■	■	■	■	■	■	■	■	■
	Nonconformance Reports	As Required													
	Chemical Data Packages (w/ EDD & Tables 1,2,&3)	Quarterly				■									
	Chemical Quality Control Summary Report (QCSR)	Quarterly				■									
	NYDEC Discharge to Groundwater (DGW) Equivalency Permit Renewal	As Required													

*Measurement or analysis will be performed on site. Field indicator parameters are DO, ORP, specific conductance, pH, temperature, turbidity
**Metals for discharge monitoring are As, Ba, Cd, Fe, Mn, Pb, Sb, Se, total chromium, and Cr+6 (hexavalent chromium) -
***Metals for the groundwater monitoring and extraction wells are the same as the discharge except the Cr+6 analysis is not required.
****Annual sampling for metals to be completed as part of the third quarter sampling event.
Note: Quarterly sampling is targeted for January, April, July, and October. Actual sampling times may vary.

QUALITY ASSURANCE PROJECT PLAN

FOR GROUNDWATER TREATMENT O&M

AT THE

CLAREMONT POLYCHEMICAL SUPERFUND SITE

OLD BETHPAGE, NEW YORK

July 2007

(Selected page changes January 2010)

Table 5-1 Sampling and Analysis Frequency
Claremont Polychemical Superfund Site

Task No./ Location No.[1]	Description and analytes	Method	Matrix	Monthly	Quarterly	Annually	As needed
1	**Groundwater from 3 extraction wells (EX-1, EX-2, EX-3)**		groundwater				
	Field indicator parameters (DO, ORP, conductivity, pH, temp., turbidity)	field multimeter & flow-through cell			x		
	Volatile Organic Compounds (VOCs)	SOM 01.2			x		
	total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES			x		
	total metals (Pb, Sb, Se)	ILM 05.4 ICP MS			x		
	total suspended solids (TSS)	160.2			x		
2	**Inlet to equalization tank**		process H_2O				
	VOCs	SOM 01.2			x		
	total Fe and Mn	ILM 05.4 ICP AES			x		
	total dissolved solids (TDS)	160.1			x		
	TSS	160.2			x		
7a or 7b Sample one on alternate quarters	**Inlet to 2 liquid GAC units**		process H_2O				
	VOCs	SOM 01.2			x		
	total Fe and Mn	ILM 05.4 ICP AES			x		
	total organic carbon (TOC)	9060			x		
	TSS	160.2			x		
8a,b	**Effluent from 2 liquid GAC units**		process H_2O				
	VOCs	SOM 01.2			x		
	TOC	9060			x		
	TSS	160.2			x		
9	**Plant discharge**		process H_2O				
	field pH	field meter		x^2			
	field temperature	field meter		x^2			
	VOCs	SOM 01.2		x^2			
	SVOCs (base neutral extractable only)	SOM 01.2		x			
	total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES			x^2		
	total metals (Pb, Sb, Se)	ILM 05.4 ICP MS			x^2		
	hexavalent chromium (Cr^{+6})	7196A			x^2		
	total kjeldahl nitrogen	351.4			x^2		
	TDS	160.1			x^2		
	anions (Cl^-, F^-, SO_4)	300.0			x		
10	**Sludge storage tank**		sludge				
	VOC	OLM 04.3					x
	RCRA metals	ILM 05.4					x
11	**Groundwater from monitoring wells**		groundwater				
	Field indicator parameters (DO, ORP, conductivity, pH, temp., turbidity)	field multimeter & flow-through cell			x		
	VOCs	SOM 01.2			x		
	total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES				x^3	
	total metals (Pb, Sb, Se)	ILM 05.4 ICP MS				x^3	
12	**Vapor phase carbon vessel influent & effluent**		air				
	field VOCs	PID		biweekly			
13	**Solid waste characterization samples**		soil/solid				
	field VOCs	PID					x
	Zero Headspace/TCLP Extraction	SW 846-1311					x
	TCLP VOCs (or total)	SW 846-8260B					x
	TCLP Metals (or total)	SW 846-6010A, 3020A, or 7000 series					x
	Qualitative Asbestos	EPA 600/R93/116					x
	TCLP SVOCs/BNAs (or total)	SW 846-8270C					x
	TCLP Pesticides and PCBs (or total)	SW 846 8081					x
	TCLP Herbicides (or total)	SW 846 8151A					x
14	**Surface water**		surface water				
	VOCs	SOM 01.2 or 8260B					x
	SVOCs/BNAs	SOM 01.2 or 8270C					x
	total metals	ILM 05.4 or 6010B					x
15	**Sediment and soils**		sediment/soil				
	VOCs	OLM 04.3 or 8260B					x
	SVOCs/BNAs	OLM 04.3 or 8270C					x
	Metals	ILM 05.4 or 6010B					x
16	**Discrete interval groundwater sampling/Other groundwater sampling**		groundwater				
	VOCs	SOM 01.2 or 8260B					x
	SVOCs/BNAs	SOM 01.2 or 8270C					x
	total metals	ILM 05.4 or 6010B					x

Notes:
1: Except for Nos. 1, 11, 13 - 16, tasks correspond to process locations.
2: Modified from March 2002 SAP in accordance with revised NYSDEC discharge permit requirements.
3: Annual sampling and analysis for metals to occur as part of the third quarterly samplng event.

Table 9-2 Annual Analytical Matrix - GWTF Related Samples
Claremont Polychemical Superfund Site

Task/Location and Description	Method	No. of samples	QC replicates[1]	Matrix spike[1]	Matrix spike duplicate[1]	Equipment rinsate blank[2]	Trip blank[3]	Total no.
1. Groundwater from 3 extraction wells (EX-1, EX-2, EX-3)								
Field analysis								
Field indicator parameters (DO, ORP, conductivity, pH, temp., turbidity)	field multimeter and flow-through cell	12	-	-	-	-	-	12
EPA CLP off-site analysis								
Volatile Organic Compounds (VOCs)	SOM 01.2	12	4			-	1 per cooler	16
total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES	12	4	4	4	-	-	24
total metals (Pb, Sb, Se)	ILM 05.4 ICP MS	12	4	4	4	-	-	24
Off-site contract lab analysis								
total suspended solids (TSS)	160.2	12	4	-	-	-	-	16
2. Inlet to equalization tank								
EPA CLP off-site analysis								
VOCs	SOM 01.2	4	4	-	-	-	1 per cooler	8
total Fe and Mn	ILM 05.4 ICP AES	4	4	4	4	-	-	16
Off-site contract lab analysis								
total dissolved solids (TDS)	160.1	4	4	-	-	-	-	8
TSS	160.2	4	4	-	-	-	-	8
7. Inlet to 2 liquid GAC units (Sample one on alternate quarters)								
EPA CLP off-site analysis								
VOCs	SOM 01.2	4	-	-	-	-	1 per cooler	4
total Fe and Mn	ILM 05.4 ICP AES	4	-	-	-	-	-	4
Off-site contract lab analysis								
total organic carbon (TOC)	9060	4	4	4	4	-	-	16
TSS	160.2	4	-	-	-	-	-	4
8. Effluent from 2 liquid GAC units								
EPA CLP off-site analysis								
VOCs	SOM 01.2	8	-	-	-	-	1 per cooler	8
Off-site contract lab analysis								
TOC	9060	8	-	-	-	-	-	8
TSS	160.2	8	-	-	-	-	-	8
9. Plant discharge								
Field analysis								
pH	9040A	52	-	-	-	-	-	52
temperature	170.1	52	-	-	-	-	-	52
EPA CLP off-site analysis								
VOCs	SOM 01.2	12	12	-	-	-	1 per cooler	24
SVOCs (base neutral extractable only)	SOM 01.2	12	12	-	-	-	-	24
total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES	4	4	4	4	-	-	16
total metals (Pb, Sb, Se)	ILM 05.4 ICP MS	4	4	4	4	-	-	16

Table 9-2 Annual Analytical Matrix - GWTF Related Samples
Claremont Polychemical Superfund Site

Task/Location and Description	Method	No. of samples	QC replicates[1]	Matrix spike[1]	Matrix spike duplicate[1]	Equipment rinsate blank[2]	Trip blank[3]	Total no.
Off-site contract lab analysis								
hexavalent chromium (Cr^{+6})	7196A	4	4	4	4	-	-	16
total kjeldahl nitrogen	351.4	4	4	4	4	-	-	16
TDS	160.1	4	4	-	-	-	-	8
anions (Cl^-, F^-, SO_4^{2-})	300.0	4	4	4	4	-	-	16
10. Sludge storage tank[4]								
EPA CLP off-site analysis								
VOCs	OLM 04.3	4	4	-	-	4	1 per cooler	12
RCRA metals	ILM 05.4	4	4	4	4	4	-	20
11. Groundwater from monitoring wells								
Field analysis								
Field indicator parameters (DO, ORP, conductivity, pH, temp., turbidity)	field multimeter and flow-through cell	132	-	-	-	-	-	132
EPA CLP off-site analysis								
VOCs	SOM 01.2	132	8	-	-	4	1 per cooler	144
total metals (As, Ba, Cd, Cr, Fe, Mn)	ILM 05.4 ICP AES	33	2	2	2	1	-	40
total metals (Pb, Sb, Se)	ILM 05.4 ICP MS	33	2	2	2	1	-	40
12. Vapor phase carbon vessel influent and effluent air emission monitoring (2 loc.)								
Field analysis								
VOCs	PID	104	-	-	-	-	-	104
16. Discrete Interval Groundwater Sampling/Other Groundwater Sampling								
EPA CLP or contract lab off-site analysis								
VOCs	SOM 01.2 or 8260B	TBD	1 per 20 samples	-	-	-	1 per cooler	TBD
SVOCs/BNAs	SOM 01.2 or 8270C	TBD	1 per 20 samples	-	-	-	-	TBD
total metals	ILM 05.4 or 6010B	TBD	1 per 20 samples	1 per 20 samples	1 per 20 samples	-	-	TBD

1: For CLP lab, 1 per 20 field samples; for other lab, 10% per method per matrix per sampling event.
2: 10% per method per matrix per sampling event for non-dedicated equipment
3: 1 per shipping cooler containing VOC samples
4: assuming quarterly sampling; actual sampling on an "as needed" basis
5: may also occur as part of other environmental-related sampling activities; see Table 4-4.

Sampling assumptions:
Assume task nos. 1-8 will be collected in 1 day.
For No. 9, assume that quarterly samples will be collected at the same time as locations 1, 2, 7, and 8.
Assume No. 11 (groundwater from monitoring wells) will be collected in 4 days.