CATALOG OF ANALYTICAL SERVICES

2021

21029

GEL LABORATORIES LLC
CATALOG OF
ANALYTICAL SERVICES
* General Chemistry Parameters *

Analyte	Method	Matrix	Standard Unit Cost

Please reference the applicable certification for the current revision.

Acidity (as CaCO3)

	EPA 305.1 or SM 2310 B	w/ww

Alkalinity, Total (as CaCO3)

	EPA 310.1 or SM 2320 B	w/ww

Anions, Total (Bromide, Chloride, Fluoride, Nitrate, Nitrite, Ortho-Phosphate, Sulfate)

	EPA 300.0 or SW846 9056	w/ww
		sw

Anions (Bromide, Chloride, Fluoride, Nitrate, Nitrite, Ortho-Phosphate, Sulfate)

	EPA 300.0 or SW846 9056	w/ww (first analyte)
		(each additional analyte)
		sw (first analyte)

Anions, Sum of (Chloride, Fluoride, Sulfate, Nitrate/Nitrite)

	Calculation only	w/ww/sw

Ash, Percent (@ 550°C)

	EPA 160.4 or SM 2540 E	w/ww
	SM 2540 G	sw

Ash, Percent (@775°C)

	ASTM D482 Mod	sw

Bicarbonate Alkalinity (as CaCO3)

	EPA 310.1 or SM 2320 B	w/ww

Biochemical Oxygen Demand, 5 day

	EPA 405.1 or SM 5210 B	w/ww

Biochemical Oxygen Demand, 5 day Carbonaceous

	EPA 405.1 or SM 5210 B	w/ww

Bromide

	EPA 300.0	w/ww
	SW846 9056	w/ww
		sw

Analyte	Method	Matrix	Standard Unit Cost
Bromine			
	SW846 5050/9056	sw	
Carbon			
	Dissolved Organic (DOC)		
	EPA 415.1 or SM 5310 B or SW846 9060	w/ww	
	Total (TC)		
	EPA 415.1 or SM 5310 B	w/ww	
	EPA 415.1 Mod or SM 5310 B Mod	sw	
	SW846 9060	w/ww	
	SW846 9060 Mod	sw	
	Total Inorganic (TIC)		
	EPA 415.1 or SM 5310 B	w/ww	
	EPA 415.1 Mod or SM 5310 B Mod	sw	
	SW846 9060	w/ww	
	SW846 9060 Mod	sw	
	Total Organic (TOC)		
	EPA 415.1 or SM 5310 B	w/ww	
	EPA 415.1 Mod or SM 5310 B Mod	sw	
	SW846 9060	w/ww	
	SW846 9060 Mod	sw	
Carbonate Alkalinity (as CaCO3)			
	EPA 310.1 or SM 2320 B	w/ww	
Carbon Dioxide (free and total)			
	EPA 310.1 or SM 4500 CO2 D	w/ww	
Chemical Oxygen Demand (COD)			
	EPA 410.4 or Hach Method 8000	w/ww	
Chloride			
	EPA 300.0	w/ww	
	SW846 9056	w/ww	
		sw	
Chlorine			
	SW846 5050/9056	sw	
	Total Residual		
	EPA 330.5 or SM 4500-Cl G	w/ww	

Analyte	Method	Matrix	Standard Unit Cost
Chromium, Hexavalent			
	SW846 7196 or SM 3500 Cr B	w/ww	
	SW846 3060/7196	sw	
	To extend the holding time for water samples, GEL can provide Buffer Solution and Sodium Hydroxide to be added after the sample is field filtered. **Specialty item: 2 week lead time required.**		
Chromium, Trivalent			
	Calculation only - requires Cr6+ and Total Cr	w/ww/sw	
Color			
	EPA 110.2 or SM 2120 B	w/ww	
Column Settling Test			
	U.S. EPA, USACE Evaluation of Dredged Material, 1998 Mod	water/sediment	
Conductivity, Specific			
	EPA 120.1 or SM 2510 B or SW846 9050	w/ww	
Corrosivity (pH<2 or >12.5)			
	EPA 150.1 or SM 4500 H B or SW846 9040 or 9041	w/ww	
	SW846 9045 or 9041	sw	
Corrosivity of SAE 1020 Steel			
	SW846 1110 Mod	w/ww	
Cyanide			
	Amenable to Chlorination		
	EPA 335.1/335.4 or SM 4500 CN G	w/ww	
	SW846 9010/9012	w/ww/sw	
	Free		
	ASTM D4282	w/ww	
	Reactive		
	SW846 7.3.3/9012	w/ww/sw	
	Total		
	EPA 335.4	w/ww	
	SW846 9010/9012	w/ww	
	SM 4500 CN C/SM 4500 CN E	w/ww	
	SW846 9010/9012	sw	
	Weak Acid Dissociable		
	EPA 335.4 or SM 4500 CN I	w/ww	
Density			
	ASTM D5057	w/ww/sw	

Analyte	Method	Matrix	Standard Unit Cost
Flash Point, Closed Cup (Ignitability)			
	Setaflash (>140°F)		
	SW846 1020	w/ww/sw	
	Setaflash (>200°F)		
	SW846 1020	w/ww/sw	
Fluoride			
	EPA 300.0	w/ww	
	SW846 9056	w/ww	
		sw	
Fluorine			
	SW846 5050/9056	sw	
Halogens			
	Total (includes F, Cl, Br by calculation)		
	SW846 5050/9056	w/ww/sw	
	Absorbable Organic (AOX)		
	Federal Registry 1650C, V.63, No. 72	w/ww	
	Total Organic (TOX)		
	SW846 9020	w/ww	
	Extractable TOX (EOX)		
	SW846 9023	sw	
Hardness, Total			
	Calculation SM 2340 B	w/ww	
	(Based on results of Ca and Mg analyses – EPA 200.7/200.8/SW846 6010/SW846 6020)		
	Titration EPA 130.2 or SM 2340 C	w/ww	
Heating Value (BTU) by Bomb Calorimeter			
	ASTM D240	w/ww/sw	
Hydroxide Alkalinity (as CaCO3)			
	EPA 310.1 or SM 2320 B	w/ww	
Iodide			
	EPA 300.0	w/ww	
	SW846 9056	w/ww/sw	
Moisture			
	Karl-Fischer Titration		
	ASTM E203	w/ww/sw	

Analyte	Method	Matrix	Standard Unit Cost
	Percent Moisture (Evaporative Loss)		
	SW846 3550	sw	
	ASTM D2216	sw	
Nitrogen			
	Ammonia, as N		
	EPA 350.1 or SM 4500-NH3 B	w/ww	
	EPA 350.1 Mod or SM 4500-NH3 B Mod	sw	
	Ammonia, Un-ionized		
	Calculation only - requires Ammonia	w/ww	
	Kjeldahl (TKN), as N		
	EPA 351.2 or SM 4500-Norg D	w/ww	
	EPA 351.2 Mod or SM 4500-Norg D Mod	sw	
	Nitrate, as N		
	EPA 300.0	w/ww	
	SW846 9056	w/ww	
		sw	
	Nitrite, as N		
	EPA 300.0	w/ww	
	SW846 9056	w/ww	
		sw	
	Nitrate/Nitrite, as N		
	EPA 353.2 or SM 4500 NO3 F	w/ww	
	EPA 353.2 Mod or SM 4500 NO3 F Mod	sw	
	Total, as N		
	Calculation only – TKN and Nitrate/Nitrite required	w/ww/sw	
	Total Organic, as N		
	Calculation only – TKN and Ammonia required	w/ww/sw	
	Total Inorganic, as N		
	Calculation only – Nitrate/Nitrite and Ammonia required	w/ww/sw	
Oil & Grease (HEM)			
	EPA 1664	w/ww	
Oxygen, Dissolved			
	EPA 360.1 or SM 4500 O G	w/ww	
Paint Filter Test			
	SW846 9095	sw	

Analyte	Method	Matrix	Standard Unit Cost
Perchlorate			
	EPA 314.0 (IC)	w/ww	
	EPA 314.0 Mod (IC)	sw	
	SW846 6850 Mod (LC/MS/MS)	w/ww/sw	
pH			
	EPA 150.1 or SM 4500 H B	w/ww/dw	
	SW846 9040 or 9041	w/ww	
	SW846 9045 or 9041	sw	
Phenols, Total			
	EPA 420.4	w/ww	
	SW846 9066	w/ww/sw	
Phenolphthalein Alkalinty (as CaCO3)			
	EPA 310.1 or SM 2320 B	ww	
Phosphorus			
	Phosphate, Ortho as P		
	EPA 300.0	w/ww	
	SW846 9056	w/ww	
		sw	
	Phosphorus, Total as P		
	EPA 365.4 or SM 4500 P H	w/ww	
	EPA 365.4 Mod or SM 4500 P H Mod	sw	
Reactivity - Releasable Cyanide			
	SW846 7.3.3/SW846 9012	w/ww/sw	
Reactivity - Releasable Sulfide			
	SW846 7.3.4/SW846 9034	w/ww/sw	
Salinity			
	EPA 120.1 or SM 2520 B or SW846 9050	w/ww	
Sample Preparation			
	Ash Preparation		
		w/ww/sw	
	California WET (STLC)		
	Title 22, California Code of Regulation, Chapter 11, Article 5, Appendix II	w/ww/sw	
	Elutriate Preparation		
	US Army Corp of Engineers	w/ww/sw	

Analyte	Method	Matrix	Standard Unit Cost
	Filtration – Laboratory for Dissolved Metals		
	Sample must be received unpreserved	w/ww	
	Sample Composite (does not include ball milling)		
	1 to 4 samples	w/ww/sw	
	each additional sample	w/ww/sw	
	Special Preparation (tissue)		
	mammal, vegetation, and fish		
	Synthetic Leaching (SPLP)		
	EPA 1312 ZHE for Volatiles	w/ww/sw	
	EPA 1312 non-Volatiles	w/ww/sw	
	Toxicity Leaching (TCLP)		
	EPA 1311 ZHE for Volatiles	w/ww/sw	
	EPA 1311 non-Volatiles	w/ww/sw	
	Full TCLP Leaching and Analysis	w/ww/sw	
	EPA 1311/8260/8270/8081/8151/6010/7470		
Solids			
	Solids, Total Dissolved (TDS)		
	EPA 160.1 or SM 2540 C	w/ww	
	Solids, Total Dissolved (TDS by calculation)		
	Calculation only - requires bicarbonate alkalinity, carbonate alkalinity, hydroxide alkalinity, sum of anions and sum of cations	w/ww	
	Solids, Total Dissolved Ratio		
	Calculation only - requires TDS and TDS by Calculation	w/ww	
	Solids, Total		
	EPA 160.3 or SM 2540 B	w/ww	
	SM 2540 G	sw	
	Solids, Total Suspended (TSS)		
	EPA 160.2 or SM 2540 D	w/ww	
	Solids, Volatile		
	EPA 160.4 or SM 2540 E	w/ww	
	SM 2540 G	sw	
	Solids, Volatile Suspended (VSS)		
	EPA 160.4 or SM 2540 E	w/ww	
Specific Gravity			
	ASTM D5057	w/ww/sw	

Analyte	Method	Matrix	Standard Unit Cost
Sulfate			
	EPA 300.0	w/ww	
	SW846 9056	w/ww	
		sw	
Sulfide			
	Colorimetric		
	EPA 376.2 or SM 4500 S2 D	w/ww	
	Reactive		
	SW846 7.3.4/SW846 9034	w/ww/sw	
	Titrimetric, as Acid-Soluble		
	SW846 9030/9034	w/ww	
		sw	
Sulfite			
	EPA 377.1 or SM 4500 SO3 B	w/ww	
Sulfur			
	SW846 5050/9056	sw	
Surfactants (Methylene Blue Active Substances)			
	SM 5540 C	w/ww	
Total Petroleum Hydrocarbons (TPH) (SGT-HEM)			
	EPA 1664A (silica gel)	w/ww	
Turbidity			
	EPA 180.1 or SM 2130 B	w/ww/oil	
Viscosity			
	Absolute (cPs, Centipoise)		
	ASTM D2983 Mod	w	
	Kinematic (cSt, Centistroke)		
	ASTM D2983 Mod/D2161 Mod	w	

GEL LABORATORIES LLC
CATALOG OF
ANALYTICAL SERVICES
* Metals Parameters *

Analyte	Method	Matrix	Standard Unit Cost

GEL metals analyses are performed on ICP or ICP/MS analyzers unless otherwise noted or not applicable, i.e. mercury. If alternative techniques are required, please contact your Project Manager for a price quote.

Please reference the applicable certification for the current method revision.

Appendix I Metals

(Refer to Test Parameters Listing for a complete list of Appendix I Metals.)

ICP SW846 6010 or EPA 200.7	w/ww/sw
ICP/MS SW846 6020 or EPA 200.8	w/ww/sw

Appendix IX Metals

(Refer to Test Parameters Listing for a complete list of Appendix IX Metals.)

ICP SW846 6010/7470/7471 or EPA 200.7/245.1/245.2	w/ww/sw
ICP/MS SW846 6020/7470/7471 or EPA 200.8/245.1/245.2	w/ww/sw

PRICE DOES NOT INCLUDE CN- or S-

Filtration – Laboratory for Dissolved Metals

Sample must be received unpreserved	w/ww

Form 2A - Metals (NPDES)

(Refer to Test Parameters Listing for a complete list of Form 2A - Metals)

ICP SW846 6010/7470/7471 or EPA 200.7/245.1/245.2	w/ww/sw
ICP/MS SW846 6020/7470/7471 or EPA 200.8/245.1/245.2	w/ww/sw

NIOSH Metals

ICP SW846 6010 Prepped via NIOSH 7303	**f**ilters
1 element	
2 elements	
3 elements	
4 to 6 elements	
Price per element:	
7 to 10 elements	
> 10 elements	

Aluminum	Chromium	Molybdenum	Strontium
Antimony	Cobalt	Nickel	Sulfur
Arsenic	Copper	Phosphorous	Tin
Barium	Iron	Potassium	Titanium
Beryllium	Lead	Selenium	Uranium
Cadmium	Magnesium	Silver	Vanadium
Calcium	Manganese	Sodium	Zinc

w/ww/sw - water/waste water/solid waste

Please reference the applicable certification for the current method revision.

Should glove box handling be required due to high levels of Beryllium or other hazards, GEL will assess a glove box fee of $50.00 per sample.

NIOSH 7303 requires a filter blank, fortified filter spike and fortified filter spike duplicate for every batch of up to ten (10) samples. Filter media is available for $10.00 per sample.

Metals Scan

(Refer to Test Parameters Listing for a complete list of Metals Scan)

ICP SW846 6010 or EPA 200.7	w/ww/sw
ICP/MS SW846 6020 or EPA 200.8	w/ww/sw

Priority Pollutant Metals

(Refer to Test Parameters Listing for a complete list of Priority Pollutant Metals.)

ICP SW846 6010/7470/7471 or	
EPA 200.7/245.1/245.2	w/ww/sw
ICP/MS SW846 6020/7470/7471 or	
EPA 200.8/245.1/245.2	w/ww/sw

PRICE DOES NOT INCLUDE CN-

RCRA Metals

(Refer to Test Parameters Listing for a complete list of 8 RCRA Metals.)

ICP SW846 6010/7470 or 7471	
EPA 200.7/245.1/245.2	w/ww/sw
ICP/MS SW846 6020/7470 or 7471	
EPA 200.8/245.1/245.2	w/ww/sw

Target Analyte List (TAL) Metals

(Refer to Test Parameters Listing for a complete list of TAL Metals.)

ICP SW846 6010/7470 or 7471	
EPA 200.7/245.1/245.2	w/ww/sw
ICP/MS SW846 6020/7470 or 7471	
EPA 200.8/245.1/245.2	w/ww/sw

PRICE DOES NOT INCLUDE CN-

TCLP RCRA Metals (8)

(Refer to Test Parameters Listing for a complete list of TCLP Metals.)

ICP SW846 6010/7470	
Prepped via SW846 1311	w/ww/sw
ICP/MS SW846 6020/7470	
Prepped via SW846 1311	w/ww/sw

TCLP UHC Metals (14)

(Refer to Test Parameters Listing for a complete list of TCLP Metals.)

ICP SW846 6010/7470	
Prepped via SW846 1311	w/ww/sw
ICP/MS SW846 6020/7470	
Prepped via SW846 1311	w/ww/sw
TCLP Single Element	w/ww/sw

Please reference the applicable certification for the current method revision.

GROUP I - ICP Analysis

Methods

ICP EPA 200.7	w
ICP SW846 6010	ww/sw

1 element
2 elements
3 elements
Price per element:
4 to 10 elements
> 10 elements

Aluminum	Calcium	Molybdenum	Strontium
Antimony	Chromium	Nickel	Sulfur
Arsenic	Cobalt	Phosphorous	Thallium
Barium	Copper	Potassium	Tin
Beryllium	Iron	Selenium	Titanium
Boron	Lead	Silicon	Uranium
Cadmium	Magnesium	Silver	Vanadium
Silica	Manganese	Sodium	Zinc

GROUP II - ICP/MS Analysis

Please contact your Project Manager if you require additional elements not listed. The ICP/MS is capable of analyzing an extended list of analytes not offered by ICP. In some cases, it can provide detection limits lower than traditional ICP methodology (ppb-ppt) and is not subject to the same spectral interferences that affect ICP analysis. Additionally, isotopic analysis for uranium is available.

Methods

ICP/MS EPA 200.8	w
ICP/MS SW846 6020	ww/sw

1 element
2 elements
3 elements
4 elements
Price per element:
5 to 10 elements
> 10 elements

Aluminum	Chromium	Molybdenum	Thallium
Arsenic	Cobalt	Nickel	Thorium
Barium	Copper	Phosphorus	Titanium
Beryllium	Hafnium	Potassium	Tungsten
Bismuth	Iron	Rhenium	Uranium
Boron	Lead	Rhodium	Vanadium
Cadmium	Lithium	Selenium	Zinc
Calcium	Magnesium	Sodium	Zirconium
Cesium	Manganese	Strontium	

These elements are also available by EPA 200.8 or SW846 6020 in WATER matrices only:

Antimony	Silver	Tin

Tantalum is also available bySW846 6020 only.

Please reference the applicable certification for the current method revision.

Isotopic Uranium

Uranium 235, Uranium 238
Uranium 233
Uranium 234
Uranium 236

Total Uranium

Calculation only – minimum 235, 238	w/ww/sw

Isotopic Uranium Ratio

Calculation only – requires 235, 238	w/ww/sw

Percent Uranium

Calculation only – minimum 235, 238	w/ww/sw

Group III - Mercury Analysis

Mercury

Cold Vapor SW846 7470	w
Cold Vapor EPA 245.1/245.2	ww
Cold Vapor SW846 7471	sw
Cold Vapor SW846 7470	tclp

Low Level Mercury by 1631E

Atomic Fluorescence EPA 1631E	ww

Cleaning Time per bailer
Sealable Bags
Sample kit
Samples shall be collected in accordance with EPA Method 1669. Additionally, please be aware that according to the EPA Method, an equipment/field blank and a field (sample) duplicate is required for every 10 samples collected as well as one trip blank per sampling event. GEL will provide certified clean bottles, if needed, as well as certified clean water to collect your blanks. The blank analysis will be charged at the appropriate unit rate.

GEL LABORATORIES LLC
CATALOG OF
ANALYTICAL SERVICES
* Organic Analyses *

Analyte	Method	Matrix	Standard Unit Cost

Please reference the applicable certification for the current method revision.

The laboratory encourages soil samples be collected in the field for Volatile Organic Compounds (VOCs) and Gasoline Range Organics (GRO) using core sample kits as described in SW-846 Method 5035 and/or 5035A. This collection method reduces the amount of disturbance when collecting solid/soil samples. State and Federal Environmental Regulatory agencies discourage sampling for VOCs collected in soil jars. 5035 Sample Smart Kits are available for $15.00 per sample. A kit includes a disposable syringe device, two pre-weighed low-level vials preserved with organic free water, one pre-weighed high-level vial, one tube of methanol and one vial for evaporative loss. The kits come in a plastic rack for ease field use. Please contact your GEL Project Manager for additional information. Alternately, GEL can also provide EnCore Samplers for $10.00 per device. GEL recommends three EnCores per sample.

Appendix I

Volatile Compounds

SW846 8260	w	
	sw	

Appendix III

Volatile Compounds

SW846 8260	w	
	sw	

Appendix IX

Volatile Compounds

SW846 8260	w	
	sw	

Acid Compounds

SW846 8270	w	
	sw	

Base/Neutral Compounds

SW846 8270	w	
	sw	

B/N/A Compounds

SW846 8270	w	
	sw	

PCBs

SW846 8082	w	
	sw	

Pesticides

SW846 8081	w	
	sw	

Herbicides

SW846 8151	w	
	sw	

Analyte	Method	Matrix	Standard Unit Cost
BTEX (Benzene, Toluene, Ethyl Benzene, Xylenes)			
	EPA 624 or SW846 8260	w/ww	
		sw	
BTEX plus Naphthalene			
	EPA 624 or SW846 8260	w/ww	
		sw	
BTEX plus Methyl-tert-Butyl Ether (MTBE)			
	EPA 624 or SW846 8260	w/ww	
		sw	
BTEX plus Naphthalene and Methyl-tert-Butyl Ether (MTBE)			
	EPA 624 or SW846 8260	w/ww	
		sw	
Dissolved Gases (Ethane, Ethene, Methane or MEE)			
	RSK SOP 175 Mod	w/ww	
1,4-Dioxane			
	EPA 522 or SW846 8270 SIM	w	
Dioxin Screen			
	2,3,7,8-Tetrachlorodibenzo-p-dioxin Screen		
	EPA 625 or SW846 8270	w/ww	
		sw	
	* Note EPA 625.1 no longer supports the screen for TCDD. If TCDD required for regulatory purposes, this should be subcontracted.		
Dredge List Pesticides			
	SW846 8081	w	
		sw	
EDB (1,2-Dibromoethane) and DBCP (1,2-Dibromo-3-chloropropane)			
	EPA 504.1 or SW846 8011	w	
Explosives **(liquids extracted by SW-846 3535 SPE)**			
	Standard List (of 14 Compounds)		
	SW846 8330 (HPLC)	w	
		sw	
	SW846 8330B (LC/MS/MS)	w	
		sw	
	Standard List + PETN		
	SW846 8330 (HPLC)	w	
		sw	

Analyte	Method	Matrix	Standard Unit Cost
	SW846 8330B (LC/MS/MS)	w	
		sw	
	Standard List + Nitroglycerin		
	SW846 8330 (HPLC)	w	
		sw	
	SW846 8330B (LC/MS/MS)	w	
		sw	
	Standard List + PETN + Nitroglycerin		
	SW846 8330 (HPLC)	w	
		sw	
	SW846 8330B (LC/MS/MS)	w	
		sw	
	Special List Explosives (does not include standard List + PETN + Nitroglycerin)		
	SW846 8321A/8330B Mod (LC/MS/MS)	w	
		sw	
	Special List Explosives (if requested with any Standard list suite above)		
	SW846 8321A/8330B Mod (LC/MS/MS)	w	
		sw	
	Includes: 2,4-DANT, 2,6-DANT, 3,5-DNA, TATB and TCP		
	Multi Incremental Sampling (MIS or ISM)		
	SW846 8330B Appendix A	sw	
Form 2A - NPDES			
	Volatiles		
	EPA 624	ww	
	Acid Compounds		
	EPA 625	ww	
	Base/Neutral Compounds		
	EPA 625	ww	
	B/N/A Compounds		
	EPA 625	ww	
	Pesticides & PCBs		
	EPA 608	ww	
	2,3,7,8-Tetrachlorodibenzo-p-dioxin Screen		
	EPA 625	ww	
	* Note EPA 625.1 no longer supports the screen for TCDD. If TCDD required for regulatory purposes, this should be subcontracted.		
GPC Cleanup for BNAs, Pesticides or PCBs			
	SW846 3640	w/ww/sw	

Analyte	Method	Matrix	Standard Unit Cost
Herbicides			
	SW846 8151	w/ww	
		sw	
Perchlorate			
	SW846 6850 Mod	w/ww	
		sw	
PCBs			
	SW846 8082	w	
		sw	
		swipe	
	EPA 608	ww	
Pesticides			
	SW846 8081	w	
		sw	
	EPA 608	ww	
Pesticides & PCBs			
	EPA 608	ww	
Perfluorinated Alkyl Acids (PFCs, PFAs or PFOA/PFOS)			
	PFOA/PFOS only		
	EPA 537.1 or DoD Compliant Table B-15	w/ww/sw	
	PFOA/PFOS/GenX only		
	EPA 537.1 or DoD Compliant Table B-15	w/ww/sw	
	UCMR3 List		
	EPA 537.1 or DoD Compliant Table B-15	w/ww/sw	
	Texas 16 List		
	EPA 537.1 or DoD Compliant Table B-15	w/ww/sw	
	Drinking Water EPA 537.1 List (18)		
	EPA 537.1 or DoD Compliant Table B-15	w/ww/sw	
	Drinking Water EPA 533 List (25)		
	EPA 533 or DoD Compliant Table B-15	w/ww/sw	
	DoD QSM Table C-44 Water List (25)		
	DoD Compliant Table B-15	w/ww/sw	

w/ww/sw - water/ waste water/solid waste

Analyte	Method	Matrix	Standard Unit Cost
	DoD QSM Table C-45 Solid List (24)		
	DoD Compliant Table B-15	w/ww/sw	
	Certified List (35) or More		
	DoD Compliant Table B-15	w/ww/sw	

(Note: For AFFF as a matrix, GEL adds $150 to the w/ww/sw unit price.)

Polynuclear Aromatic Hydrocarbons (PNA or PAH)

SW846 8270	w	
	sw	
SW846 8270 Selective Ion Mode (SIM)	w	
	sw	

Priority Pollutants

Volatiles

SW846 8260	w	
	sw	
EPA 624	ww	

Acid Compounds

SW846 8270	w	
	sw	
EPA 625	ww	

Base/Neutral Compounds

SW846 8270	w	
	sw	
EPA 625	ww	

B/N/A Compounds

SW846 8270	w	
	sw	
EPA 625	ww	

PCBs

SW846 8082	w	
	sw	

Pesticides

SW846 8081	w	
	sw	

2,3,7,8-Tetrachlorodibenzo-p-dioxin Screen

EPA 625	w/ww	
	sw	

* Note EPA 625.1 no longer supports the screen for TCDD. If TCDD required for regulatory purposes, this should be subcontracted.

Analyte	Method	Matrix	Standard Unit Cost
RDX Breakdown Products (MNX, DNX, TNX)			
	SW846 8321A Mod (LC/MS/MS)	w	
		sw	
Common Industrial Solvents by GC (Miscellaneous FID)			
	Alcohols		
	SW846 8015	w/ww	
		sw	
	Acetates		
	SW846 8015	w/ww	
		sw	
	Glycols		
	SW846 8015	w/ww	
		sw	
	Solvent Scan		
	SW846 8015	w/ww	
		sw	
	2-Ethoxyethanol		
	SW846 8015	w/ww	
		sw	
	Acrylamide		
	SW846 8015	w/ww	
		sw	
Target Compound List (TCL)			
	Volatiles		
	SW846 8260	w	
		sw	
	EPA 624	ww	
	Acid Compounds		
	SW846 8270	w	
		sw	
	EPA 625	ww	
	Base/Neutral Compounds		
	SW846 8270	w	
		sw	
	EPA 625	ww	
	B/N/A Compounds		
	SW846 8270	w	
		sw	
	EPA 625	ww	
	Pesticides & PCBs		
	EPA 608	ww	

Analyte	Method	Matrix	Standard Unit Cost
	Pesticides		
	SW846 8081	w	
		sw	
	PCBs		
	SW846 8082	w	
		sw	

Tentatively Identified Compound Search (TIC Library Search by GC/MS after analysis)

	Volatiles		
	SW846 8260 or EPA 624	w/sw	
	B/N/A Compounds		
	SW846 8270 or EPA 625	w/sw	

Toxicity Characteristics Leaching Procedure - Organics (TCLP)

	Volatiles		
	SW846 1311/8260	tclp	
	Acid Compounds		
	SW846 1311/8270	tclp	
	Base/Neutral Compounds		
	SW846 1311/8270	tclp	
	B/N/A Compounds		
	SW846 1311/8270	tclp	
	Herbicides		
	SW846 1311/8151	tclp	
	Pesticides		
	SW846 1311/8081	tclp	
	B/N/As, Pesticides and Herbicides		
	SW846 1311/8270/8081/8151	tclp	

TCLP Analysis and Extraction

	Volatiles		
	SW846 1311	ZHE extraction	
	SW846 8260	Analysis	
	B/N/A Compounds		
	SW846 1311	Extraction	
	SW846 8270	Analysis	
	Pesticides		
	SW846 1311	Extraction	
	SW846 8081	Analysis	
	Herbicides		

Analyte	Method	Matrix	Standard Unit Cost
	SW846 1311	Extraction	
	SW846 8151	Analysis	
TTO (Total Toxic Organics)			
	Volatile Compounds		
	EPA 624	ww	
	Acid Compounds		
	EPA 625	ww	
	Base/Neutral Compounds		
	EPA 625	ww	
	B/N/A Compounds		
	EPA 625	ww	
	Pesticides/PCBs		
	EPA 608	ww	
	2,3,7,8-Tetrachlorodibenzo-p-dioxin Screen		
	EPA 625	ww	
	* Note EPA 625.1 no longer supports the screen for TCDD. If TCDD required for regulatory purposes, this should be subcontracted.		
Total Petroleum Hydrocarbons			
	Volatile Fraction (C6-C10)		
	SW846 8015	w/ww sw	
	Non-volatile Fraction (C10-C20, C20-C36)		
	SW846 8015	w/ww sw	
	AK101	w/ww sw	
	AK102/103	w/ww sw	
	MADEP VPH *	w/ww sw	
	MADEP EPH *	w/ww sw	
	NWTPH-Gx	w/ww sw	

Analyte	Method	Matrix	Standard Unit Cost
	NWTPH-Dx	w/ww sw	
	WA VPH	w/ww sw	
	WA EPH	w/ww sw	
Volatile Organic Compounds - Safe Drinking Water Act			
	EPA 524.2	dw	
Volatile Organic Compounds – Low Level			
	SW846 8260 0.5 to 1 ug/L range	w	
Volatile Organic Compounds - Single Analyte			
	besides BTEX, MTBE, Naphthalene		

GEL LABORATORIES LLC
CATALOG OF
ANALYTICAL SERVICES
* Radiochemistry Parameters *

Analyte	Method	Matrix	Standard Unit Cost

Note: GEL's proprietary radiochemistry methods are based on DOE and/or EPA reference methods.

The Radiochemistry Division of GEL utilizes prescribed methods and methods that are developed and validated "in house." These methods are based on the EPA 900 series methods, the DOE HASL 300 methods, and other accepted methodologies.

NOTE: GEL has established the guidelines outlined in the table below for the classification and handling of radiological samples. Please note that the individual unit costs provided in the Project Quote are based on the assumption that the samples do not exceed the Environmental Radioactive Category. If a sample exceeds the environmental radioactive category, then the applicable RAD II and RAD III multipliers will be added. RAD II and RAD III multipliers cover the additional radiation safety oversight costs associated with handling samples with elevated radioactivity. These multipliers are provided with the assumption that samples will contain typically encountered isotopic mixtures. Special isotopic mixtures or highly dispersible physical forms may cause samples to be moved to an elevated category. GEL also reserves the right to refuse shipments due to license or handling restrictions. GEL requests that the sample activity data be submitted to your GEL Project Manager prior to the shipment of radioactive samples.

Radiological Category	Sample Criteria	Multiplier
Environmental Radioactive	Less than 1 uCi/sample and 0.5 mR/hr	1.0X
RAD II	Between 1 and 100 uCi/sample and/or 0.5 and 100 mR/hr	1.5X
RAD III	Greater than 100 uCi/sample and/or greater than 100 mR/hr	2.0X

Please note for drinking water: Samples preserved with reagents that are not provided by the laboratory must be accompanied by a radioactive free field blank sample that is preserved in the same manner as the submitted sample.

Safe Drinking Water Act

Gross Alpha

	GL-RAD-A-001d by Gas Flow Proportional Counting EPA 900.0	dw
	GL-RAD-A-001c by Coprecipitation EPA EERF 00-02	dw
	48 Hour NJ ECLS-R-GA	dw

Gross Alpha and Nonvolatile Beta

	GL-RAD-A-001d by Gas Flow Proportional Counting EPA 900.0	dw

Nonvolatile Beta

	GL-RAD-A-001d by Gas Flow Proportional Counting EPA 900.0	dw

Iodine 131

	GL-RAD-A-017 by Gas Flow Proportional Counting EPA 902.0, SM 7500-I B	dw

Radium 226

	GL-RAD-A-028 by Radon Emanation EPA 903.1	dw
Radium 228		
	GL-RAD-A-030 by Gas Flow Proportional Counting EPA 904.0	dw
Radon 222		
	GL-RAD-A-007 by Liquid Scintillation Counting SM 7500-Rn B **(Note: EPA hold time is 4 days)**	dw
Strontium 89		
	GL-RAD-A-029 by Gas Flow Proportional Counting EPA 905.0	dw
Strontium 90		
	GL-RAD-A-029 by Gas Flow Proportional Counting EPA 905.0	dw
Strontium 89 & 90 (Total Radiometric Strontium)		
	GL-RAD-A-029 by Gas Flow Proportional Counting EPA 905.0	dw
Total Uranium by ICPMS		
	GL-MA-E-014 and GL-MA-E-016 by ICPMS EPA 200.8	dw
Tritium (H-3)		
	GL-RAD-A-050 by Liquid Scintillation Counting EPA 906.0	dw
Americium 241		
	GL-RAD-A-011 by Alpha Spectroscopy DOE EML HASL 300 Am-05-RC Mod	w s/s/v/af/m/o
Americium 243		
	GL-RAD-A-011 by Alpha Spectroscopy DOE EML HASL 300 Am-05-RC Mod	w s/s/v/af/m/o
Calcium 45		
	GL-RAD-A-048 by Liquid Scintillation Counting	w s/s/v/af/m/o
Carbon 14		
	GL-RAD-A-003 by Liquid Scintillation Counting EPA EERF C-01 Mod	w s/s/v/af/m/o
Chlorine 36		
	GL-RAD-A-033 by Gas Flow Proportional Counting	w s/s/v/af/m/o

Curium 242, 243/244, 245/246 (248)

GL-RAD-A-011 by Alpha Spectroscopy	w
DOE EML HASL 300 Am-05-RC Mod	s/s/v/af/m/o

Fusion Prep

	s

Gamma Spectrometry

(Refer to Test Parameters Listing for a complete listing of isotopes provided. Additional isotopes, such as Radium-226, can be quantified if assumptions can be made regarding the sample equilibrium. If special applications are required, or other isotopes are needed, please call your Project Manager.)

GL-RAD-A-013 by Gamma Spectrometry	w
EPA 901.1	
DOE EML HASL 300 4.5.2.3/Ga-01-R	s/s/v/af/m/o

Gross Alpha

GL-RAD-A-001 by Gas Flow Proportional Counting	w
EPA 900.0/9310 Mod	s/s/v/af/m/o swipe (direct count) and Environmental Air Particulate Filters (REMP)
GL-RAD-A-001c by Coprecipitation	w
EPA EERF 00-02	
48 Hour NJ ECLS-R-GA	w

Gross Alpha and Nonvolatile Beta

GL-RAD-A-001 by Gas Flow Proportional Counting	w
EPA 900.0/9310 Mod	s/s/v/af/m/o swipe (direct count) and Environmental Air Particulate Filters (REMP)

Iodine 125, 129

GL-RAD-A-006 by X-ray Spectroscopy	w
DOE EML HASL 300 I-01	s/s/v/af/m/o

Iodine 131

GL-RAD-A-013 by Gamma Spectroscopy	w
EPA 901.1, EPA 902.0	s/s/v/af/m/o
(Note: EPA hold time is 8 days)	Charcoal cartridge (direct count)

Iron 55

GL-RAD-A-040 by Liquid Scintillation Counting	w
DOE RESL Fe-1 Mod	s/s/v/af/m/o

Lead 210

GL-RAD-A-018 by Gas Flow Proportional Counting	w
DOE RP280 Modified	s/s/v/af/m/o
GL-RAD-A-013 by Gamma Spectroscopy	s/s/v/af/m/o
DOE EML HASL 300 4.5.2.3/Ga-01-R	

Neptunium 237

GL-RAD-A-032 by Alpha Spectroscopy	w
ASTM C 1475 Mod	s/s/v/af/m/o

Nickel 59

GL-RAD-A-022 by X-ray Spectroscopy	w
DOE RESL Ni-1 Mod	s/s/v/af/m/o

Nickel 63

GL-RAD-A-022 by Liquid Scintillation Counting	w
DOE RESL Ni-1 Mod	s/s/v/af/m/o

Nonvolatile Beta

GL-RAD-A-001 by Gas Flow Proportional Counting	w
EPA 900.0/9310 Mod	s/s/v/af/m/o
	swipe (direct count) and
	Environmental Air Particulate Filters (REMP)

Phosphorus 32

GL-RAD-A-019 by Liquid Scintillation Counting	w
LA-10300-M	s/s/v/af/m/o

Plutonium 238, 239/240

GL-RAD-A-011 by Alpha Spectroscopy	w
DOE EML HASL 300 Pu-11-RC Mod	s/s/v/af/m/o

Plutonium 241

GL-RAD-A-035 by Liquid Scintillation Counting	w
DOE EML HASL 300 Pu-11-RC Mod	s/s/v/af/m/o

Plutonium 242

GL-RAD-A-011 by Alpha Spectroscopy	w
DOE EML HASL 300 Pu-11-RC Mod	s/s/v/af/m/o

Polonium 209

GL-RAD-A-016 by Alpha Spectroscopy	w
DOE EML HASL 300 Po-01-RC Mod	s/s/v/af/m/o

Polonium 208, 210

GL-RAD-A-016 by Alpha Spectroscopy	w
DOE EML HASL 300 Po-01-RC Mod	s/s/v/af/m/o

Promethium 147/Samarium-151

GL-RAD-A-020 by Liquid Scintillation Counting	w
EPA EERF Pm-01-1 Mod	s/s/v/af/m/o

Radium 226

GL-RAD-A-008 by Radon Emanation	w
Lucas Cell Counting EPA 903.1 Mod	s/s/v/af/m/o
GL-RAD-A-013 by Bismuth Ingrowth and Gamma Spectroscopy (Preferred method for solids and fracking liquids)	
DOE EML HASL 300 4.5.2.3/Ga-01-R	s/s/v/af/m/o
GL-RAD-A-046 by Alpha Spectroscopy	w
	s/s/v/af/m/o

Radium 228

GL-RAD-A-009 by Gas Flow Proportional Counting	w
EPA 904.0 Mod/9320 Mod	s/s/v/af/m/o
GL-RAD-A-013 by Bismuth Ingrowth and Gamma Spectroscopy (Preferred method for solids and fracking liquids)	
DOE EML HASL 300 4.5.2.3/Ga-01-R	s/s/v/af/m/o

Radon 222

GL-RAD-A-007 by Liquid Scintillation Counting	w
SM 7500-Rn B (Note: EPA hold time is 4 days)	

Selenium 79

GL-RAD-A-031 by Liquid Scintillation Counting	w
NERC ORD	s/s/v/af/m/o

Strontium 89

GL-RAD-A-004 by Gas Flow Proportional Counting	w
EPA 905.0 Mod/DOE RP501 Rev. 1 Mod	s/s/v/af/m/o

Strontium 90

GL-RAD-A-004 by Gas Flow Proportional Counting	w
EPA 905.0 Mod/DOE RP501 Rev. 1 Mod	s/s/v/af/m/o

Strontium 89/90 (Total Radiometric Strontium)

GL-RAD-A-004 by Gas Flow Proportional Counting	w
EPA 905.0 Mod/DOE RP501 Rev. 1 Mod	s/s/v/af/m/o

Sulfur 35

GL-RAD-A-049 by Liquid Scintillation Counting	w
	s/s/v/af/m/o

Technetium 99

GL-RAD-A-059 by Liquid Scintillation Counting	w
DOE EML HASL 300 Tc-01-RC Mod	s/s/v/af/m/o
GL-RAD-A-005 by ICP-MS	w
ASTM C 1476 Mod	s/s/v/af/m/o

Thorium 228, 230, 232 (227)

GL-RAD-A-038 by Alpha Spectroscopy	w
DOE EML HASL 300 Th-01-RC Mod	s/s/v/af/m/o

Thorium 229

GL-RAD-A-038 by Alpha Spectroscopy	w
DOE EML HASL 300 Th-01-RC Mod	s/s/v/af/m/o

Total Activity

GL-RAD-A-041 by Liquid Scintillation Counting	w/s/s/v/af/m/o

Total Alpha Radium

GL-RAD-A-010 by Gas Flow Proportional Counting	w
EPA 900.1, EPA 903.0 Mod, SW846 9315 Mod	af/s/s/v/m/o

Tritium (H-3)

GL-RAD-A-002 by Liquid Scintillation Counting	w
EPA 906.0 Mod	s/s/v/af/m/o
	swipe (direct count)
Organically Bound	s/s/v/af/m/o

Uranium 232

GL-RAD-A-011 by Alpha Spectroscopy	w
DOE EML HASL 300 U-02-RC Mod	s/s/v/af/m/o

Uranium 233/234, 235/236, 238

GL-RAD-A-011 by Alpha Spectroscopy	w
DOE EML HASL 300 U-02-RC Mod	s/s/v/af/m/o

Uranium 234, 235, 236, 238

GL-RAD-B-034 & GL-RAD-B-035 by ICP-MS	
ASTM C 1345 Mod	w
	s/s/v/af/m/o
Add U-233 only	w
	s/s/v/af/m/o

Sample Compositing

Special Preparation for Difficult Matrices

GEL LABORATORIES LLC
CATALOG OF
ANALYTICAL SERVICES
* Radiobioassay Parameters *

Analyte/Method	Matrix	Standard Unit Cost

The Bioassay Division of GEL utilizes methods that are developed and validated internally. These methods are based on the EPA 900 series methods, the DOE HASL 300 methods, and other accepted methodologies.

Prior notification concerning the shipment of radioactive samples is required to alert the Radiological Safety Officer (RSO) and ensure that incoming samples can be properly processed.

Standard turnaround time for radiobioassay analyses is 28 calendar days (20 business days).

GEL can provide bioassay sample kits for $20.00 per sample. The bioassay sample kit includes one(1) 3 L plastic bottle for urine or a plastic bowl with lid for feces, custody seal stickers, identification labels for the bottles, instructions on how to use the kit and a discreet carrying case to carry the containers in for delivery.

Americium 241

RAD-B-001 by Alpha Spectroscopy	urine
RAD-B-013 by Alpha Spectroscopy	fecal/tissue

Californium 252

RAD-B-001 by Alpha Spectroscopy	urine
RAD-B-013 by Alpha Spectroscopy	fecal/tissue

Carbon 14

RAD-B-023 by Liquid Scintillation Counting	urine

Curium 244

RAD-B-001 by Alpha Spectroscopy	urine
RAD-B-013 by Alpha Spectroscopy	fecal/tissue

Gamma Spectrometry

(Refer to Test Parameters Listing for a complete listing of isotopes provided. Additional isotopes, such as Radium-226, can be quantified if assumptions can be made regarding the sample equilibrium. If special applications are required, or other isotopes are needed, please call your Project Manager.)

GL-RAD-B-030	urine
	fecal/tissue

Gross Alpha

RAD-B-008 by Liquid Scintillation Counting	nasal swabs
RAD-B-022 by Gas Flow Proportional Counting	urine

Gross Alpha and Non-Volatile Beta

RAD-B-022 by Gas Flow Proportional Counting	urine

Iodine 131

RAD-B-039 by Gamma Spectroscopy	urine

Iron 55

RAD-B-039 by Liquid Scintillation Counting	urine

Non-Volatile Beta

RAD-B-022 by Gas Flow Proportional Counting	urine

Neptunium 237

RAD-B-041 by Alpha Spectroscopy	urine
RAD-B-042 by Alpha Spectroscopy	fecal/tissue

Nickel 59

RAD-B-020 by X-ray Spectroscopy	urine

Nickel 63

RAD-B-020 by Liquid Scintillation Counting	urine

Plutonium 238, 239/240

RAD-B-001 by Alpha Spectroscopy	urine
RAD-B-013 by Alpha Spectroscopy	fecal/tissue

Plutonium 241

RAD-B-001 by Alpha Spectroscopy	urine
RAD-B-013 by Alpha Spectroscopy	fecal/tissue

Polonium 210

RAD-B-002 by Alpha Spectroscopy	urine

Radium 226

RAD-B-040 by Alpha Spectroscopy	urine
RAD-B-002 by Radon Emanation	fecal/tissue

Specific Gravity

RAD-B-027 ASTM D5057	urine

Strontium 89, 90 (Total Radiometric Strontium)

RAD-B-001 by Gas Flow Proportional Counting	urine
	fecal/tissue

Thorium 228, 230, 232 (Isotopic)

RAD-B-041 by Alpha Spectroscopy	urine
RAD-B-042 by Alpha Spectroscopy	fecal/tissue

Tritium (H-3)

RAD-B-011 by Distillation and Liquid Scintillation Counting	urine
Direct Liquid Scintillation Counting	urine

Technetium 99

RAD-B-016 by Liquid Scintillation Counting	urine

Uranium 233/234, 235/236, 238 (Isotopic)

RAD-B-001 by Alpha Spectroscopy	urine
RAD-B-013 by Alpha Spectroscopy	fecal/tissue

Total Uranium (Uranium 235, 238)

GL-RAD-B-034 & GL-RAD-B-035 by ICP-MS	urine

Uranium 236

GL-RAD-B-001 & GL-RAD-B-034 by ICP-MS	urine

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CATALOG OF
ANALYTICAL SERVICES

Analyte	Method	Matrix	Standard Unit Cost

Please reference the applicable certification for the current method revision.

Dioxins/Furans

	EPA 1613B	
	2378-TCDD only	Drinking Water
	DLM02.2	
	Full Method List	Aqueous Soil Tissue[1]
	EPA 1613B or SW846 8290A	
	2378-TCDD only	Aqueous Soil Tissue
	TEQ only (17 2378's only)	Aqueous Soil Tissue[1]
	Full Method List	Aqueous Soil Tissue[1]
	TO-9a	
	Full Method List	PUF[2]
	Method 23	
	Full Method List	XAD[2]

PCB Congeners

	EPA 1668A	
	Full method 209 congeners	Aqueous Soil Tissue[1]
	NOAA List of 22 congeners	Aqueous Soil Tissue[1]
	WHO List of 12 congeners	Aqueous Soil

Tissue[1]

CBC01.2
Full Method List

Aqueous
Soil
Tissue[1]

STORAGE AND PRESERVATION

Parameter	Container [1]	Preservation	Holding Time[2]	Water Min. Volume[5]	Recommended Water Container	Solid Min. Volume[5]	Recommended Solid Container
INORGANICS							
Acidity	P,G	0 ≤ 6° C	14 days	25 mL	125 mL	NA	NA
Adsorbable Organic Halides (AOX)	G, amber	0 ≤ 6° C, HNO_3 to pH < 2, zero headspace	>3days and <6 mos from collection	50 mL	250 mL	1 g	4 oz
Alkalinity	P,G	0 ≤ 6° C	14 days	50 mL	250 mL	NA	NA
Biochemical Oxygen Demand (BOD) and Carbonaceous Oxygen Demand (CBOD)	P,G	0 ≤ 6° C	**48 hours**	500 mL	1 L	NA	NA
Bromide	P,G	0 ≤ 6° C	28 days	10 mL	125 mL	4 g	4 oz
Carbon Dioxide	P,G	0 ≤ 6° C	**Immediate**	50 mL	250 mL	NA	NA
Chemical Oxygen Demand (COD)	P,G	0 ≤ 6° C, H_2SO_4 to pH < 2	28 days	2 mL	125 mL	NA	NA
Chlorine by Bomb Calorimeter	P,G	0 ≤ 6° C	None	NA	NA	0.5 g	4 oz
Chloride	P,G	0 ≤ 6° C	28 days	10 mL	125 mL	4 g	4 oz
Color	P,G	0 ≤ 6° C	**48 hours**	50 mL	250 mL	NA	NA
Conductivity	P,G	0 ≤ 6° C	28 days	25 mL	125 mL	NA	NA
Corrosivity by pH	P,G	None	**Immediate**	25 mL	125 mL	5 g	4 oz
Corrosivity to Steel	P,G	None	None	290 mL	1 L	NA	NA
Cyanide amenable to chlorination	P,G	0 ≤ 6° C, NaOH to pH > 12, 0.6 g ascorbic acid [3]	14 days [4]	50 mL	250 mL	NA	NA
Cyanide, Reactive Releasable	G, amber	Zero headspace	7 days liquids, 28 days solids	10 mL	125 mL	10 g	4 oz
Cyanide, total, available, free or Weak Acid Dissociable	P,G	0 ≤ 6° C, NaOH to pH > 12, 0.6 g ascorbic acid [3]	14 days [4]	50 mL	250 mL	1 g	4 oz
Denisty	P,G	0 ≤ 6° C	7 days	NA	NA	10 g	4 oz
Dissolved Oxygen	G (BOD)	10 - 20° C, Zero headspace	**Immediate**	300 mL	300 mL BOD bottle	NA	NA
Extractable Organic Halides (EOX)	G, amber	Zero headspace, 0 ≤ 6° C	28 days	NA	NA	25 g	4 oz
Flashpoint	P,G	None	None	25 mL	125 mL	2 g	4 oz
Fluoride	P,G	None	28 days	25 mL	125 mL	4 g	4 oz
Fluorine by Bomb	P,G	0 ≤ 6° C	None	NA	NA	0.5 g	4 oz
Hardness (EDTA titration)	P,G	0 ≤ 6° C, HNO_3 to pH < 2	6 months	50 mL	250 mL	NA	NA
Hardness (calculation)	P,G	HNO_3 to pH < 2	6 months	50 mL	250 mL	NA	NA
Heating Value	P,G	0 ≤ 6° C	None	1 mL	125 mL	0.5 g	4 oz
Iodide	P,G	0 ≤ 6° C	None	10 mL	125 mL	4 g	4 oz
Nitrogen-Ammonia	P,G	0 ≤ 6° C, H_2SO_4 to pH< 2	28 days	20 mL	125 mL	5 g	4 oz
Nitrate – Liquids	P,G	0 ≤ 6° C	**48 hours**	10 mL	125 mL	NA	NA
Nitrate – Solids	P,G	0 ≤ 6° C	28 days for extraction, 48 hrs from extraction to analysis	NA	NA	4 g	4 oz
Nitrite - Liquids	P,G	0 ≤ 6° C	**48 hours**	10 mL	125 mL	NA	NA
Nitrite - Solids	P,G	0 ≤ 6° C	28 days for extraction, 48 hrs from extraction to analysis	NA	NA	4 g	4 oz
Nitrate/Nitrite	P,G	0 ≤ 6° C, H_2SO_4 to pH < 2	28 days	4 mL	125 mL	4 g	4 oz
Nitrogen - Total Kjeldahl and Organic	P,G	0 ≤ 6° C, H_2SO_4 to pH < 2	28 days	20 mL	125 ml	5 g	4 oz
Oil and Grease (Hexane Extractable Material or HEM)	G	0 ≤ 6° C, HCl or H_2SO4 to pH < 2	28 days	1000 mL	1 L	NA	NA
Orthophosphate -Liquids	P,G	Field filter immediately, 0 ≤ 6° C	**48 hours**	10 mL	125 mL	NA	NA
Orthophosphate – Solids	P,G	0 ≤ 6° C	28 days for extraction, 48 hrs from extraction to analysis	NA	NA	4 g	4 oz
Paint Filter Liquids Test	Any	None	None	NA	NA	100 g	4 oz
Percent (%) Moisture	P,G	0 ≤ 6° C	None	2 mL	125 mL	5 g	4 oz
Perchlorate by Ion Chromatography	P,G	0 ≤ 6° C	28 days	10 mL	125 mL	4 g	4 oz
Total Phenols	G, amber	0 ≤6° C, H_2SO_4 to pH < 2	28 days	50 mL	250 mL	1 g	4 oz
pH	P,G	None if within 15 mins of collection, 0 ≤ 6° C when shipped to lab	**Immediate**	25 mL	125 mL	5 g	4 oz
Total Phosphorus	P,G	0 ≤ 6° C, H_2SO_4 to pH < 2	28 days	20 mL	125 mL	1 g	4 oz
Residual Chlorine	P,G	0 ≤ 6° C	**Immediate**	25 mL	125 mL	NA	NA
Residue, Total	P,G	0 ≤ 6° C	7 days	100 mL	250 mL	NA	NA

Parameter	Container [1]	Preservation	Holding Time[2]	Water Min. Volume[5]	Recommended Water Container	Solid Min. Volume[5]	Recommended Solid Container
Residue, Filterable (TDS)	P,G	0 ≤ 6° C	7 days	70 mL	250 mL	NA	NA
Residue, NonFilterable (TSS)	P,G	0 ≤ 6° C	7 days	1000 mL	1 L	NA	NA

Parameter	Container [1]	Preservation	Holding Time[2]	Water Min. Volume[5]	Recommended Water Container	Solid Min. Volume[5]	Recommended Solid Container
Residue, Volatile and Fixed (% Ash)	P,G	0 ≤ 6° C	7 days	70 mL	250 mL	1 g	4 oz
Salinity	P,G	0 ≤ 6° C	28 days	25 mL	125 mL	NA	NA
Specific Gravity	P,G	0 ≤ 6° C	7 days	50 mL	125 mL	NA	NA
Sulfate	P,G	0 ≤ 6° C	28 days	10 mL	125 mL	4 g	4 oz
Sulfide	P,G	0 ≤ 6° C, add ZnAc and NaOH to pH > 9	7 days	200 mL	1 L	20 g	4 oz
Sulfide, Acid Soluble	P,G	0 ≤ 6° C, Zero Headspace, add ZnAc and NaOH to pH > 9 (Liquid) Fill surface with 2 N ZnAc (solids)	7 days liquids, 365 days solids	200 mL	1 L	20 g	4 oz
Sulfide, Reactive Releasable	G, amber	Zero headspace, 0 ≤ 6° C	7 days liquids, 28 days solids	10 mL	125 mL	10 g	4 oz
Sulfite	P,G	EDTA[9]	**Immediate**	50 mL	250 mL	NA	NA
Sulfur by Bomb	P,G	0 ≤ 6° C	None	NA	NA	0.5 g	4 oz
Surfactants	P,G	0 ≤ 6° C	**48 hours**	100 mL	500 mL	NA	NA
Total Organic Carbon (also DOC, TC, TIC)	G, amber	0 ≤ 6° C, HCl or H_2SO_4 to pH < 2	28 days	50 mL	250 mL	5 g	4 oz
Total Organic Halides (TOX)	G	0 ≤ 6° C, H_2SO_4 to pH < 2, Zero headspace	28 days	50 mL	250 mL	1 g	4 oz
Total Petroleum Hydrocarbons (SGT-HEM)	G	0 ≤ 6° C, HCl or H2SO4 to pH < 2	28 days	1000 mL	1 L	NA	NA
Toxicity Characteristic leaching Procedure (TCLP) and Synthetic Precipitation Leaching Procedure (SPLP)	P,G depending on test	0 ≤6° C, depends on test	14 days VOA, 14 days SVOA, 28 days Mercury, 180 days non-Hg metals	2 L for full TCLP list or 250 mL Metals only	2 L or 250 mL	105 g or 130 g for full TCLP list	4 oz
Turbidity	P,G	0 ≤ 6° C	**48 hours**	50 mL	250 mL	NA	NA
Viscosity	P,G	0 ≤ 6° C	None	7 mL	125 mL	NA	NA
Metals – Liquids (except chromium VI, boron, silica and mercury)	P, (G as long as no B or Si is required)	HNO_3 to pH < 2	6 months	20 mL	500 mL	NA	NA
Metals – Solids[8] (except chromium VI and mercury)	P, (G as long as no B or Si is required)	None	6 months	NA	NA	2 g	4 oz
Chromium VI – Liquids	P,G	0 ≤ 6° C	**24 hours**	25 mL	125 mL	NA	NA
Chromium VI - Liquids	P,G	0 ≤ 6° C, $(NH_4)_2SO_4$, pH = 9.3 to 9.7	28 days when field filtered prior to preservative additions	25 mL	125 mL	NA	NA
Chromium VI - Solids[8]	P,G	0 ≤ 6° C	30 days to digestion, 7 days from digestion to analysis	NA	NA	1 g	4 oz
Mercury - Liquids	P,G	HNO_3 to pH < 2	28 days	50 mL	250 mL	NA	NA
Mercury - Solids[8]	P,G	0 ≤ 6° C	28 days	NA	NA	2 g	4 oz
Mercury – Low Level Liquids	P,G	HCl or BrCl	90 days when preserved w/in 48 hrs or oxidized w/in 28 days	50 mL	250 mL	NA	NA

ORGANICS

Parameter	Container [1]	Preservation	Holding Time[2]	Water Min. Volume[5]	Recommended Water Container	Solid Min. Volume[5]	Recommended Solid Container
Method AK101-Solids[7]	Amber G	4 ± 2 °C, zero headspace, methanol	14 days	NA	NA	4 oz[7]	4 oz[7]
Method AK101-Liquids	Amber G	4 ± 2 °C, HCl < 2	14 days	40 mL	3x40 mL	NA	NA
Method AK102-Liquids	Amber G	4 ± 2 °C, HCl or H_2SO_4 to pH < 2	14 days	1000 mL	1000 mL	NA	NA
Method AK102/103-Solids	Amber G	4 ± 2 °C	14 days for extraction 40 days after extraction for analysis	NA	NA	30 g	4 oz
MADEP EPH - Liquids	Amber G	4 ± 2 °C, HCl < 2	14 days	1000 mL	1000 mL	NA	NA
MADEP EPH – Solids	Amber G	4 ± 2 °C	14 days	NA	NA	30 g	4 oz

Parameter	Container [1]	Preservation	Holding Time[2]	Water Min. Volume[5]	Recommended Water Container	Solid Min. Volume[5]	Recommended Solid Container
MADEP VPH – Liquids (ambient purge) Trip Blank Required	G, teflon-lined septum	4 ± 2 °C, HCl < 2	14 days	40 mL	3x40 mL	NA	NA
MADEP VPH - Liquids (Heated Purge) Trip Blank Required	G, teflon-lined septum	4 ± 2 °C, Add 0.40 – 0.44g trisodium phosphate dodecahydrate to pH>11	14 days	40 mL	3x40 mL	NA	NA
BTEX – Liquids	G, teflon-lined septum	0 ≤ 6° C, zero headspace, HCl to pH < 2, 0.008% $Na_2S_2O_3$ [3]	14 days [6]	40 mL	3x40 mL	NA	NA
BTEX - Solids[8]	G, teflon-lined septum	0 ≤ 6° C	**48 hours for preservation and 14 days for analysis**	NA	NA	1x5 g EnCores or 1 low vial	3x5 g EnCores or 2 low and 1 high level vials
Volatiles - Drinking Water, Wastewater/ groundwater (except 2-CLEVE, acrolein, acrylonitrile)	G, teflon-lined cap	0 ≤ 6° C, zero headspace, HCl to pH < 2	14 days	40 mL	3x40 mL	NA	NA
Volatiles (including 2 CLEVE) - Wastewater	G, teflon-lined cap	0 ≤ 6° C, zero headspace, unpreserved	7 days [6]	40 mL	3x40 mL	NA	NA
Volatiles (acrolein, acrylonitrile)	G, teflon-lined cap	0 ≤ 6° C, zero headspace, unpreserved	3 days by EPA 624.1, 7 days by 8260 [6]	40 mL	3x40 mL	NA	NA
Volatiles - Solids[8]	EnCore Sampler	0 ≤ 6° C	**48 hours for preservation 14 days for analysis**	NA	NA	5 g EnCores or equivalent	3x5 g EnCores
Volatiles - Concentrated Waste	G, teflon-lined septum	None	14 days	40 mL	1x40 mL	40 mL	1x40 mL
Base/Neutral and Acid Extractables and 1,4-Dioxane – Liquids	Amber G, teflon-lined cap	0 ≤ 6° C, 0.008% $Na_2S_2O_3$ [3]	7 days for extraction, 40 days after extraction for analysis	1000 mL	1000 mL	NA	NA
Base/Neutral and Acid Extractables and 1,4-Dioxane- Solids[8]	G, teflon-lined cap	0 ≤ 6° C	14 days for extraction, 40 days after extraction for analysis	NA	NA	50 g	4 oz
Base/Neutral and Acid Extractables - Concentrated Waste	G, teflon-lined cap	None	7 days for extraction, 40 days after extraction for analysis	1000 mL	1000 mL	50 g	4 oz
TPH-GRO	G, teflon-lined cap	0 ≤ 6° C, HCl to pH < 2, zero headspace	14 days	40 mL	3x40 mL	5 g EnCores or equivalent	3x5 g EnCores
TPH-DRO - Liquids	G, teflon-lined cap	0 ≤ 6° C, HCl to pH < 2	7 days for extraction, 40 days after extraction for analysis	1000 mL	1000 mL	NA	NA
TPH-DRO - Solids	G, teflon-lined cap	0 ≤ 6° C	14 days for extraction, 40 days after extraction for analysis	NA	NA	50 g	4 oz
Chlorinated Herbicides - Liquids	Amber G, teflon-lined cap	0 ≤ 6° C, 0.008% $Na_2S_2O_3$ [3]	7 days for extraction 40 days after extraction for analysis	1000 mL	1000 mL	NA	NA
Chlorinated Herbicides - Solids[8]	G, teflon-lined cap	0 ≤ 6° C	14 days for extraction 40 days after extraction	NA	NA	50 g	4 oz
Organochlorine Pesticides by SW-846 EPA 8081 Liquids	Amber G, teflon-lined cap	0 ≤ 6° C, 0.008% $Na_2S_2O_3$ [3]	7 days for extraction 40 days after extraction for analysis	1000 mL	1000 mL	NA	NA
Organochlorine Pesticides by SW-846 EPA 8081 Solids	Amber G, teflon-lined cap	0 ≤ 6° C	14 days for extraction 40 days after extraction	NA	NA	50 g	4 oz

Parameter	Container [1]	Preservation	Holding Time[2]	Water Min. Volume[5]	Recommended Water Container	Solid Min. Volume[5]	Recommended Solid Container
Organochlorine Pesticides by EPA 608 only	Amber G, teflon-lined cap	0 ≤ 6° C, 0.008% , $Na_2S_2O_3$ [3], NaOH and H_2SO_4 preserve to pH 5.0 to 9.0 (for prep >72 hrs and <7days)	**Unpreserved Prep within 72 hrs** Preserved prep within 7 days, 40 days after extraction for analysis	1000 mL	1000 mL	NA	NA
PCBs - Liquids	Amber G, teflon-lined cap	0 ≤ 6° C, 0.008% $Na_2S_2O_3$ [3]	365 days for extraction 40 days after extraction for analysis	1000 mL	1000 mL	NA	NA
PCBs - Solids	Amber G, teflon-lined cap	0 ≤ 6° C	365 days for extraction 40 days after extraction for analysis	NA	NA	50 g	4 oz
PCBs in Oil	G, teflon-lined cap	None	365 days	1 mL	1x40 mL	1 g	1x40 mL
Solvents, Glycols, Alcohols, Acetates - Liquids	G, teflon-lined septum	0 ≤ 6° C, zero headspace or 0 ≤ 6° C, zero headspace, HCL to pH < 2	7 days unpreserved 14 days preserved	1 mL	1x40 mL	NA	NA
Solvents, Glycols, Alcohols, Acetates - Solids	G, teflon-lined septum	0 ≤ 6° C	14 days	NA	NA	10 g	4 oz
Industrial Solvents	G, teflon-lined septum	0 ≤ 6° C	14 days	1 mL	1x40 mL	NA	NA
1,4-Dioxane in Drinking Water by EPA 522	G, teflon-lined septum	<10°C during transport, Sodium sulfite (50mg/L), sodium bisulfate (1g/L)	28 days for extraction at 0 ≤ 6° C (not frozen) and 28 days after extraction for analysis at -5° C, protected from light	100 - 500 mL	1 L	NA	NA
Dioxin Screen	G, teflon-lined cap	0 ≤ 6° C	7 days for extraction, 40 days after extraction for analysis	1000 mL	1000 mL	30 g	4 oz
EDB and DBCP	G, teflon-lined septum	0 ≤ 6° C, 0.4% $Na_2S_2O_3$	14 days	35 mL	3x40 mL	NA	NA
Polynuclear Aromatic Hydrocarbons	Amber G, teflon-lined septum (Liquids), Teflon-lined cap (Solids)	0 ≤ 6° C	7 days for extraction (Liquids) 14 days to extraction (Solids) 40 days to analysis after extraction	1000 mL	1000 mL	30 g	4 oz
Nitroaromatics and Nitroamines	Amber G, teflon-lined septum	0 ≤ 6° C	7 days for extraction 40 days after extraction for analysis	1000 mL	1000 mL	2 g	4 oz
Nitroaromatics and Nitroamines by MIS Prep (solid samples)	Protect from light	0 ≤ 6° C until air drying 22 ± 4° C (or cooler) after drying	14 days for extraction, 40 days after extraction for analysis	NA	NA	Entire Sample	1 kg
RDX Breakdown	Amber G, teflon-lined septum for liquids and teflon-lined cap for solids	0 ≤ 6° C	7 days to extraction for liquids 14 days to extraction for solids 40 days to analysis after extraction	1000 mL	1000 mL	2 g	4 oz
Low Level Perchlorate	P	0 ≤ 6° C , headspace required	28 days	10 mL	125 mL	2 g	4 oz

Parameter	Container [1]	Preservation	Holding Time[2]	Water Min. Volume[5]	Recommended Water Container	Solid Min. Volume[5]	Recommended Solid Container
Perfluorinated Alkyl Acids PFAS	HDPE Bottle - unlined polyethylene screw cap	0 ≤ 10° C for liquids, 0 ≤ 6° C for solids, 1.25g Trizma® (drinking water only)	14 days to extraction, 28 days after extraction for analysis (liquids) 28 days from collection to extract and analysis (solids)	250 mL	250 mL	2 g	250 mL
Dissolved Gases	G, teflon-lined septum	0 ≤ 6° C, HCl to pH < 2, zero headspace	7 days if unpreserved, 14 days if preserved	40 mL	2x40 mL	NA	NA

RADIOCHEMISTRY

Parameter	Container [1]	Preservation	Holding Time[2]	Water Min. Volume[5]	Recommended Water Container	Solid Min. Volume[5]	Recommended Solid Container
Americium – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	100 mL	1000 mL	NA	NA
Americium – Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Calcium-45 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	50 mL	500 mL	NA	NA
Calcium-45 - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Carbon-14 Liquids & Solids[8]	P,G	None	6 months	100 mL	500 mL	1.5 g	4 oz
Cesium 134 – Drinking Water	P,G	HCl to pH < 2	6 months	2000 mL	2000 mL	NA	NA
Chlorine-36 Liquids & Solids[8]	P,G	None	6 months	30 mL	500 mL	0.5 g	4 oz
Curium - Liquids	P,G	HNO3 or HCl to pH < 2	6 months	100 mL	1000 mL	NA	NA
Curium - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Gamma Isotopes - Liquids	P,G	HNO3 or HCl to pH < 2	6 months	2000 mL	2000 mL	NA	NA
Gamma Isotopes - Solids[8]	P,G	None	6 months	NA	NA	200 g	8 oz
Gross Alpha & Beta – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	500 mL	500 mL	NA	NA
Gross Alpha & Beta, Rapid - Liquids	P,G	HNO3 or HCl to pH < 2	**48 – 72 hrs**	500 mL	500 mL	NA	NA
Gross Alpha & Beta - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Iodine-129 - Liquids & Solids[8]	P,G	None	6 months	1000 mL	1000 mL	0.1 g	4 oz
Iodine -131 - Liquids	P,G	None	**8 days**	900 mL	1000 mL	NA	NA
Iron 55 -Liquids	P,G	HNO3 or HCl to pH < 2	6 months	50 mL	500 mL	NA	NA
Iron 55 - Solids[8]	P,G	None	6 months	NA	NA	0.5 g	4 oz
Lead-210 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	100 mL	1000 mL	NA	NA
Lead-210 - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Neptunium - Liquids	P,G	HNO3 or HCl to pH < 2	6 months	100 mL	1000 mL	NA	NA
Neptunium - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Nickel-59 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	500 mL	1000 mL	NA	NA
Nickel-59 – Solids[8]	P,G	None	6 months	NA	NA	0.5 g	4 oz
Nickel-63 - Liquids	P,G	HNO3 or HCl to pH < 2	6 months	125 mL	1000 mL	NA	NA
Nickel-63 - Solids[8]	P,G	None	6 months	NA	NA	1.5 g	4 oz
Phosphorus-32 –Liquids	P,G	HNO3 or HCl to pH < 2	6 months	250 mL	1000 mL	NA	NA
Phosphorus-32 - Solids[8]	P,G	None	6 months	NA	NA	0.25 g	4 oz
Plutonium – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	100 mL	1000 mL	NA	NA
Plutonium - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Plutonium-241 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	400 mL	1000 mL	NA	NA
Plutonium-241 - Solids[8]	P,G	None	6 months	NA	NA	0.4 g	4 oz
Polonium - Liquids	P,G	HNO3 or HCl to pH < 2	6 months	100 mL	1000 mL	NA	NA
Polonium - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Promethium-147/Samarium-151 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	250 mL	1000 mL	NA	NA
Promethium-147/Samarium-151 - Solids[8]	P,G	None	6 months	NA	NA	0.5 g	4 oz
Radium-223 - Liquids	P,G	HNO3 or HCl to pH < 2	6 months	2000 mL	2000 mL	NA	NA
Radium-224 - Liquids	P,G	HNO3 or HCl to pH < 2	6 months	2000 mL	2000 mL	NA	NA
Radium-226 – Drinking Water	P,G	HNO3 or HCl to pH < 2	6 months	1000 mL	1000 mL	NA	NA
Radium-226 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	800 mL	1000 mL	NA	NA
Radium-226 (Radon emanation) - Solids[8]	P,G	None	6 months	NA	NA	1 g	4 oz
Radium-228 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	300 mL	1000 mL	NA	NA
Radium-228 - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Radon-222 – Liquids	G	None, Zero headspace	**4 days**	40 mL	2x40 mL	NA	NA
Selenium-79 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	100 mL	500 mL	NA	NA
Selenium-79 - Solids[8]	P,G	None	6 months	NA	NA	0.5 g	4 oz
Strontium-89/90 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	300 mL	1000 mL	NA	NA
Strontium-89/90 - Solids[8]	P,G	None	6 months	NA	NA	0.25 g	4 oz
Sulfur-35 - Liquids	P,G	None	6 months	50 mL	500 mL	NA	NA

Parameter	Container [1]	Preservation	Holding Time[2]	Water Min. Volume[5]	Recommended Water Container	Solid Min. Volume[5]	Recommended Solid Container
Sulfur-35 - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Technetium-99 – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	900 mL	1000 mL	NA	NA
Technetium-99 – Solids[8]	P,G	None	6 months	NA	NA	1 g	4 oz
Thorium – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	100 mL	1000 mL	NA	NA
Thorium - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz
Total Activity Liquids	P,G	HNO3 or HCl to pH < 2	6 months	10 mL	100 mL	NA	NA
Total Activity - Solids[8]	P,G	None	6 months	NA	NA	0.5 g	4 oz
Total Alpha Radium – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	300 mL	500 mL	NA	NA
Total Alpha Radium - Solids[8]	P,G	None	6 months	NA	NA	0.5 g	4 oz
Tritium – Drinking Water	G	None	6 months	50 mL	250 mL	NA	NA
Tritium – Liquids & Solids[8]	P,G	None	6 months	50 mL	250 mL	3 g	4 oz
Uranium – Liquids	P,G	HNO3 or HCl to pH < 2	6 months	100 mL	1000 mL	NA	NA
Uranium - Solids[8]	P,G	None	6 months	NA	NA	0.1 g	4 oz

[1] P = Polyethylene; G = Glass; HDPE = High Density Polyethylene

[2] Samples should be analyzed as soon as possible after collection. The holding times listed are maximum times that samples may be held before analysis and be considered valid.

[3] Used only in the presence of residual chlorine.

[4] Maximum holding time is 24 hours when sulfide is present. All samples may be tested with lead acetate paper before pH adjustments in order to determine if sulfide is present. If present, remove by adding cadmium nitrate powder until a negative spot test is obtained. Filter sample and add NaOH to pH 12.

[5] Minimum amount of sample needed to prepare and analyze for the parameter. Some parameters may be combined into one analysis, others may need additional amount if quality control is being requested for site-specific samples. Please check with GELs Project Manager for proper sample amounts based on project specific requirements.

[6] Volatiles Groundwater/Wastewater: If samples are to be analyzed for 2-chloroethylvinyl ether for soil or water, separate samples must be collected without acid preservation and analyzed within 7 days. For aqueous samples to be analyzed for acrolein and acrylonitrile, by EPA Method 624, the samples should be analyzed within 3 days.

[7] Solids Method AK101 2-4 oz amber wide-mouth jars tared and labeled, 1-4 oz amber wide-mouth jar labeled (evaporative loss), 2-25 mL 2.5 ppm surrogated P/T methanol tubes.

[8] Solids matrix typically applies to soils, sludges and sediments. Some tests have been developed for filters, miscellaneous solid waste, plant and animal tissue, also referred to as solids. Contact GEL to verify a particular matrix for the test of interest.

[9] 1mL of 2.5% EDTA solution per 100mL sample

Acetates

Ethyl acetate
Isopropyl acetate
n-Butyl acetate
n-Amyl acetate

Alcohols

Ethanol
Methanol *
n-Butyl Alcohol *
Isopropyl Alcohol
Isobutyl Alcohol *
* UHC for UTS

Appendix I - Volatile Compounds

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform
Carbon Disulfide
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Dibromochloromethane
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
o-Dichlorobenzene
p-Dichlorobenzene
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
cis-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropene
trans- 1,3- Dichloropropene
Ethylbenzene
2-Hexanone
Methyl Bromide
Methyl Chloride
Methylene Bromide
Methylene Chloride
Methyl ethyl ketone
trans-1,4-Dichloro-2-butene
Methyl Iodide (Iodomethane)
4-Methyl-2-pentanone(MIBK)
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

Appendix I - Metals

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Nickel
Selenium
Silver
Thallium
Vanadium
Zinc

Appendix IX - Volatile Compounds

1,1,1,2-Tetrachloroethane
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethylene
1,2,3-Trichloropropane
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
1,2-Dichloroethane
1,2-Dichloropropane
2-Butanone (MEK)
2-Hexanone
4-Methyl-2-pentanone(MIBK)
Acetone
Acetonitrile
Acrolein
Acrylonitrile
Allyl Chloride
Benzene
Bromoform
Carbon Disulfide
Carbon Tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloroprene
Dibromomethane
Dichlorobromomethane
Dichlorodifluoromethane
Ethylbenzene
Ethyl methacrylate
Isobutyl Alcohol
Methacrylonitrile
Methyl Bromide
Methyl Chloride
Methyl Iodide (Iodomethane)
Methylene Chloride
Pentachloroethane
Propionitrile
Styrene
Tetrachloroethylene
Toluene
Trichloroethylene
Trichlorofluoromethane
Vinyl Acetate
Vinyl chloride
Xylenes (TOTAL)
bis(2-Chloro-1-methylethyl)ether
cis-1,3-Dichloropropylene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropylene
trans-1,4-Dichloro-2-butene

Appendix IX - Acid Compounds

2,3,4,6-Tetrachlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,6-Dichlorophenol
2-Chlorophenol
2-Nitrophenol
2-methyl-4,6-dinitrophenol
2-sec-Butyl-4,6-Dinitrophenol(Dinoseb)
4-Nitrophenol
4-Chloro-3-methyl phenol
Hexachlorophene
Pentachlorophenol
Phenol
m,p-Cresols
o-Cresol

Appendix IX - Base/Neutral Compounds

1-Methylnaphthalene
1,2,4,5-Tetrachlorobenzene
1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,4-Dioxane
1,4-Naphthoquinone
1-Naphthylamine
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Acetylaminofluorene
2-Chloronaphthalene
2-Methylnaphthalene
2-Naphthylamine
2-Picoline
3,3'-Dichlorobenzidine
3,3'-Dimethylbenzidine
3-Methylcholanthrene
4-Bromophenyl phenyl ether
4-Chloroaniline
4-Chlorophenyl phenyl ether
4-Nitroquinoline-1-oxide
4-Aminobiphenyl
5-Nitro-o-toluidine
7,12-Dimethylbenz(a)anthracene
Acenaphthene
Acenaphthylene
Acetophenone
Aniline
Anthracene
Aramite
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(ghi)perylene
Benzo(k)fluoranthene
Benzyl Alcohol
Butyl benzyl phthalate
Carbazole
Chlorobenzilate
Chrysene
Di-n-butyl phthalate
Di-n-octyl phthalate
Diallate
Dibenzo(a,h)anthracene
Dibenzofuran
Diethyl phthalate
Dimethoate
Dimethyl phthalate
Diphenylamine
Disulfoton
Ethyl Methanesulfonate
Famphur
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachloropropene
Indeno(1,2,3-c,d)pyrene
Isodrin
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
Methyl Methacrylate
Methyl Methanesulfonate
Methyl Parathion
N-Nitrosodi-n-butylamine
N-Nitrosodiethylamine
N-Nitrosodiphenylamine * reported as diphenylamine
N-Nitrosodipropylamine
N-Nitrosomethylethylamine
N-Nitrosomorpholine
N-Nitrosopiperidine
N-Nitrosopyrolidine
Naphthalene
Nitrobenzene
O,O,O-Triethylphosphorothioate
Parathion
Pentachlorobenzene
Pentachloronitrobenzene
Phenacetin
Phenanthrene
Phorate
Pronamide
Pyrene
Pyridine
Safrole
Sulfotepp
Thionazin
a,a-Dimethylphenethylamine
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl) ether
bis(2-Ethylhexyl)phthalate
bis(2-Chloro-1-methylethyl)ether
m-Dinitrobenzene
m-Nitroaniline
o-Nitroaniline
o-Toluidine
p-Dimethylaminoazobenzene
p-Nitroaniline
p-Phenylenediamine
sym-Trinitrobenzene

Appendix IX - Herbicides

2,4-D
2,4,5-T
2,4,5-TP
Dinoseb

Appendix IX - PCBs

PCB-1016
PCB-1221
PCB-1232
PCB-1242
PCB-1248
PCB-1254
PCB-1260

Appendix IX - Pesticides

4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
cis-Chlordane
trans-Chlordane
Chlordane N.O.S.
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Methoxychlor
Toxaphene
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC

Appendix IX - Metals

Antimony	Cobalt	Silver
Arsenic	Copper	Thallium
Barium	Lead	Tin
Beryllium	Mercury	Vanadium
Cadmium	Nickel	Zinc
Chromium	Selenium	

BTEX

Benzene	Toluene	Xylenes (TOTAL)
Ethylbenzene		

BTEX plus Naphthalene

BTEX plus Naphthalene and MTBE

Dissolved Gases

Methane	Ethane	Ethene

California Title 22 - Metals

Antimony	Cobalt	Selenium
Arsenic	Copper	Silver
Barium	Lead	Thallium
Beryllium	Mercury	Vanadium
Cadmium	Molybdenum	Zinc
Chromium	Nickel	

Dredge List Pesticides

2, 4'-DDD	Endosulfan II	O-Chlordane
2, 4'-DDE	Endosulfan sulfate	Toxaphene
2, 4'-DDT	Endrin	alpha-BHC
4,4'-DDD	Endrin aldehyde	cis-Chlordane
4,4'-DDE	Endrin ketone	beta-BHC
4,4'-DDT	Heptachlor	cis-Nonachlor
Aldrin	Heptachlor epoxide	delta-BHC
Chlordane N.O.S.	Hexachlorobenzene	gamma-BHC (Lindane)
Dieldrin	Methoxychlor	trans-Chlordane
Endosulfan I	Mirex	trans-Nonachlor

Explosives

HMX	2,4-Dinitrotoluene	2-Amino-4,6-Dinitrotoluene
RDX	2,6-Dinitrotoluene	4-Amino-2,6-Dinitrololuene
1,3-Dinitrobenzene	2-Nitrotoluene	Tetryl
1,3,5-Trinitrobenzene	3-Nitrotoluene	Nitrobenzene
2,4,6-Trinitrotoluene	4-Nitrotoluene	

Explosives + PETN

Explosives + Nitroglycerin

Explosives + PETN + Nitroglycerin + 3,5-Dinitroaniline

Form 2A - Volatile Compounds (NPDES)

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane□
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethylene
1,2-Dichloroethane
1,2-Dichloropropane
2-Chloroethylvinyl ether
Acrolein
Acrylonitrile
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis-1,3-Dichloropropylene
Dibromochloromethane
Ethylbenzene
Methylene chloride
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropylene
Trichloroethylene
Vinyl chloride

Form 2A - Acid Compounds (NPDES)

2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2-Chlorophenol
2-Nitrophenol
2-Methyl-4,6-dinitrophenol
4-Nitrophenol
4-Chloro-3-methyl phenol
Pentachlorophenol
Phenol

Form 2A - Metals (NPDES)

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

Form 2A - Base/Neutral Compounds (NPDES)

1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,2-Diphenylhydrazine
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
3,3'-Dichlorobenzidine
4-Bromophenylphenylether
4-Chlorophenylphenylether
Acenaphthene
Acenaphthylene
Anthracene
Benzidine
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(ghi)perylene
Benzo(k)fluoranthene
bis(2-Chloro-1-methylethyl)ether
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl) ether
bis(2-Ethylhexyl)phthalate
Butylbenzylphthalate
Chrysene
Dibenzo(a,h)anthracene
Diethylphthalate
Dimethylphthalate
Di-n-butylphthalate
Di-n-octylphthalate
Diphenylamine
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno(1,2,3-cd)pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Methyl-N-nitrosomethylamine
N-Nitrosodipropylamine
Phenanthrene
Pyrene

Form 2C - Volatile Compounds (NPDES)

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane□
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethylene
1,2-Dichloroethane
1,2-Dichloropropane
2-Chloroethylvinyl ether
Acrolein
Acrylonitrile
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis-1,3-Dichloropropylene
Dibromochloromethane
Ethylbenzene
Methylene chloride
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropylene
Trichloroethylene
Vinyl chloride

Form 2C - Acid Compounds (NPDES)

2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2-Chlorophenol
2-Nitrophenol
2-Methyl-4,6-dinitrophenol
4-Nitrophenol
4-Chloro-3-methyl phenol
Pentachlorophenol
Phenol

Form 2C - Base/Neutral Compounds (NPDES)

1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,2-Diphenylhydrazine
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
3,3'-Dichlorobenzidine
4-Bromophenylphenylether
4-Chlorophenylphenylether
Acenaphthene
Acenaphthylene
Anthracene
Benzidine
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(ghi)perylene
Benzo(k)fluoranthene
bis(2-Chloro-1-methylethyl)ether
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl) ether
bis(2-Ethylhexyl)phthalate
Butylbenzylphthalate
Chrysene
Dibenzo(a,h)anthracene
Diethylphthalate
Dimethylphthalate
Di-n-butylphthalate
Di-n-octylphthalate
Diphenylamine
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno(1,2,3-cd)pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Methyl-N-nitrosomethylamine
N-Nitrosodipropylamine
Phenanthrene
Pyrene

Form 2C - Pesticide Compounds (NPDES)

4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
Chlordane
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Toxaphene
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC

Form 2C - PCB Compounds (NPDES)

PCB-1016
PCB-1221
PCB-1260
PCB-1232
PCB-1242
PCB-1248
PCB-1254

Form 2C - Metals (NPDES)

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Aluminum
Barium
Cobalt
Copper
Lead
Mercury
Nickel
Iron
Magnesium
Manganese
Selenium
Silver
Thallium
Zinc
Molybdenum
Tin
Titanium

Gamma Spectroscopy

Actinium 228
Americium 241
Antimony 124
Antimony 125
Barium 133
Barium 140
Beryllium 7
Bismuth 212
Bismuth 214
Cerium 139
Cerium 141
Cerium 144
Cesium 134
Cesium 137
Chromium 51
Cobalt 57
Cobalt 58
Cobalt 60
Europium 152
Europium 154
Europium 155
Iridium 192
Iron 59
Lead 212
Lead 214
Manganese 54
Mercury 203
Neptunium 239
Niobium 94
Niobium95
Potassium 40
Promethium 144
Promethium 146
Radium 223
Radium 224
Radium 228
Ruthenium 106
Silver 110m
Sodium 22
Thallium 208
Thorium 234
Tin 113
Uranium 235
Uranium 238
Yttrium 88
Zinc 65
Zirconium 95

Glycols

Ethylene glycol
Propylene glycol
Diethylene glycol
2-Butoxyethanol
Triethylene glycol

Herbicides

2,4,5-T
2,4,5-TP
2,4-D
2,4-DB
Dalapon
Dicamba
Dichlorprop
Dinoseb
MCPA
MCPP
Pentachlorophenol

Metals Scan

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Molybdenum
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc

NORM and TENORM Gamma Emitters

Actinium 228
Bismuth 211
Bismuth 212
Bismuth 214
Potassium 40
Protactinium 231
Protactinium 234
Protactinium 234m
Lead 210
Lead 211
Lead 212
Lead 214
Radium 223
Radium 226
Radium 228
Thallium 208
Thorium 227
Thorium 234
Uranium 235
Uranium 238

Oxygenates

1-Chlorohexane
MTBE
Ethyl tert-butyl ether
Isopropyl Alcohol
Isopropyl ether
Methyl tert-amyl ether
tert-Butyl Alcohol

PCBs (Polychlorinated Biphenyls)

Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
Aroclor 1262
Aroclor 1268

Pesticides

4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
cis-Chlordane
trans-Chlordane
Chlordane N.O.S.
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Methoxychlor
Toxaphene
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC

DoD QSM List of Perfluorinated Alkyl Acids (PFAS) Table C-44

Perfluorooctane sulfonic acid (PFOS)
Perfluoroundecanoic acid (PFUnDA)
Perfluoropentanoic acid (PFPeA)
Perfluoropentane sulfonic acid (PFPeS)
Perfluorohexanoic acid (PFHxA)
Perfluorododecanoic acid (PFDOA)
Perfluorooctanoic acid (PFOA)
Perfluorodecanoic acid (PFDA)
Perfluorodecane sulfonic acid (PFDS)
Perfluorohexane sulfonic acid (PFHxS)
Perfluorobutanoic acid (PFBA)
Perfluorobutane sulfonic acid (PFBS)
Perfluoroheptanoic acid (PFHpA)
Perfluoroheptane sulfonic acid (PFHpS)
Perfluorononanoic acid (PFNA)
Perfluorotetradecanoic acid (PFTDA)
Perfluorononane sulfonic acid (PFNS)
Perfluorotridecanoic acid (PFTrDA)
N-Methylperfluorooctane sulfonamide (NMeFOSA)
Perfluorooctane sulfonamide (PFOSAm)
1H, 1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2 FTS)
1H, 1H, 2H, 2H-Perfluorohexane sulfonic acid (4:2 FTS)
1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS)
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)

DoD QSM List of Perfluorinated Alkyl Acids (PFAS) Table C-45

Perfluorooctane sulfonic acid (PFOS)
Perfluorooctanoic acid (PFOA)
Perfluoroheptanoic acid (PFHpA)
Perfluoroundecanoic acid (PFUnDA)
Perfluorodecanoic acid (PFDA)
Perfluoroheptane sulfonic acid (PFHpS)
Perfluoropentanoic acid (PFPeA)
Perfluorodecane sulfonic acid (PFDS)
Perfluorononanoic acid (PFNA)
Perfluoropentane sulfonic acid (PFPeS)
Perfluorohexane sulfonic acid (PFHxS)
Perfluorotetradecanoic acid (PFTDA)
Perfluorohexanoic acid (PFHxA)
Perfluorobutanoic acid (PFBA)
Perfluorononane sulfonic acid (PFNS)
Perfluorododecanoic acid (PFDOA)
Perfluorobutane sulfonic acid (PFBS)
Perfluorotridecanoic acid (PFTrDA)
N-Methylperfluorooctane sulfonamide (NMeFOSA)
1H, 1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2 FTS)
1H, 1H, 2H, 2H-Perfluorohexane sulfonic acid (4:2 FTS)
1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS)
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)

EPA 533 List Perfluorinated Alkyl Acids (PFAS)

Perfluorooctane sulfonic acid (PFOS)
Perfluorooctanoic acid (PFOA)
Perfluoroheptane sulfonic acid (PFHpS)
Perfluoroundecanoic acid (PFUnDA)
Perfluorodecanoic acid (PFDA)
Perfluorononanoic acid (PFNA)
Perfluoropentanoic acid (PFPeA)
Perfluorohexane sulfonic acid (PFHxS)
4,8-Dioxa-3H-perfluorononanoic acid (DONA)
Perfluoropentane sulfonic acid (PFPeS)
Perfluorobutanoic acid (PFBA)
Perfluoro-3-methoxypropanoic acid (PFMPA)
Perfluorohexanoic acid (PFHxA)
Perfluorobutane sulfonic acid (PFBS)
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)
Perfluorododecanoic acid (PFDOA)
Perfluoroheptanoic acid (PFHpA)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)
Perfluoro-4-methoxybutanoic acid (PFMBA)
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)
1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS)
1H, 1H, 2H, 2H-Perfluorohexane sulfonic acid (4:2 FTS)
1H, 1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2 FTS)
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)

EPA 537.1 List Perfluorinated Alkyl Acids (PFAS)

Perfluorooctane sulfonic acid (PFOS)
Perfluorooctanoic acid (PFOA)
Perfluoroheptanoic acid (PFHpA)
Perfluoroundecanoic acid (PFUnDA)
Perfluorodecanoic acid (PFDA)
Perfluorononanoic acid (PFNA)
Perfluorohexanoic acid (PFHxA)
Perfluorohexane sulfonic acid (PFHxS)
Perfluorotetradecanoic acid (PFTDA)
Perfluorododecanoic acid (PFDOA)
Perfluorobutane sulfonic acid (PFBS)
Perfluorotridecanoic acid (PFTrDA)
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)
4,8-Dioxa-3H-perfluorononanoic acid (DONA)
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)

Texas 16 Perfluorinated Alkyl Acids (PFAS)

Perfluorooctane sulfonic acid (PFOS)
Perfluorodecanoic acid (PFDA)
Perfluoroheptanoic acid (PFHpA)
Perfluoroundecanoic acid (PFUnDA)
Perfluorodecane sulfonic acid (PFDS)
Perfluorononanoic acid (PFNA)
Perfluoropentanoic acid (PFPeA)
Perfluorohexane sulfonic acid (PFHxS)
Perfluorotetradecanoic acid (PFTDA)
Perfluorohexanoic acid (PFHxA)
Perfluorobutanoic acid (PFBA)
Perfluorotridecanoic acid (PFTrDA)
Perfluorododecanoic acid (PFDOA)
Perfluorobutane sulfonic acid (PFBS)
Perfluorooctane sulfonamide (PFOSAm)
Perfluorooctanoic acid (PFOA)

Perfluorinated Alkyl Acids (PFOA/PFOS)

Perfluorooctane sulfonic acid (PFOS)
Perfluorooctanoic acid (PFOA)

Polynuclear Aromatic Hydrocarbons (PNA or PAH)

Acenaphthene
Benzo(ghi)perylene
Fluorene
Acenaphthylene
Benzo(k)fluoranthene
Indeno(1,2,3-c,d)pyrene
Anthracene
Chrysene
Naphthalene
Benzo(a)anthracene
Dibenzo(a,h)anthracene
Phenanthrene
Benzo(a)pyrene
Fluoranthene
Pyrene
Benzo(b)fluoranthene

Optional:

1-Methyl naphthalene
2-Methyl naphthalene
2-Chloronaphthalene

Priority Pollutants - Pesticides

4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
Chlordane
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC

Priority Pollutants - Volatile Compounds

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethylene
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,2-trans-Dichloroethylene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Chloroethylvinyl ether
Acrolein
Acrylonitrile
Benzene
Bromoform
Carbon Tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Dichlorobromomethane
Dichlorodifluoromethane
Ethylbenzene
Methyl Bromide
Methyl Chloride
Methylene Chloride
Tetrachloroethylene
Toluene
Trichloroethylene
Trichlorofluoromethane
Vinyl chloride
cis-1,3-Dichloropropylene
trans-1,3-Dichloropropylene

Priority Pollutants - PCBs

PCB-1016
PCB-1221
PCB-1232
PCB-1242
PCB-1248
PCB-1254
PCB-1260

Priority Pollutants - Acid Compounds

2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2-Chlorophenol
2-Nitrophenol
2-Methyl-4,6-dinitrophenol
4-Nitrophenol
4-Chloro-3-methyl phenol
Pentachlorophenol
Phenol

Priority Pollutants - Base/Neutral

1,2,4-Trichlorobenzene
1,2-Diphenylhydrazine
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
3,3'-Dichlorobenzidine
4-Bromophenyl phenyl ether
4-Chlorophenyl phenyl ether
Acenaphthene
Acenaphthylene
Anthracene
Benzidine
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(ghi)perylene
Benzo(k)fluoranthene
Butyl benzyl phthalate
Chrysene
Di-n-butyl phthalate
Di-n-octyl phthalate
Dibenzo(a,h)anthracene
Diethyl phthalate
Dimethyl phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno(1,2,3-c,d)pyrene
Isophorone
N-Nitrosodimethylamine
Diphenylamine
N-Nitrosodipropylamine
Naphthalene
Nitrobenzene
Phenanthrene
Pyrene
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl) ether
bis(2-Chloro-1-methylethyl)ether
bis(2-Ethylhexyl)phthalate

Priority Pollutants - Metals

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

RCRA - Metals

Arsenic
Barium
Cadmium
Chromium
Lead
Mercury
Selenium
Silver

Solvent Scan

1,1,1-Trichloroethane	Benzene	Ethylbenzene
2-Butanone	Chloroform	Toluene
4-Methyl-2-pentanone	Ethanol	Xylenes (TOTAL)
Acetone	Ethyl Acetate	

Special List Explosives

2,4-Diamino-6-nitrotoluene	3,5-Dinitroaniline	TATB
2,6-Diamino-4-nitrotoluene	tris(o-cresyl)phosphate	

ISM02.4 Target Analyte List (TAL) Metals

Aluminum	Cobalt	Potassium
Antimony	Copper	Selenium
Arsenic	Iron	Silver
Barium	Lead	Sodium
Beryllium	Magnesium	Thallium
Cadmium	Manganese	Vanadium
Calcium	Mercury	Zinc
Chromium	Nickel	

SOM02.4 Target Compound List - Acid Compounds

2,3,4,6-Tetrachlorophenol	2,4-Dinitrophenol	4-Chloro-3-methylphenol
2,4,5-Trichlorophenol	2-Chlorophenol	4-Methylphenol as m,p-Cresols
2,4,6-Trichlorophenol	2-Methylphenol	4-Nitrophenol
2,4-Dichlorophenol	3-Methylphenol as m,p-Cresols	Phenol
2,4-Dimethylphenol	4,6-Dinitro-2-methylphenol	Pentachlorophenol

SOM02.4 Target Compound List - Base/ Neutral Compounds

1,1'-Biphenyl	Anthracene	Dimethylphthalate
1,2,4,5-Tetrachlorobenzene	Atrazine	Di-n-butylphthalate
1,4-Dioxane	Benzaldehyde	Di-n-octylphthalate
2,4-Dinitrotoluene	Benzo(a) pyrene	Fluoranthene
2,6-Dinitrotoluene	Benzo(a)anthracene	Fluorene
2-Chloronaphthalene	Benzo(b) fluoranthene	Hexachlorobenzene
2-Methylnaphthalene	Benzo(g,h,i) perylene	Hexachlorobutadiene
2-Nitroaniline	Benzo(k) fluoranthene	Hexachlorocyclopentadiene
2-Nitrophenol	Bis(2-chloroethoxy) methane	Hexachloroethane
3,3'-Dicholorobenzidine	Bis(2-chloroethyl) ether	Indeno(1,2,3,-cd) pyrene
3-Nitroaniline	Bis(2-ethylhexyl) phthalate	Isophorone
4-Bromophenyl-phenylether	Butylbenzylphthalate	Naphthalene
4-Chloroaniline	Caprolactam	Nitrobenzene
4-Chlorophenyl-phenyl ether	Carbazole	N-Nitroso-di-n propylamine
4-Nitroaniline	Chrysene	N-Nitrosodiphenylamine
Acenaphthene	Dibenzo(a,h) anthracene	Phenanthrene
Acenaphthylene	Dibenzofuran	Pyrene
Acetophenone	Diethylphthalate	2,2'-Oxybis(1-choloropropane) as bis(2-Chloro-1-methylethyl)ether

SOM02.4 Target Compound List - PCB Compounds

PCB-1016	PCB-1242	PCB-1260
PCB-1221	PCB-1248	PCB-1262
PCB-1232	PCB-1254	PCB-1268

SOM02.4 Target Compound List - Pesticide Compounds

4,4'-DDD	Endosulfan sulfate	Toxaphene
4,4'-DDE	Endrin	alpha-BHC
4,4'-DDT	Endrin aldehyde	beta-BHC
Aldrin	Endrin ketone	cis-Chlordane
Dieldrin	Heptachlor	delta-BHC
Endosulfan I	Heptachlor epoxide	gamma-BHC
Endosulfan II	Methoxychlor	trans-Chlordane

SOM02.4 Target Compound List - Volatile Compounds

1,1,1-Trichloroethane	Acetone	Ethylbenzene
1,1,2,2-Tetrachloroethane	Benzene	Isopropylbenzene
1,1,2-Trichloroethane	Bromochloromethane	m,p-Xylene
1,1-Dichloroethane	Bromodichloromethane	Methyl acetate
1,1-Dichloroethene	Bromoform	Methyl tert-butyl ether
1,2,3-Trichlorobenzene	Bromomethane	Methylcyclohexane
1,2,4-Trichlorobenzene	Carbon disulfide	Methylene chloride
1,2-Dibromo-3-chloropropane	Carbon tetrachloride	o-Xylene
1,2-Dibromoethane	Chlorobenzene	Styrene
1,2-Dichlorobenzene	Chloroethane	Tetrachloroethene
1,2-Dichloroethane	Chloroform	Toluene
1,2-Dichloropropane	Chloromethane	trans-1,2-Dichloroethene
1,3-Dichlorobenzene	cis-1,2-Dichloroethene	trans-1,3-Dichloropropene
1,4-Dichlorobenzene	cis-1,3-Dichloropropene	Trichloroethene
2-Butanone	Cyclohexane	Trichlorofluoromethane
2-Hexanone	Dibromochloromethane	Trichlorotrifluoroethane
4-Methyl-2-pentanone	Dichlorodifluoromethane	Vinyl chloride

TCLP - Volatile Compounds

1,1-Dichloroethylene	Benzene	Tetrachloroethylene
1,2-Dichloroethane	Carbon Tetrachloride	Trichloroethylene
1,4-Dichlorobenzene	Chlorobenzene	Vinyl chloride
2-Butanone	Chloroform	

TCLP - Acid Compounds

2,4,5-Trichlorophenol	Pentachlorophenol	o-Cresol
2,4,6-Trichlorophenol	m,p-Cresols	

TCLP - Base/Neutral Compounds

1,4-Dichlorobenzene	Hexachlorobutadiene	Nitrobenzene
2,4-Dinitrotoluene	Hexachloroethane	Pyridine
Hexachlorobenzene		

TCLP - Herbicide Compounds

2,4-D	2,4,5-TP

TCLP - Pesticide Compounds

Chlordane	Heptachlor & Hep. Epoxide	Toxaphene
Endrin	Methoxychlor	gamma-BHC

TCLP - RCRA Metals

Arsenic	Chromium	Selenium
Barium	Lead	Silver
Cadmium	Mercury	

TCLP - UHC Metals (UTS)

Antimony	Chromium	Silver
Arsenic	Lead	Thallium
Barium	Mercury	Vanadium
Beryllium	Nickel	Zinc
Cadmium	Selenium	

TTO - Acid Compounds

2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2-Chlorophenol
2-Nitrophenol
2-Methyl-4,6-dinitrophenol
4-Nitrophenol
4-Chloro-3-methyl phenol
Pentachlorophenol
Phenol

TTO - Base/Neutral Compounds

1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,2-Diphenylhydrazine
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
3,3'-Dichlorobenzidine
4-Bromophenyl phenyl ether
4-Chlorophenyl phenyl ether
Acenaphthene
Acenaphthylene
Anthracene
Benzidine
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(ghi)perylene
Benzo(k)fluoranthene
Butyl benzyl phthalate
Chrysene
Di-n-butyl phthalate
Di-n-octyl phthalate
Dibenzo(a,h)anthracene
Diethyl phthalate
Dimethyl phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno(1,2,3-c,d)pyrene
Isophorone
Diphenylamine
N-Nitrosodipropylamine
Naphthalene
Nitrobenzene
Phenanthrene
Pyrene
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl) ether
bis(2-Chloro-1-methylethyl)ether
bis(2-Ethylhexyl)phthalate

TTO - Pesticide/PCB Compounds

4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
Chlordane
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
PCB-1016
PCB-1221
PCB-1232
PCB-1242
PCB-1248
PCB-1254
PCB-1260
Toxaphene
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC

TTO - Volatile Compounds

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethylene
1,2-Dichloroethane
1,2-Dichloropropane
1,2-trans-Dichloroethylene
cis 1,3-Dichloropropylene
trans 1,3-Dichloropropylene
2-Chloroethylvinyl ether
Acrolein
Acrylonitrile
Benzene
Bromoform
Carbon Tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Dichlorobromomethane
Ethylbenzene
Methyl Bromide
Methyl Chloride
Methylene Chloride
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride

Universal Treatment Standards (UTS, UHC) - Pesticides

Aldrin
alpha-BHC
beta-BHC
delta-BHC
Dieldrin
Endosulfan I
Endosulfan II
Chlordane (alpha and gamma isomers)
Endosulfan sulfate
Endrin
Endrin aldehyde
gamma-BHC
Heptachlor
Heptachlor epoxide
Methoxychlor
2,4'-DDD
2,4'-DDE
2,4'-DDT
4,4'-DDD
4,4'-DDE
4,4'-DDT
Toxaphene

Universal Treatment Standards (UTS, UHC) - Herbicides

2,4,5-T
Dinoseb
2,4,5-TP
2,4-D

Universal Treatment Standards (UTS, UHC) - Volatiles

1,1,1,2-Tetrachloroethane
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloro-1,2,2-trifluoroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethylene
1,2,3-Trichloropropane
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane/Ethylene dibromide
1,2-Dichloroethane
1,2-Dichloropropane
1,4-Dioxane
2-Chloro-1,3-butadiene
3-Chloropropylene (Allyl Chloride)
Acetone
Acetonitrile
Acrolein
Acrylonitrile
Benzene
Bromodichloromethane
Bromomethane/Methyl bromide
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane/Methyl chloride
cis-1,3-Dichloropropylene
Cyclohexanone
Dibromomethane
Dichlorodifluoromethane
Ethyl acetate
Ethyl benzene
Ethyl cyanide/Propanenitrile
Ethyl ether
Ethyl methacrylate
Iodomethane
m-Dichlorobenzene
Methacrylonitrile
Methyl ethyl ketone
Methyl isobutyl ketone
Methyl methacrylate
Methylene chloride
o-Dichlorobenzene
p-Dichlorobenzene
Pentachloroethane
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropylene
Tribromomethane/Bromoform
Trichloroethylene
Trichlorofluoromethane
Vinyl chloride
Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)

Universal Treatment Standards (UTS, UHC) - Semivolatiles

1,2,4,5-Tetrachlorobenzene
1,2-Diphenylhydrazine
1,4-Dinitrobenzene
2,3,4,6-Tetrachlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethyl phenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dichlorophenol
2,6-Dinitrotoluene
2-Acetylaminofluorene
2-Chloronaphthalene
2-Chlorophenol
2-Naphthylamine
3-Methylcholanthrene
4,4-Methylene bis(2-chloroaniline)
4,6-Dinitro-o-cresol
4-Aminobiphenyl
4-Bromophenyl phenyl ether
5-Nitro-o-toluidine
Acenaphthene
Acenaphthylene
Acetophenone
Aniline
Anthracene
Aramite
Benz(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloroisopropyl)ether
bis(2-Ethylhexyl)phthalate
Butyl benzyl phthalate
Chlorobenzilate
Chrysene
Dibenz(a,e)pyrene
Dibenz(a,h)anthracene
Diethyl phthalate
Dimethyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Di-n-propylnitrosamine
Disulfoton
Famphur
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachloropropylene
Indeno(1,2,3-c,d) pyrene
Isodrin
Isosafrole
Kepone
m,p-Cresols (difficult to distinguish m-cresol from p-cresol)
Diphenylamine (difficult to distinguish from diphenylnitrosamine)
Methapyrilene
Methyl methanesulfonate
Methyl parathion
Naphthalene
Nitrobenzene
N-Nitrosodiethylamine
N-Nitrosodimethylamine
N-Nitroso-di-n-butylamine
N-Nitrosomethylethylamine
N-Nitrosomorpholine
N-Nitrosopiperidine
N-Nitrosopyrrolidine
o-Cresol
o-Nitroaniline
o-Nitrophenol
Parathion
p-Chloroaniline
p-Chloro-m-cresol
p-Dimethylaminoazobenzene
Pentachlorobenzene
Pentachloronitrobenzene
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
Phorate
p-Nitroaniline
p-Nitrophenol
Pronamide
Pyrene
Pyridine
Safrole

Universal Treatment Standards (UTS, UHC) - Volatiles

1,1,1,2-Tetrachloroethane
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloro-1,2,2-trifluoroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethylene
1,2,3-Trichloropropane
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
1,2-Dichloroethane
1,2-Dichloropropane
1,4-Dioxane
2-Chloro-1,3-butadiene
2-Chloroethyl vinyl ether
3-Chloropropylene (Allyl Chloride)
Acetone
Acetonitrile
Acrolein
Acrylonitrile
Benzene
Bromodichloromethane
Bromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane
cis-1,3-Dichloropropylene
Cyclohexanone
Dibromomethane
Dichlorodifluoromethane
Ethyl acetate
Ethyl benzene
Ethyl cyanide/Propanenitrile
Ethyl ether
Ethyl methacrylate
Iodomethane
1,3-Dichlorobenzene
Methacrylonitrile
2-Butanone (Methyl ethyl ketone)
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methyl methacrylate
Methylene chloride
1,2-Dichlorobenzene
1.4-Dichlorobenzene
Pentachloroethane
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropylene
Bromoform
Trichloroethylene
Trichlorofluoromethane
Vinyl chloride
Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)

Volatile Organic Compounds - Safe Drinking Water Act (SDWA)

Benzene
Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
2-Chlorotoluene
4-Chlorotoluene
Dibromochloromethane
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
cis-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
2,2-Dichloropropane
1,1-Dichoropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Ethylbenzene
Hexachlorobutadiene
Isopropylbenzene
4-Isopropyltoluene
Methylene Chloride
Methyl-t-butyl ether
Naphthalene
n-Propylbenzene
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Vinyl chloride
o-Xylene
m,p-Xylene

THIS AGREEMENT IS SUBJECT TO ARBITRATION PURSUANT TO SECTION 15-48-10 OF THE SOUTH CAROLINA CODE

GEL LABORATORIES, LLC

STANDARD TERMS AND CONDITIONS

1.0. General

1.1 GEL Laboratories, LLC, "GEL", is the laboratory being contracted. The "Client" is our valued Client. Our agreement with the Client consists of these Standard Terms and any written proposal, confirmation letter or pricing documents prepared by or approved by GEL.

2.0. GEL General Responsibilities

2.1 GEL agrees to provide the Client professional environmental services. GEL will provide written reports containing analytical results produced in conformance with agreed upon testing criteria. In performing our services, GEL will use that degree of care and skill ordinarily exercised under similar circumstances by members of our profession in South Carolina.

2.2 Tests and observations will be conducted in accordance with appropriate test procedures and laboratory protocols. If the Client specifies tests that vary from GEL's standard or recommended procedures, the Client agrees to hold GEL harmless from all claims, damages, and expenses arising from Client's direction.

2.3 GEL will assign a Project Manager who will be authorized to serve as the Client's single point of contact and make decisions relating to the Client's project.

2.4 GEL will not release information regarding our services for the Client or any information that GEL received from the Client unless authorized in writing, except for information that is in the public domain and except as GEL is required by law.

3.0. Client General Responsibilities

3.1 The Client will not use GEL's name and/or data in any manner which might cause harm to the company's reputation and/or business. Under no circumstances is the name of GEL Laboratories, LLC, to be published, either alone or in association with that of any other party, without prior written approval from GEL.

3.2 The Client will assign a representative(s) who has authority to transmit instructions, receive information and make decisions relative to GEL's work.

3.3 At the time a project quote is requested, the client shall identify all potential sample hazards including but not limited to chemical, biological and radioactive hazards so that applicable fees can be included in the project cost. The client will notify GEL prior to shipment of these samples to the laboratory and ensure that documentation of the known hazards accompanies the sample shipment. Shipping of samples shall be in accordance with Department of Transportation (DOT) regulations. Warnings should be affixed to the sample container as well as noted on the chain of custody. Should GEL identify sample hazards that were not provided by the client, we will contact the client concerning our findings, and fees will be assessed at that time for sample handling and disposal.

4.0. Delivery and Acceptance of Samples

4.1 An agreement between the Client and GEL must be in place once samples are received at the laboratory in order for GEL to proceed with the project. GEL will accept either a signed copy of the GEL quotation or the Client's purchase order or contract as an agreement as long as the Client's terms and conditions have been reviewed and accepted by GEL.

4.2 Until GEL accepts delivery of samples by notation on a chain of custody document or otherwise in writing, GEL is not responsible for loss of or damage to samples.

4.3 The turnaround time for samples received after 2:00 pm will begin on the next business day. The Client agrees that samples received with one half of the holding time expired may be subject to a rush fee.

4.4 GEL will assess a fee of $25 per sample for samples received and placed on a hold status. If samples are later analyzed, the fee will be waived and only the analytical unit price will be charged. Samples that are taken off of the hold status with less than one half of the holding time remaining may be subject to a rush fee. GEL will maintain samples on hold for 30 calendar days. After this time frame, GEL will either dispose of samples in accordance with Section 4.5 or invoice for additional sample retention in accordance with Section 4.6.

4.5 GEL will charge 40% of the applicable unit price for samples that are requested to be prepped and placed on hold. Samples that are taken off of the hold status with less than one half of the holding time remaining may be subject to a rush fee.

4.6 Samples remain the property of the Client at all times. GEL will dispose of non-hazardous samples, sample extracts and digestates 30 days after the report date unless prior written arrangement has been made with GEL to return the materials to the Client at the Client's expense. GEL reserves the right to return samples classified as mixed wastes to the Client at the Client's expense. Charges for disposal of non-routine or hazardous samples will be invoiced to the Client.

4.7 Additional sample retention past the 30 day time frame listed in Section 4.5 may be available for a fee starting at $2 per container per month. This fee will be invoiced on a monthly basis for every month after the standard 30 day retention. Fees for large volume, non-standard matrices or cold storage will be negotiated on a case by case basis.

4.8 Regardless of a prior acceptance, GEL may refuse or return samples if we determine that the samples present a risk to health, safety, the environment or that we are not authorized to accept them. If GEL does not accept a sample, the Client will immediately have it properly removed from GEL's facilities.

4.9 If the Client requests that samples are analyzed undiluted or sends samples to GEL containing chemical, biological, radioactive or other hazards without providing appropriate notification as listed in Section 3.3, additional charges may be assessed, including but not limited to waste disposal fees and costs for instrumentation that must be replaced and/or repaired. GEL reserves the right to dilute samples as necessary so as not to damage instrumentation.

4.10 GEL will apply a multiplier of 2.0X to cover the special handling and additional safety oversight costs associated with analyzing Asbestos Containing Materials. GEL requests any Asbestos Containing Materials be clearly identified on the Chain of Custody and that you contact your GEL Project Manager prior to the shipment of these samples.

5.0. Changes to Orders

5.1 Only designated representatives for each order are authorized to act regarding changes to an order. GEL will only accept changes to an order from the Client's designated representative(s). All such changes must be in writing and signed by client's designated representative.

5.2 GEL will notify the Client of any activity that GEL regards as a change to the terms and conditions of an order. Depending upon the nature of the change, GEL may request a revised proposal or contract amendment.

5.3 The Client will respond to this notification and any request for a revised proposal or contract amendment within reasonable time to allow analyses to be completed within the holding time.

5.4 Orders may be terminated in writing by either party. GEL shall be compensated for expenses incurred and for services that are already in process and cannot be reasonably avoided. For analysis that is cancelled, GEL will charge 40% of the unit cost for samples that are in the prep stage of the testing and 60% of the unit cost for samples that are prepped and in the analysis stage. For samples that are cancelled and have not been prepped or analyzed, GEL will charge $25 per sample.

5.5 If requested in writing and approved by the Client, GEL will reanalyze a sample. If analytical results fall within plus or minus twenty (20) percent of the original results, the Client agrees to pay GEL for the reanalysis.

6.0. Reports and Records

6.1 Unless otherwise requested, GEL will provide one copy of each report. GEL will retain analytical data for seven years and financial data for three years following transmittal of GEL's final report.

6.2 If the Client does not pay for our services as agreed, the Client agrees that GEL may retain all reports and work not yet delivered and reserves the right to refuse further orders and/or samples.

7.0. Compensation

7.1 GEL's pricing is predicated upon the Client's acceptance of the conditions and allocations of risks and responsibilities described in this Agreement. The client agrees to pay for services provided by GEL in accordance with the terms of the agreement between the parties.

7.2 Invoices are due for payment within 30 days of issuance by GEL. In order to receive Net 30 terms, GEL's Accounting Department must review and approve the Client's credit application. Past due amounts are subject to a late payment penalty of one and one-half (1.5%) percent per month, but not to exceed the maximum rate allowed by law. If GEL incurs fees or costs in an effort to collect any portion of the amount payable to GEL, including, without limitation, litigation, arbitration, or lien fees or costs, all of those expenses of collection shall be paid by the Client to GEL in addition to any amount collected by GEL as part of that effort. Such expenses include fees of attorneys, paralegals, and arbitrators, and costs of courts, law firms, filings, service, and arbitration, and any other costs incurred through litigation or arbitration, including on appeal. The total amount of such expenses shall be added to and become part of any judgement, award, or recovery obtained by GEL and shall be paid by the Client to GEL.

7.3 The Client's obligation to pay for the services contracted is in no way dependent or conditioned upon the Client's ability to obtain financing, approval of governmental or regulatory agencies, or upon the Client's successful completion of the project.

7.4 The Client agrees to compensate GEL for our services and normally reimbursable expenses if GEL is required to respond to legal process related to GEL's services for the Client. Compensated services include hourly charges for all personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, the preparation of the testifier, and appearances related to the legal process.

8.0. Risk Allocation, Disputes, and Damages

8.1 In consideration for the work being performed and the fee being charged by GEL for that work, the Client agrees that GEL's aggregate liability for GEL's negligent acts and omissions and for non-intentional breach will not exceed the fee paid for GEL's services. The Client waives any claims for any amounts in excess of the GEL fee and further agrees to indemnify GEL from all liabilities to others in excess of that amount. This limitation does not apply to losses arising from GEL's gross negligence or intentional breaches of contract.

8.2 GEL will not be liable to the Client for damages unless notified within one year of the date of the completion of our services. In no event will GEL be liable unless notified of the discovery of the claimed negligent act, error, omission or breach within 30 days of the date of its discovery and unless the Client has given GEL an opportunity to remedy the damages.

8.3 All disputes arising out of or relating to the agreement between the parties shall be decided by arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association in effect at the time the dispute arises. Any award rendered by the arbitrator or arbitrators shall be final and judgment may be entered upon it in accordance with South Carolina law.

9.0. Indemnities

9.1 GEL will indemnify and hold the Client harmless from and against demands, damages, and expenses caused by GEL's negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom GEL is legally responsible. The Client will indemnify and hold GEL harmless from and against demands, damages, and expenses caused by the Client's negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom the Client is legally responsible.

10.0. Miscellaneous Provisions

10.1 This Agreement constitutes the entire agreement between Client and GEL, and it supersedes all prior agreements. Any term, condition, prior course of dealing, course of performance, understanding, purchase order conditions, or other agreement purporting to modify, vary, supplement, or explain any provision of this agreement is of no effect unless placed in writing and signed by both parties subsequent to the date of this agreement.

10.2 GEL may subcontract laboratory procedures as GEL deems necessary to meet GEL's obligations to Client.

10.3 Neither Client nor GEL shall have any liability for nonperformance caused in whole or in part by causes beyond our reasonable control. Such causes include but are not limited to Acts of God, civil unrest and war, labor unrest and strikes and acts of authorities.

10.4 If any of the provisions of this Agreement are held to be invalid or unenforceable in any respect, the remaining terms shall be in full effect and shall be construed as if the invalid or unenforceable matters were never included in it. No waiver of any default shall be a waiver of any future default.

Pricing is subject to change without notification.

I accept GEL's quote and terms and conditions.

{{SigB_es_:signer:signatureblock}} PO# {{PO_es_:signer:order:default("Please enter your PO number here")}}