SFUND RECORDS CTR
2070491

"Perina, Tom/SBO"
<Tom.Perina@ch2m.com>
03/18/2004 05:05 PM

To Christopher Lichens/R9/USEPA/US@EPA
cc
bcc
Subject FW: Analyte List and Reporting Limits

Hi Chris,

we compared the analyte list and reporting limits in the attached OU-1 table to the analyte list and reporting limits received from EPA Region 9 Laboratory (also attached). The differences are noted below.

- All reporting limits from EPA Region 9 Laboratory were < or = to the reporting limits in the OU-1 table.
- Analytes listed in the EPA Region 9 Laboratory information and not listed in the OU-1 table are:
  - Aluminum
  - Boron
  - Calcium
  - Iron
  - Magnesium
  - Manganese
  - Potassium
  - Sodium
  - 2,2-oxybis(1-chloropropane)
  - Diphenyl amine
  - Carbazole
  - Benzo(k)fluoranthene
  - Endrin ketone
  - 2,4-DDD
  - 2,4-DDE
  - 2,4-DDT
- Analytes listed in the OU-1 table and not listed in the EPA Region 9 Laboratory information are:
  - Benzoic Acid
  - Bis(2-chloroisopropyl)ether
  - n-Nitrosodi-n-propylamine

The important part of the list is the second, showing what is in the SAP and what Region IX doesn't do. I think that these three compounds are not critical for the split sampling and we can drop them.

Tom

svoc_solid.pdf Omega OU-1 RSCC Form March 2004.doc metals_solid.pdf Omega OU-1 RSCC Form March 2004.doc

EPA Region 9 Laboratory

3/17/2004

Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Matrix Spike RPD	Blank Spike / LCS %R	Blank Spike / LCS RPD
SVOCs in Solid (8270C/SOP315)								
Preservation: Store cool at 4°C								
Container: Metal Core Sleeve		**Amount Required:** 100 g			**Hold Time:** 14 days			
1,4-Dioxane								
Phenol	160	330 ug/kg			26 - 100	35	26 - 100	
bis(2-Chloroethyl)ether	160	330 ug/kg						
2-Chlorophenol	160	330 ug/kg			25 - 102	50	25 - 102	
1,3-Dichlorobenzene	160	330 ug/kg						
1,4-Dichlorobenzene	160	330 ug/kg			28 - 104	27	28 - 104	
Benzyl alcohol	160	330 ug/kg						
1,2-Dichlorobenzene	160	330 ug/kg						
2-Methylphenol	160	330 ug/kg						
2,2'-oxybis(1-Chloropropane)	160	330 ug/kg						
3&4-Methylphenol	160	330 ug/kg						
N-Nitrosodipropylamine	160	330 ug/kg			41 - 126	38	41 - 126	
Hexachloroethane	160	330 ug/kg						
Nitrobenzene	160	330 ug/kg						
Isophorone	160	330 ug/kg						
2-Nitrophenol	160	330 ug/kg						
2,4-Dimethylphenol	160	330 ug/kg						
bis(2-Chloroethoxy)methane	160	330 ug/kg						
2,4-Dichlorophenol	160	330 ug/kg						
1,2,4-Trichlorobenzene	160	330 ug/kg			38 - 107	23	38 - 107	
Naphthalene	160	330 ug/kg						
4-Chloroaniline	160	330 ug/kg						
Hexachlorobutadiene	160	330 ug/kg						
4-Chloro-3-methylphenol	160	330 ug/kg			26 - 103	33	26 - 103	
2-Methylnaphthalene	160	330 ug/kg						
Hexachlorocyclopentadiene	160	330 ug/kg						
2,4,6-Trichlorophenol	160	330 ug/kg						
2,4,5-Trichlorophenol	420	830 ug/kg						
2-Chloronaphthalene	160	330 ug/kg						
2-Nitroaniline	420	830 ug/kg						
Dimethyl phthalate	160	330 ug/kg						
Acenaphthylene	160	330 ug/kg						
2,6-Dinitrotoluene	160	330 ug/kg						
3-Nitroaniline	420	830 ug/kg						
Acenaphthene	160	330 ug/kg			31 - 137	19	31 - 137	
2,4-Dinitrophenol	420	830 ug/kg						
4-Nitrophenol	420	830 ug/kg			11 - 114	47	11 - 114	
Dibenzofuran	160	330 ug/kg						
2,4-Dinitrotoluene	160	330 ug/kg			28 - 100	28	50 - 100	
Diethyl phthalate	160	330 ug/kg						
Fluorene	160	330 ug/kg						
4-Chlorophenyl phenyl ether	160	330 ug/kg						
4-Nitroaniline	420	830 ug/kg						
4,6-Dinitro-2-methylphenol	420	830 ug/kg						
Diphenyl amine	160	330 ug/kg						
4-Bromophenyl phenyl ether	160	330 ug/kg						

EPA Region 9 Laboratory

3/17/2004

Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Matrix Spike RPD	Blank Spike / LCS %R	Blank Spike / LCS RPD
Hexachlorobenzene	160	330 ug/kg						
Pentachlorophenol	420	830 ug/kg			17 - 109	107	17 - 109	
Phenanthrene	160	330 ug/kg						
Anthracene	160	330 ug/kg						
Carbazole	160	330 ug/kg						
Di-n-butyl phthalate	160	330 ug/kg						
Fluoranthene	160	330 ug/kg						
Pyrene	160	330 ug/kg			35 - 142	36	35 - 142	
Butyl benzyl phthalate	160	330 ug/kg						
Benzo(a)anthracene	160	330 ug/kg						
3,3'-Dichlorobenzidine	160	330 ug/kg						
Chrysene	160	330 ug/kg						
bis(2-Ethylhexyl) phthalate	160	330 ug/kg						
Di-n-octyl phthalate	160	330 ug/kg						
Benzo(b)fluoranthene	160	330 ug/kg						
Benzo(k)fluoranthene	160	330 ug/kg						
Benzo(a)pyrene	160	330 ug/kg						
Indeno(1,2,3-cd)pyrene	160	330 ug/kg						
Dibenz(a,h)anthracene	160	330 ug/kg						
Benzo(g,h,i)perylene	160	330 ug/kg						
surr: 1,4-Dioxane-d8			50 - 130					
surr: 2-Fluorophenol			25 - 121					
surr: Phenol-d5			24 - 113					
surr: 2-Chlorophenol-d4			20 - 130					
surr: 1,2-Dichlorobenzene-d4			20 - 130					
surr: Nitrobenzene-d5			23 - 120					
surr: 2-Fluorobiphenyl			30 - 115					
surr: 2,4,6-Tribromophenol			19 - 122					
surr: Terphenyl-d14			18 - 137					
1,4-Dioxane-d8 (IS)								
1,4-Dichlorobenzene-d4								
Naphthalene-d8								
Acenaphthene-d10								
Phenanthrene-d10								
Chrysene-d12								
Perylene-d12								
Tentatively Identified Compounds								

REGION 9 SAMPLE COORDINATION CENTER (RSCC)
ANALYTICAL REQUEST FORM

Section 1

Project Name: OMEGA Chemical Superfund Site OU1 Remedial Investigation/Feasibility Study Oversight	
Proposed Sampling Dates: March 15, 2004 (tentative, March 15 is the earliest anticipated date)	
EPA Project Contact: Christopher Lichens	**Mail Code:** SFD-7-4

Section 2

Sampling Organization (if other than above): CH2M HILL	
Mailing Address: 164 West Hospitality Lane, Suite 2, San Bernardino, CA 92408	
Project Manager: Tom Perina	**E-mail:** tperina@ch2m.com
Office Phone: 909.890.9857	**Office Fax:** 909.890.9847
Sampler (if different from above): Dan Jablonski	**E-mail:** djablon1@ch2m.com
Office Phone: 909.890.0371	**Mobile Phone:** 909.858.8714

Section 3

Title of QA plan or addendum to existing plan under which this sampling event will occur: Quality Assurance Project Plan Omega Chemical Superfund Site Remedial Investigation/Feasibility Study Oversight (CH2M HILL, 2004); Field Sampling Plan for Omega Chemical Superfund Site Operable Unit 1 Remedial Investigation/Feasibility Oversight (CH2M HILL, 2004).

In compliance with EPA Order 5360.1, the EPA Region 9 Quality Management Plan, Section 1.1.2, states that, "An appropriate QA planning document ... will be developed and approved for each environmental data collection activity prior to the initiation of data collection."

Section 4

Requested TAT: Standard

Standard turn around time is 35 days. Faster turn around or preliminary report may be available upon request.

Section 5

Type of Data Deliverable	Data Distribution (include e-mail address if appropriate)
Hard copy report	1. Tom Perina/CH2M HILL (tperina@ch2m.com) 2.
Electronic report copy (as .pdf file)	1. Tom Perina/CH2M HILL (tperina@ch2m.com) 2. Dan Jablonski/CH2M HILL (djablon1@ch2m.com)
Electronic Data Deliverable (EDD)*	1. Tom Perina/CH2M HILL (tperina@ch2m.com) 2.

* Excel table. Other EDD formats may be available upon request

Section 6
(Fill in table or attach copy of analytical description from Sampling and Analysis Plan)

Analysis (method or R9 Lab SOP number)	Matrix	No. of samples
Semi-volatile organics, CLP, see description below this	soil	3
Pesticides and PCBs, CLP, see description below this table*	soil	3
Metals, CLP, see description below this table*	soil	3
Soil gas volatile organics ** (R9 laboratory procedure)	soil gas	3
Air volatile organics** (R9 laboratory procedure)	air	3

*The analyses for the organics and metals listed below will be per EPA Contract Laboratory Program (CLP) methodology. Per project needs, detection limits and the analyte list differ from the standard CLP lists, the analyses can be carried out per special services provisions currently available under the CLP. If needed low/trace level statements of work (to include use of ICP/MS or SIM) or larger sample volumes may be used to attain lower level detection limits. If CLP is unavailable, the analyses can be carried out at the EPA Regional laboratory using the laboratory's standard operating procedures and quality assurance equivalent to CLP. Required detection limits are listed below.
** See section 7 for analyte list and needed detection levels

Section 7
Include (or attach separately) any discussion of expanded or reduced analyte lists, required reporting limits, specialized preparation or analytical procedures, etc.

SOIL

Parameter			Laboratory Target Reporting Limit (mg/kg)[2]
Metals			
Antimony			10.0
Arsenic			0.5
Barium			1.0
Beryllium			1.0
Cadmium			0.50
Chromium			20
Cobalt			10.0
Copper			2.0
Lead			10.0
Mercury			0.10
Molybdenum			3.0
Nickel			2.0
Selenium			3.0
Silver			1.0
Thallium			6.0
Vanadium			1.0
Zinc			1.0
Semi-volatile Organic Compounds			
Base/Neutral Extractables			
1,4- dioxane			lab specific
1,2,4-Trichlorobenzene			0.7
1,2-Dichlorobenzene			0.7
1,3-Dichlorobenzene			0.7
1,4-Dichlorobenzene			0.7
2,4-Dinitrotoluene			0.7
2,6-Dinitrotoluene			0.7
2-Chloronaphthalene			0.7
2-Methylnaphthalene			0.7

SOIL

Parameter			Laboratory Target Reporting Limit (mg/kg)[2]
2-Nitroaniline			3.3
3-Nitroaniline			3.3
3,3'-Dichlorobenzidine			1.3
4-Bromophenyl phenyl ether			0.7
4-Chloroaniline			1.3
4-Chlorophenyl phenyl ether			0.7
4-Nitroaniline			3.3
Acenaphthylene			0.7
Acenaphthene			0.7
Anthracene			0.7
Benz(a)anthracene			0.7
Benzo(a)pyrene			0.7
Benzo(b)fluoranthene			0.7
Benzo(g,h,I)perylene			0.7
Benzl alcohol			1.3
Bis(2-chloroethoxy)methane			0.7
Bis(2-chloroethyl)ether			0.7
Bis(2-chloroisopropyl)ether			0.7
Bis(2-ethylhexyl)phthalate			0.7
Butyl benzylphthalate			0.7
Chrysene			0.7
Di-n-butylphthalate			0.7
Di-n-octylphthalate			0.7
Dibenz(a,h)anthracene			0.7
Dibenzofuran			0.7
Diethyl phthalate			0.7
Dimethyl phthalate			0.7
Fluoranthene			0.7
Fluorene			0.7
Hexachlorobenzene			0.7
Hexachlorobutadiene			0.7
Hexachlorocyclopentadiene			0.7
Hexachloroethane			0.7
Indeno(1,2,3-cd)pyrene			0.7
Isophorone			0.7
n-Nitrosodiphenylamine			0.7
n-Nitrosodi-n-propylamine			0.7
Naphthalene			0.7

SOIL

Parameter			Laboratory Target Reporting Limit (mg/kg)[2]
Nitrobenzene			0.7
Phenanthrene			0.7
Pyrene			0.7
SVOCs: Acid Extractables			
2,4,5-Trichlorophenol			3.3
2,4,6-Trichlorophenol			0.3
2,4-Dichlorophenol			0.3
2,4-Dimethylphenol			0.3
2,4-Dinitrophenol			3.3
2-Chlorophenol			0.3
2-Methylphenol			0.3
2-Nitrophenol			0.3
4,6-Dinitro-2-methylphenol			3.3
4-Chloro-3-methylphenol			1.3
4-Methylphenol			0.3
4-Nitrophenol			1.6
Benzoic Acid			1.6
Pentachlorophenol			3.3
Phenol			0.3
Pesticides and Polychlorinated Biphenyls			
Organochlorine Pesticides			
α-BHC			0.019
β-BHC			0.033
δ-BHC			0.011
γ-BHC (Lindane)			0.020
α-Chlordane			0.015
γ-Chlordane			0.015
4,4'-DDD			0.042
4,4'-DDE			0.025
4,4'-DDT			0.036
Aldrin			0.022
Dieldrin			0.035
Endosulfan I			0.021
Endosulfan II			0.024
Endosulfan Sulfate			0.036
Endrin			0.036
Endrin Aldehyde			0.016

SOIL

Parameter			Laboratory Target Reporting Limit (mg/kg)[2]
Heptachlor			0.020
Heptachlor Epoxide			0.021
Methoxychlor			0.057
Toxaphene			0.57
Polychlorinated Biphenyls			
PCB-1016			0.70
PCB-1221			0.70
PCB-1232			0.70
PCB-1242			0.70
PCB-1248			0.70
PCB-1254			0.70
PCB-1260			0.70

Notes:
[1]EPA Region IX Preliminary Remediation Goals (PRGs) for residential soils.
[2]Reporting Limits (RLs) shown are for samples that have not been diluted. RLs are matrix dependent and may be higher or lower than listed.
— No Standard

SOIL GAS AND AIR

Parameter			Laboratory Target Reporting Limit (ppb (v/v))[1]
Volatile Organic Compounds			
Acetone			10
Benzene			2.0
Bromobenzene			NT
Bromochloromethane			NT
Bromodichloromethane			2.0
Bromoform			2.0
Bromomethane			2.0
n-Butylbenzene			NT
sec-Butylbenzene			NT
tert-Butylbenzene			NT
Carbon tetrachloride			2.0
Chlorobenzene			2.0
Chloroethane			4.0
Chloroform			2.0
Chloromethane			4.0
2-Chlorotoluene			NT
4-Chlorotoluene			NT
Dibromochloromethane			2.0
1,2-Dibromo-3-chloropropane			NT
1,2-Dibromoethane			2.0
Dibromomethane			NT
1,2-Dichlorobenzene			2.0
1,3-Dichlorobenzene			NT
1,4-Dichlorobenzene			2.0
Dichlorodifluoromethane (Freon 12)			2.0
1,1-Dichloroethane			2.0
1,2-Dichloroethane			2.0
1,1-Dichloroethene			2.0
cis-1,2-Dichloroethene			2.0
trans-1,2-Dichloroethene			2.0
1,2-Dichloropropane			2.0
1,3-Dichloropropane			NT
2,2-Dichloropropane			NT
1,1-Dichloropropene			NT
cis-1,3-Dichloropropene			2.0

SOIL GAS AND AIR

Parameter			Laboratory Target Reporting Limit (ppb (v/v))[1]
trans-1,3-Dichloropropene			2.0
Ethylbenzene			2.0
Hexachlorobutadiene			4.0
Isopropylbenzene			NT
p-Isopropyltoluene			NT
Methylene chloride			2.0
Methyl tert-butyl ether			NT
Naphthalene			NT
n-Propylbenzene			NT
Styrene			2.0
1,1,1,2-Tetrachloroethane			NT
1,1,2,2-Tetrachloroethane			2.0
Tetrachloroethene			2.0
Toluene			2.0
1,2,3-Trichlorobenzene			NT
1,2,4-Trichlorobenzene			2.0
1,1,1-Trichloroethane			2.0
1,1,2-Trichloroethane			2.0
Trichloroethene			2.0
Trichlorofluoromethane (Freon 11)			2.0
1,2,3-Trichloropropane			NT
Trichlorotrifluoroethane (Freon 113)			2.0
1,2,4-Trimethylbenzene			2.0
1,3,5-Trimethylbenzene			2.0
Vinyl chloride			2.0
o-Xylene			2.0
m,p-Xylenes			2.0

Notes:
[1]Reporting Limits (RLs) shown are for samples that have not been diluted. RLs are matrix dependent and may be higher or lower than listed.

N/A – Not applicable
NT – Not a target analyte

EPA Region 9 Laboratory

3/17/2004

Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Matrix Spike RPD	Blank Spike / LCS %R	Blank Spike / LCS RPD
Arsenic in Solid (7010/SOP513)								
Preservation: Store cool at 4°C								
Container: Metal Core Sleeve			**Amount Required:** 50 g			**Hold Time:** 180 days		
Arsenic	1 0	2 0 mg/kg			80 - 120	20	66 - 134	
Lead in Solid (7010/SOP513)								
Preservation: Store cool at 4°C								
Container: Metal Core Sleeve			**Amount Required:** 50 g			**Hold Time:** 180 days		
Lead	0 50	1 0 mg/kg			80 - 120	20	75 - 125	
Mercury in Solid (7473/SOP535)								
Preservation: Store cool at 4°C								
Container: Metal Core Sleeve			**Amount Required:** 20 g			**Hold Time:** 28 days		
Mercury	0 010	0 030 mg/kg			80 - 120	20	80 - 120	
Metals, ICP in Solid (6010B/SOP503)								
Preservation: Store cool at 4°C								
Container: 4 oz jar			**Amount Required:** 50 g			**Hold Time:** 180 days		
Aluminum	100	200 mg/kg			75 - 125	20	62 - 137	
Antimony	10	20 mg/kg			75 - 125	20	61 - 140	
Arsenic	20	40 mg/kg			75 - 125	20	66 - 134	
Barium	5 0	10 mg/kg			75 - 125	20	47 - 153	
Beryllium	0 10	0 20 mg/kg			75 - 125	20	81 - 118	
Boron	10	20 mg/kg			75 - 125	20		
Cadmium	0 50	1 0 mg/kg			75 - 125	20	77 - 123	
Calcium	100	200 mg/kg			75 - 125	20	78 - 122	
Cerium								
Chromium	1 0	2 0 mg/kg			75 - 125	20	81 - 119	
Cobalt	2 0	4 0 mg/kg			75 - 125	20	82 - 118	
Copper	2 0	4 0 mg/kg			75 - 125	20	86 - 114	
Iron	100	200 mg/kg			75 - 125	20	80 - 120	
Lead	10	20 mg/kg			75 - 125	20	75 - 125	
Magnesium	50	100 mg/kg			75 - 125	20	86 - 114	
Manganese	5 0	10 mg/kg			75 - 125	20	84 - 117	
Molybdenum	5 0	10 mg/kg			75 - 125	20		
Nickel	5 0	10 mg/kg			75 - 125	20	77 - 123	
Potassium	500	1000 mg/kg			75 - 125	20	0 - 370	
Selenium	20	40 mg/kg			75 - 125	20	48 - 152	
Silica (SiO2)								
Silver	1 0	2 0 mg/kg			75 - 125	20	63 - 136	
Sodium	50	100 mg/kg			75 - 125	20	0 - 299	
Strontium								
Thallium	35	70 mg/kg			75 - 125	20	65 - 135	
Tin								
Titanium								
Vanadium	2 0	4 0 mg/kg			75 - 125	20	81 - 119	
Zinc	2 0	4 0 mg/kg			75 - 125	20	73 - 127	
Selenium in Solid (7010/SOP513)								
Preservation: Store cool at 4°C								
Container: Metal Core Sleeve			**Amount Required:** 50 g			**Hold Time:** 180 days		
Selenium	1 0	2 0 mg/kg			80 - 120	20	48 - 152	

EPA Region 9 Laboratory

3/17/2004

Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Matrix Spike RPD	Blank Spike / LCS %R	Blank Spike / LCS RPD

REGION 9 SAMPLE COORDINATION CENTER (RSCC)
ANALYTICAL REQUEST FORM

Section 1

Project Name: OMEGA Chemical Superfund Site OU1 Remedial Investigation/Feasibility Study Oversight	
Proposed Sampling Dates: March 15, 2004 (tentative, March 15 is the earliest anticipated date)	
EPA Project Contact: Christopher Lichens	**Mail Code:** SFD-7-4

Section 2

Sampling Organization (if other than above): CH2M HILL	
Mailing Address: 164 West Hospitality Lane, Suite 2, San Bernardino, CA 92408	
Project Manager: Tom Perina	**E-mail:** tperina@ch2m.com
Office Phone: 909.890.9857	**Office Fax:** 909.890.9847
Sampler (if different from above): Dan Jablonski	**E-mail:** djablon1@ch2m.com
Office Phone: 909.890.0371	**Mobile Phone:** 909.858.8714

Section 3

Title of QA plan or addendum to existing plan under which this sampling event will occur: Quality Assurance Project Plan Omega Chemical Superfund Site Remedial Investigation/Feasibility Study Oversight (CH2M HILL, 2004); Field Sampling Plan for Omega Chemical Superfund Site Operable Unit 1 Remedial Investigation/Feasibility Oversight (CH2M HILL, 2004).

In compliance with EPA Order 5360.1, the EPA Region 9 Quality Management Plan, Section 1.1.2, states that, "An appropriate QA planning document ... will be developed and approved for each environmental data collection activity prior to the initiation of data collection."

Section 4

Requested TAT: Standard

Standard turn around time is 35 days. Faster turn around or preliminary report may be available upon request.

Section 5

Type of Data Deliverable	Data Distribution (include e-mail address if appropriate)
Hard copy report	1. Tom Perina/CH2M HILL (tperina@ch2m.com) 2.
Electronic report copy (as .pdf file)	1. Tom Perina/CH2M HILL (tperina@ch2m.com) 2. Dan Jablonski/CH2M HILL (djablon1@ch2m.com)
Electronic Data Deliverable (EDD)*	1. Tom Perina/CH2M HILL (tperina@ch2m.com) 2.

* Excel table. Other EDD formats may be available upon request

Section 6
(Fill in table or attach copy of analytical description from Sampling and Analysis Plan)

Analysis (method or R9 Lab SOP number)	Matrix	No. of samples
Semi-volatile organics, CLP, see description below this	soil	3
Pesticides and PCBs, CLP, see description below this table*	soil	3
Metals, CLP, see description below this table*	soil	3
Soil gas volatile organics ** (R9 laboratory procedure)	soil gas	3
Air volatile organics** (R9 laboratory procedure)	air	3

*The analyses for the organics and metals listed below will be per EPA Contract Laboratory Program (CLP) methodology. Per project needs, detection limits and the analyte list differ from the standard CLP lists, the analyses can be carried out per special services provisions currently available under the CLP. If needed low/trace level statements of work (to include use of ICP/MS or SIM) or larger sample volumes may be used to attain lower level detection limits. If CLP is unavailable, the analyses can be carried out at the EPA Regional laboratory using the laboratory's standard operating procedures and quality assurance equivalent to CLP. Required detection limits are listed below.
** See section 7 for analyte list and needed detection levels

Section 7
Include (or attach separately) any discussion of expanded or reduced analyte lists, required reporting limits, specialized preparation or analytical procedures, etc.

SOIL

Parameter			Laboratory Target Reporting Limit (mg/kg)[2]
Metals			
Antimony			10.0
Arsenic			0.5
Barium			1.0
Beryllium			1.0
Cadmium			0.50
Chromium			20
Cobalt			10.0
Copper			2.0
Lead			10.0
Mercury			0.10
Molybdenum			3.0
Nickel			2.0
Selenium			3.0
Silver			1.0
Thallium			6.0
Vanadium			1.0
Zinc			1.0
Semi-volatile Organic Compounds			
Base/Neutral Extractables			
1,4- dioxane			lab specific
1,2,4-Trichlorobenzene			0.7
1,2-Dichlorobenzene			0.7
1,3-Dichlorobenzene			0.7
1,4-Dichlorobenzene			0.7
2,4-Dinitrotoluene			0.7
2,6-Dinitrotoluene			0.7
2-Chloronaphthalene			0.7
2-Methylnaphthalene			0.7

SOIL

Parameter			Laboratory Target Reporting Limit (mg/kg)[2]
2-Nitroaniline			3.3
3-Nitroaniline			3.3
3,3'-Dichlorobenzidine			1.3
4-Bromophenyl phenyl ether			0.7
4-Chloroaniline			1.3
4-Chlorophenyl phenyl ether			0.7
4-Nitroaniline			3.3
Acenaphthylene			0.7
Acenaphthene			0.7
Anthracene			0.7
Benz(a)anthracene			0.7
Benzo(a)pyrene			0.7
Benzo(b)fluoranthene			0.7
Benzo(g,h,l)perylene			0.7
Benzl alcohol			1.3
Bis(2-chloroethoxy)methane			0.7
Bis(2-chloroethyl)ether			0.7
Bis(2-chloroisopropyl)ether			0.7
Bis(2-ethylhexyl)phthalate			0.7
Butyl benzylphthalate			0.7
Chrysene			0.7
Di-n-butylphthalate			0.7
Di-n-octylphthalate			0.7
Dibenz(a,h)anthracene			0.7
Dibenzofuran			0.7
Diethyl phthalate			0.7
Dimethyl phthalate			0.7
Fluoranthene			0.7
Fluorene			0.7
Hexachlorobenzene			0.7
Hexachlorobutadiene			0.7
Hexachlorocyclopentadiene			0.7
Hexachloroethane			0.7
Indeno(1,2,3-cd)pyrene			0.7
Isophorone			0.7
n-Nitrosodiphenylamine			0.7
n-Nitrosodi-n-propylamine			0.7
Naphthalene			0.7

SOIL

Parameter			Laboratory Target Reporting Limit (mg/kg)[2]
Nitrobenzene			0.7
Phenanthrene			0.7
Pyrene			0.7
SVOCs: Acid Extractables			
2,4,5-Trichlorophenol			3.3
2,4,6-Trichlorophenol			0.3
2,4-Dichlorophenol			0.3
2,4-Dimethylphenol			0.3
2,4-Dinitrophenol			3.3
2-Chlorophenol			0.3
2-Methylphenol			0.3
2-Nitrophenol			0.3
4,6-Dinitro-2-methylphenol			3.3
4-Chloro-3-methylphenol			1.3
4-Methylphenol			0.3
4-Nitrophenol			1.6
Benzoic Acid			1.6
Pentachlorophenol			3.3
Phenol			0.3
Pesticides and Polychlorinated Biphenyls			
Organochlorine Pesticides			
α-BHC			0.019
β-BHC			0.033
δ-BHC			0.011
γ-BHC (Lindane)			0.020
α-Chlordane			0.015
γ-Chlordane			0.015
4,4'-DDD			0.042
4,4'-DDE			0.025
4,4'-DDT			0.036
Aldrin			0.022
Dieldrin			0.035
Endosulfan I			0.021
Endosulfan II			0.024
Endosulfan Sulfate			0.036
Endrin			0.036
Endrin Aldehyde			0.016

SOIL

Parameter			Laboratory Target Reporting Limit (mg/kg)[2]
Heptachlor			0.020
Heptachlor Epoxide			0.021
Methoxychlor			0.057
Toxaphene			0.57
Polychlorinated Biphenyls			
PCB-1016			0.70
PCB-1221			0.70
PCB-1232			0.70
PCB-1242			0.70
PCB-1248			0.70
PCB-1254			0.70
PCB-1260			0.70

Notes:
[1]EPA Region IX Preliminary Remediation Goals (PRGs) for residential soils.
[2]Reporting Limits (RLs) shown are for samples that have not been diluted. RLs are matrix dependent and may be higher or lower than listed.
— No Standard

SOIL GAS AND AIR

Parameter			Laboratory Target Reporting Limit (ppb (v/v))[1]
Volatile Organic Compounds			
Acetone			10
Benzene			2.0
Bromobenzene			NT
Bromochloromethane			NT
Bromodichloromethane			2.0
Bromoform			2.0
Bromomethane			2.0
n-Butylbenzene			NT
sec-Butylbenzene			NT
tert-Butylbenzene			NT
Carbon tetrachloride			2.0
Chlorobenzene			2.0
Chloroethane			4.0
Chloroform			2.0
Chloromethane			4.0
2-Chlorotoluene			NT
4-Chlorotoluene			NT
Dibromochloromethane			2.0
1,2-Dibromo-3-chloropropane			NT
1,2-Dibromoethane			2.0
Dibromomethane			NT
1,2-Dichlorobenzene			2.0
1,3-Dichlorobenzene			NT
1,4-Dichlorobenzene			2.0
Dichlorodifluoromethane (Freon 12)			2.0
1,1-Dichloroethane			2.0
1,2-Dichloroethane			2.0
1,1-Dichloroethene			2.0
cis-1,2-Dichloroethene			2.0
trans-1,2-Dichloroethene			2.0
1,2-Dichloropropane			2.0
1,3-Dichloropropane			NT
2,2-Dichloropropane			NT
1,1-Dichloropropene			NT
cis-1,3-Dichloropropene			2.0

SOIL GAS AND AIR

Parameter			Laboratory Target Reporting Limit (ppb (v/v))[1]
trans-1,3-Dichloropropene			2.0
Ethylbenzene			2.0
Hexachlorobutadiene			4.0
Isopropylbenzene			NT
p-Isopropyltoluene			NT
Methylene chloride			2.0
Methyl tert-butyl ether			NT
Naphthalene			NT
n-Propylbenzene			NT
Styrene			2.0
1,1,1,2-Tetrachloroethane			NT
1,1,2,2-Tetrachloroethane			2.0
Tetrachloroethene			2.0
Toluene			2.0
1,2,3-Trichlorobenzene			NT
1,2,4-Trichlorobenzene			2.0
1,1,1-Trichloroethane			2.0
1,1,2-Trichloroethane			2.0
Trichloroethene			2.0
Trichlorofluoromethane (Freon 11)			2.0
1,2,3-Trichloropropane			NT
Trichlorotrifluoroethane (Freon 113)			2.0
1,2,4-Trimethylbenzene			2.0
1,3,5-Trimethylbenzene			2.0
Vinyl chloride			2.0
o-Xylene			2.0
m,p-Xylenes			2.0

Notes:
[1]Reporting Limits (RLs) shown are for samples that have not been diluted. RLs are matrix dependent and may be higher or lower than listed.

N/A – Not applicable
NT – Not a target analyte