Port of Seattle
Lora Lake Apartments Site

Remedial Investigation/ Feasibility Study

Volume I

Appendix D
Historical Environmental Investigation Data Tables

FINAL

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Lora Lake Apartments
Focused Environmental Site Assessment
Soil and Groundwater Data Tables

Table 1. Summary of Chemical Analyses

Lora Lake Apartments Focussed Environmental Site Assessment

Sample ID	Analytical Laboratory	Lab Report Number	Sample Date	NWTPH-Gx	NWTPH-Dx	VOCs	SVOCs	PCBs	PCDDs / PCDFs	RCRA Metals	Arsenic Only	Pentachloro-phenol
Geoprobe Soil Samples												
LLP-2-6.5	OnSite	07-209-03	7/24/2007	--	X	--	--	--	--	--	X	--
LLP-2-17	OnSite	07-209-05	7/24/2007	--	X	--	--	--	--	--		--
LLP-3-6	OnSite	07-209-06	7/25/2007	--	X	--	--	--	--	--	X	--
LLP-4-6.5	OnSite	07-209-08	7/25/2007	--	X	--	--	--	--	--	--	--
LLP-4-14.5	OnSite	07-209-09	7/25/2007	X	X	X	X	X	--	X	--	--
LLP-5-15.5	OnSite	07-209-10	7/25/2007	X	X	X	X	X	--	X	--	--
LLP-6-6.5	OnSite	07-209-11	7/25/2007	--	X	--	--	--	--	--	--	--
LLP-6-14.5	OnSite	07-209-12	7/25/2007	--	X	--	--	--	--	--	--	--
Geoprobe Groundwater Samples												
LLP-2 Water	OnSite	07-209-18	7/24/2007	--	X	--	--	--	--	--	--	--
LLP-3 Water	OnSite	07-209-19	7/25/2007	--	X	--	--	--	--	--	--	--
LLP-4 Water	OnSite	07-209-21	7/25/2007	X	X	X	X	X	--	X	--	--
LLP-5 Water	OnSite	07-209-22	7/25/2007	X	X	X	X	X	--	X	--	--
LLP-6 Water	OnSite	07-209-23	7/25/2007	--	X	--	--	--	--	--	--	--
LLP-8 Water	OnSite	07-209-25	7/25/2007	X	X	X	X	X	--	X	--	--
LLP-9 Water	OnSite	07-209-26	7/25/2007	X	X	X	X	X	--	X	--	--
Well MW-1 Soil Samples												
MW-1-7	CAS	K0710957-002	10/25/2007	X	X	--	X	--	X	--	--	--
MW-1-14	CAS	K0710957-003	10/25/2007	X	X	--	X	--	X	--	--	--
Well MW-1 Groundwater Samples												
MW-1	CAS	K0710957-001	11/7/2007	X	X	--	X	--	X	--	--	--
MW-1	CAS	K0711491-001	12/5/2007	X	X	X	X	--	--	--	--	X

Comments:

NWTPH-Gx means gasoline-range organics

NWTPH-Dx means diesel- and oil-range organics

VOCs means Volatile Orgnic Compounds by EPA Method 8260B

SVOCs means Semi-volatile Orgnic Compounds by EPA Method 8270D-SIM

PCBs means polychlorinated biphenols by EPA Method 8082

PCDDs / PCDFs means polychlorinated dibenzodioxins and polychlorinated dibenzofurans by HRGC/HRMS

RCRA means total metals in soil EPA Methods 6010B/7471A, and dissolved metals in groundwater, EPA Methods 200.8/7470A.

Arsenic by EPA Method 6010B.

Pentachlorphenol by EPA Method 8151A Modified

-- means not analyed for particular analytes

OnSite means OnSite Environmental, Inc.

CAS means Columbia Analytical Services, Inc.

Table 2. Summary of Hydrocarbon Data

Lora Lake Apartments Focussed Environmental Site Assessment

Sample ID/Depth (ft.)	Lab ID	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline	Diesel	Oil
Geoprobe Soil Samples			**Reported Concentrations in (mg/Kg)**						
LLP-2-6.5	07-209-03	7/24/2007	--	--	--	--	--	**1,300**	**9,800**
LLP-2-17	07-209-05	7/24/2007	--	--	--	--	--	ND(<27)	180
LLP-3-6	07-209-06	7/25/2007	--	--	--	--	--	160	1,100
LLP-4-6.5	07-209-08	7/25/2007	--	--	--	--	--	100	930
LLP-4-14.5	07-209-09	7/25/2007	ND(<0.11)	0.620	1.4	**12.5**	**1,900**	**6,000**	**17,000**
LLP-5-15.5	07-209-10	7/25/2007	ND(<0.0011)	ND(<0.0011)	ND(<0.0011)	ND(<0.0022)	ND(<11)	39	160
LLP-6-6.5	07-209-11	7/25/2007	--	--	--	--	--	75	240
LLP-6-14.5	07-209-12	7/25/2007	--	--	--	--	--	ND(<28)	ND(<56)
Well MW-1 Soil Samples			**Reported Concentrations in (mg/Kg)**						
MW-1-7	K0710957-002	10/25/2007	Awaiting transmittal of lab data				2.7 J	30 H	170 O
MW-1-14	K0710957-003	10/25/2007					**1,000 Y**	**8,900 DY**	**12,000 DL**
MTCA Method A Cleanup Levels - Soil			0.03	7	6	9	30/100 *		2,000

Sample ID/Depth (ft.)	Lab ID	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline	Diesel	Oil
Geoprobe Groundwater Samples			**Reported Concentrations in (ug/L)**						
LLP-2 Water	07-209-18	7/24/2007	--	--	--	--	**--**	**6,700**	**7,800**
LLP-3 Water	07-209-19	7/25/2007	--	--	--	--	**--**	280	**710**
LLP-4 Water	07-209-21	7/25/2007	0.72	8.1	4.8	50	**2,000**	**1,100**	**1,300**
LLP-5 Water	07-209-22	7/25/2007	ND(<0.20)	ND(<0.20)	ND(<0.20)	ND(<0.40)	220	440	**690**
LLP-6 Water	07-209-23	7/25/2007	--	--	--	--	--	**1,500**	**1,300**
LLP-8 Water	07-209-25	7/25/2007	ND(<0.20)	ND(<0.20)	ND(<0.20)	ND(<0.40)	ND<(100)	ND(<250)	ND(<400)
LLP-9 Water	07-209-26	7/25/2007	ND(<0.20)	ND(<0.20)	ND(<0.20)	ND(<0.40)	ND<(500)	ND(<250)	ND(<410)

Sample ID/Depth (ft.)	Lab ID	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline	Diesel	Oil
Well MW-1 Groundwater Samples			**Reported Concentrations in (ug/L)**						
MW-1	K0710957-001	11/7/2007	--	--	--	--	**2,100 Y**	**11,000 Z**	**4,800 Z**
MW-1	K0711491-001	12/5/2007	ND(<0.14)	0.12 J	0.13 J	3.9	210 J	**2,300 Y**	**2,500 L**
MTCA Method A Cleanup Levels - Groundwater			5	1,000	700	1,000	800/1,000 *		500

Comments:

BTEX by EPA Method 8260B

Gasoline-range organics by Method NWTPH-Dx

Diesel-, and Oil-range organics by Method NWTPH-Dx.

-- means not analyed for particular analytes

ND means target analyte not detected at or above the detection limit in parenthesis

BOLD means result exceeds cleanup level

J means analyte concentration is an estimate

D means reported result is from a dilution

O means chromatographic fingerprint resembles oil, but does not match standard

Soil data reported in mg/kg units which approximate parts per million (ppm) concentrations

Groundwater data reported in ug/L units which approximate parts per billion (ppb) concentrations

Model Toxics

* Cleanup level for gasoline if benzene present / benzene not present

Y means chromatographic fingerprint does not match standard

Z means means chromatographhic standard does not resemble petroleum product

H means chromatographic fingerprint resembles petroleum product, but doesn't match standard

L means chromatographic fingerprint resembles petroleum product, but doesn't match standard

Table 3. Summary of Volatile Organics Analysis Data

Lora Lake Apartments Focussed Environmental Site Assessment

Geoprobe Boring Samples	Soil Samples			Groundwater Samples					
Sample Designation	LLP-4-14.5	LLP-5-15.5	MTCA Method A/B Cleanup Levels	LLP-4 Water	LLP-5 Water	LLP-8 Water	LLP-9 Water	MW-1	MTCA Method A/B Cleanup Levels
Sample Date	7/25/2007	7/25/2007		7/25/2007	7/25/2007	7/25/2007	7/25/2007	12/5/2007	
Laboratory Designation	07-209-09	07-209-10		07-209-21	07-209-22	07-209-25	07-209-26	K0711491-001	
Analyte	Reported Concentrations (mg/kg)			Reported Concentrations (ug/L)					
Chloromethane	ND(<0.11)	ND(<0.0011)	77	ND(<0.40)	ND(<0.20)	ND(<0.20)	ND(<0.20)	0.15 J	3.4
Acetone	ND(<0.56)	0.068	8,000	17	ND(<5)	ND(<5)	ND(<5)	ND(<4.1)	800
Benzene	ND(<0.11)	ND(<0.0011)	0.03	0.72	ND(<0.20)	ND(<0.20)	ND(<0.20)	ND(<0.14)	5
Toluene	0.62	ND(<0.0011)	7	8.1	ND(<0.20)	ND(<0.20)	ND(<0.20)	0.12 J	1,000
Ethylbenzene	1.4	ND(<0.0011)	6	4.8	ND(<0.20)	ND(<0.20)	ND(<0.20)	0.13 J	700
Xylenes	**12.5**	ND(<0.0022)	9	50	ND(<0.40)	ND(<0.40)	ND(<0.40)	3.9	1,000
2-Butanone	0.56	0.0072	48,000	ND(<10)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<2.3)	4,800
(trans) 1,2-Dichloroethene	ND(<0.11)	ND(<0.0011)	110	0.89	ND(<0.20)	ND(<0.20)	ND(<0.20)	ND(<0.15)	5
(cis) 1,2-Dichloroethene	ND(<0.11)	ND(<0.0011)	110	0.97	ND(<0.20)	ND(<0.20)	ND(<0.20)	ND(<0.12)	5
Chloroform	ND(<0.11)	ND(<0.0011)	160	ND(<0.40)	ND(<0.20)	0.63	ND(<0.20)	ND(<0.14)	7.2
1,2-Dichloroethane	ND(<0.11)	ND(<0.0011)	11	0.62	ND(<0.20)	ND(<0.20)	ND(<0.20)	ND(<0.12)	5
Trichloroethene	ND(<0.11)	ND(<0.0011)	0.03	1.8	ND(<0.20)	ND(<0.20)	ND(<0.20)	ND(<0.14)	5
Tetrachloroethene	ND(<0.11)	ND(<0.0011)	0.05	0.47	ND(<0.20)	ND(<0.20)	ND(<0.20)	0.18 J	5
Bromoform	ND(<0.11)	ND(<0.0011)	130	ND(<2.0)	ND(<1.0)	1.6	ND(<1.0)	ND(<0.28)	5.5
Isopropylbenzene	1.5	ND(<0.0011)	8,000	3.0	2.0	ND(<0.20)	0.21	0.17 J	800
1,3,5-trimethylbenzene	7.4	ND(<0.0011)	4,000	13	0.55	ND(<0.20)	ND(<0.20)	2.5	400
tert-butylbenzene	0.12	ND(<0.0011)	--	ND(<0.40)	0.35	ND(<0.20)	ND(<0.20)	ND(<0.13)	--
1,2,4-trimethylbenzene	18	0.0013	4,000	50	2.0	ND(<0.20)	ND(<0.20)	5.8	400
n-Propylbenzene	2.8	ND(<0.0011)	--	2.9	0.63	ND(<0.20)	ND(<0.20)	0.24 J	--
sec-Butylbenzene	1.6	0.0096	--	0.90	3.3	ND(<0.20)	0.52	0.63 J	--
p-Isopropyltoluene	5.5	0.0021	--	2.8	0.43	ND(<0.20)	ND(<0.20)	0.79	--
n-Butylbenzene	2.7	0.0057	--	ND(<0.40)	ND(<0.20)	ND(<0.20)	ND(<0.20)	0.63 J	--
Naphthalene	**7.9**	ND(<0.0011)	5	33	ND(<1.0)	ND(<1.0)	ND(<1.0)	1.6 J	160

Comments:

MTCA means Model Toxics Control Act Regulation, 173-340 WAC, Amended 10/1 **Bold** indicates detected value exceeds cleanup level

Method B values from CLARC database -- indicates value not available

Results for soil are reported in mg/kg units which approximate parts per million (pp ND means target analyte not detected at or above concentration indicated in parenthesis

Results for water are reported in ug/L units which approximate parts per billion (pp VOC analysis by GC/MS, EPA Method 8260B

J means result is estimated

Table 4. **Summary of SemiVolatile Organic Compounds Analysis Data** **Lora Lake Apartments Focused Environmental Site Assessment**

Investigation Samples	Soil Samples					Groundwater Samples						
Sample Designation	**LLP-4-14.5**	**LLP-5-15.5**	**MW-1-7**	**MW-1-14**	**MTCA Method A/B Cleanup Levels**	**LLP-4 Water**	**LLP-5 Water**	**LLP-8 Water**	**LLP-9 Water**	**MW-1**	**MW-1**	**MTCA Method A/B Cleanup Levels**
Sample Date	7/25/2007	7/25/2007	10/25/2007	10/25/2007		7/25/2007	7/25/2007	7/25/2007	7/25/2007	11/7/2007	12/5/2007	
Laboratory ID Number	07-209-09	07-209-10	K0800540-001	K0710957-003		07-209-21	07-209-22	07-209-25	07-209-26	K0710957-001	K0711491-001	
Analyte	**Reported Concentrations (mg/kg)**					**Reported Concentrations (ug/L)**						
Phenol	ND(<0.74)	ND(<0.19)	0.0051 J	ND(<0.10)	48,000	3.1	ND(<1.9)	ND(<1.9)	ND(<1.8)	2.2	ND(<0.33)	4,800
Benzyl Alchohol	ND(<0.74)	ND(<0.19)	0.0021 J	ND(<0.11)	24,000	ND(<2.0)	ND(<1.9)	ND(<1.9)	ND(<1.8)	1.3 J	ND(<0.38)	2,400
2-Methylphenol (o-Cresol)	ND(<0.74)	ND(<0.19)	ND(<0.0015)	ND(<0.075)	--	4.4	ND(<1.9)	ND(<1.9)	ND(<1.8)	4.7	ND(<0.33)	--
(3+4)-Methylphenol (m,p-Cresol)	ND(<0.74)	ND(<0.19)	ND(<0.0015)	ND(<0.075)	--	5.4	ND(<1.9)	ND(<1.9)	ND(<1.8)	4.4	ND(0.48)	--
2,4-Dimethylphenol	ND(<0.74)	ND(<0.19)	ND(<0.0055)	ND(<0.28)	1600	26	ND(<1.9)	ND(<1.9)	ND(<1.8)	6.5 J	1.7 J	160
2,4-Dichlorophenol	ND(<0.74)	ND(<0.19)	ND(<0.001)	ND(<0.05)	240	ND(<2.0)	ND(<1.9)	ND(<1.9)	ND(<1.8)	1.9	ND(<0.30)	24
Benzoic Acid	--	--	ND(<0.096)	ND(<4.8)	320,000	--	--	--	--	15	ND(<5.9)	64,000
Naphthalene	2.7	ND(<0.015)	ND(<0.0023)	3.5 D	5.0	19	0.46	ND(<0.19)	ND(<0.18)	0.52	9.0 J	160
2-Methylnaphthalene	7.0	ND(<0.015)	ND(<0.0022)	12.0 D	320	1.6	ND(<1.9)	ND(<1.9)	ND(<1.8)	0.35	1.6 J	32
1-Methylnaphthalene	4.3	ND(<0.015)	--	--	24	1.3	ND(<1.9)	ND(<1.9)	ND(<1.8)	--	--	2.4
2,4,6-Trichlorophenol	ND(<0.74)	ND(<0.19)	ND(<0.0014)	ND(<0.07)	91	ND(<2.0)	ND(<1.9)	ND(<1.9)	ND(<1.8)	0.31 J	ND(<0.21)	4
2,4,5-Trichlorophenol	ND(<0.74)	ND(<0.19)	ND(<0.0015)	ND(<0.075)	8,000	7.6	ND(<1.9)	ND(<1.9)	ND(<1.8)	19	ND(<0.39)	800
Acenaphthylene	0.15	ND(<0.015)	ND(<0.0012)	0.45 D	--	9.3	ND(<1.9)	ND(<1.9)	ND(<1.8)	ND(<0.035)	ND(<0.24)	--
Acenaphthene	1.1	ND(<0.015)	ND(<0.0014)	1.2 D	4,800	1.1	0.23	ND(<0.19)	ND(<0.18)	ND(<0.060)	ND(<0.29)	960
2,3,5,6-Tetrachlorophenol	ND(<0.74)	ND(<0.19)	--	--	2,400	68	ND(<1.9)	ND(<1.9)	ND(<1.8)	--	--	480
Dibenzofuran	ND(<0.74)	ND(<0.19)	ND(<0.0012)	1.0 D	160	ND(<2.0)	ND(<1.9)	ND(<1.9)	ND(<1.8)	ND(<0.041)	ND(<0.33)	32
Fluorene	1.4	ND(<0.015)	ND(<0.0011)	2.7 D	3,200	0.25	0.91	ND(<0.19)	ND(<0.18)	0.32 J	ND(<0.33)	640
N-Nitrosodiphenylamine	ND(<0.74)	ND(<0.19)	ND(<0.0016)	ND(<0.08)	200	ND(<2.0)	ND(<1.9)	ND(<1.9)	ND(<1.8)	ND(<0.11)	ND(<0.48)	--
Pentachlorophenol	ND(<3.7)	ND(<0.93)	0.11	ND(<1.0)	8.3	**120**	ND(<9.7)	ND(<9.7)	ND(<9.2)	**150 D**	**5.7 J**	0.73
Phenanthrene	4.0	0.020	0.0019 J	8.8 D	--	0.41	ND(<1.9)	ND(<1.9)	ND(<1.8)	0.64	2.4 J	--
Anthracene	1.2	ND(<0.015)	ND(<0.0016)	2.3 D	24,000	ND(<0.20)	ND(<1.9)	ND(<1.9)	ND(<1.8)	0.23 J	ND(<0.62)	4,800
Di-n-butyl Phthalate	ND(<0.74)	ND(<0.19)	ND(<0.0079)	ND(<0.40)	--	ND(<2.0)	ND(<1.9)	ND(<1.9)	ND(<1.8)	7.7	ND(<0.37)	--
Fluoranthene	1.5	ND(<0.015)	0.0027 J	3.0 D	3,200	ND(<0.20)	ND(<0.19)	ND(<0.19)	ND(<0.18)	0.27 J	ND(<0.66)	640
Pyrene	1.3	0.017	0.0029 J	2.7 D	2,400	ND(<0.20)	0.21	ND(<0.19)	ND(<0.18)	0.25 J	ND(<0.74)	480
Butyl Benzyl Phthalate	ND(<0.74)	ND(<0.19)	ND(<0.0032)	ND(<0.16)	16,000	ND(<2.0)	ND(<1.9)	ND(<1.9)	ND(<1.8)	2.0	ND(<0.47)	3,200
Bis(2-ethylhexyl) Phthalate	ND(<0.74)	ND(<0.19)	0.016 J	ND(<0.35)	71	ND(<2.0)	ND(<1.9)	ND(<1.9)	ND(<1.8)	**14**	3.1 J	6.3
benzo(g,h,i)perylene	0.19	ND(<0.015)	0.0026 J	0.32 D	--	ND(<0.020)	ND(<0.019)	ND(<0.019)	ND(<0.018)	ND(<0.044)	--	--
PCBs	ND(<0.056)	ND(<0.056)	--	--	1.0	ND(<0.92)	ND(<0.19)	ND(<0.093)	ND(<0.20)	--	--	0.1

SVOC analysis by GC/MS, EPA Method 8270 SIM

ND means analyte was not present at or above the detection limit shown in parathensis

BOLD means analyte exceeds cleanup level

Flags - J means analyte concentration is estimated. D means reported result is from a dilution.

MTCA means Model Toxics Control Act regulations, Method A Tables or Values from Method B CLARC tables. Dibenzofuran cleanup levels in CLARC tables listed here do not match those in Ecology PUB 07-09-045.

Table 5. **Summary of Carcinogenic Polyaromatic Hydrocarbons (cPAHs) Analysis Data**

Lora Lake Apartments Focused Environmental Site Assessment

Sample ID	Laboratory ID Number	Sample Date	Benzo(a) pyrene	Benzo(a) anthracene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Indeno(1,2,3-cd) pyrene	Toxicity Equivalency (TEQ)	MTCA Method A Cleanup Level for cPAHs (benzo(a)pyrene equivalent)
Soil Samples			**Reported Concentrations (mg/kg)**								
LLP-4-14.5	07-209-09	7/25/2007	0.54	0.88	0.88	0.15	0.76	0.088	0.14	**0.76**	0.1
LLP-5-15.5	07-209-10	7/25/2007	ND(<0.015)	ND(<0.015)	ND(<0.015)	ND(<0.015)	ND(<0.015)	ND(<0.015)	ND(<0.015)	0	0.1
MW-1-7	K0800540-001	10/25/2007	ND(<0.0017)	ND(<0.0017)	0.0024 J	ND(<0.0014)	0.0016 J	ND(<0.0015)	0.0023 J	0.0005	0.1
MW-1-14	K0710957-003	10/25/2007	0.63 D	0.89 D	0.68 D	0.26 D	1.5 D	ND(<0.29)	0.37 D	0.865	0.1
Groundwater Samples			**Reported Concentrations (ug/L)**								
LLP-4 Water	07-209-21	7/25/2007	0.13	ND(<0.20)	0.045	ND(<0.020)	ND(<0.20)	ND(<0.20)	ND(<0.20)	**0.136**	0.1
LLP-5 Water	07-209-22	7/25/2007	0.030	0.067	0.045	ND(<0.019)	0.077	ND(<0.019)	ND(<0.019)	0.042	0.1
LLP-8 Water	07-209-25	7/25/2007	ND(<0.019)	ND(<0.019)	ND(<0.019)	ND(<0.019)	ND(<0.019)	ND(<0.019)	ND(<0.019)	0	0.1
LLP-9 Water	07-209-26	7/25/2007	ND(<0.018)	0.036	ND(<0.018)	ND(<0.018)	0.025	ND(<0.018)	ND(<0.018)	0.004	0.1
MW-1	K0710957-001	11/7/2007	0.39 J	ND(<0.041)	0.17 J	ND(<0.055)	ND(<0.064)	ND(<0.039)	ND(<0.048)	**0.407**	0.1
MW-1	K0711491-001	12/5/2007	ND(<0.66)	ND(<0.60)	ND(<0.59)	ND(<0.83)	ND(<0.79)	ND(<0.76)	ND(<0.69)	0	0.1
Toxicity Equivalency Factor (TEF)			1	0.1	0.1	0.1	0.01	0.1	0.1	--	--

COMMENTS:

SVOC analysis by GC/MS, EPA Method 8270 SIM

ND means analyte was not present at or above the detection limit shown in parathensis

TEF Values from Chapter 173-340 WAC, Amended 10/12/2007, Table 708-2

MTCA means Model Toxics Control At Regulation, Chapter 173-340 WAC, Method A Soil Cleanup Tables, Amended 10/12/2007

FLAGS: - J means analyte concentration is estimated.

- D means reported value from a dilution

BOLD means concentrations exceed cleanup levels

Table 6. Summary of PCDD / PCDF Analysis Data

Lora Lake Apartments Focused Environmental Site Assessment

Investigation Samples	Soil Samples						Groundwater Samples		
Sample Designation	MW-1-7			MW-1-14			MW-1		
Sample Date	10/25/2007			10/25/2007			11/7/2007		
Laboratory ID Number	K0800540-001			K0710957-003			K0710957-001		
Analyte	(ng/Kg)	Toxicity Equivalency Factor (TEF)	Toxic Equivalency (TEQ) (ng/Kg)	(ng/Kg)	Toxicity Equivalency Factor (TEF)	Toxic Equivalency (TEQ) (ng/Kg)	(pg/L)	Toxicity Equivalency Factor (TEF)	Toxic Equivalency (TEQ) (pg/L)
2,3,7,8-TCDD	11.7	1	11.7	24.3	1	24.3	4.78 J	1	4.78
1,2,3,7,8-PeCDD	78.6	1	78.6	87.5	1	87.5	16.2 J	1	16.2
1,2,3,4,7,8-HxCDD	152	0.1	15.2	20.3	0.1	2.03	13.9 JK	0.1	1.39
1,2,3,6,7,8-HxCDD	1300 E	0.1	130	304	0.1	30.4	132	0.1	13.2
1,2,3,7,8,9-HxCDD	515	0.1	51.5	294	0.1	29.4	52.0	0.1	5.2
1,2,3,4,6,7,8-HpCDD	60,700 BE	0.01	607	5,350 E	0.01	63.3	3,220	0.01	32.2
OCDD	473000 BE	0.0003	142	69,900 BE	0.0003	35.1	29,300 BE	0.0003	8.79
2,3,7,8-TCDF	5.07 C	0.1	0.507	63.1 C	0.1	1.47	7.72 JC	0.1	--
1,2,3,7,8-PeCDF	6.46	0.03	0.194	19.9	0.03	0.597	1.67 JK	0.03	0.0501
2,3,4,7,8-PeCDF	27.0	0.3	8.1	15.7	0.3	4.71	13.7 J	0.3	4.11
1,2,3,4,7,8-HxCDF	245	0.1	24.5	30.5	0.1	3.05	57.7	0.1	5.77
1,2,3,6,7,8-HxCDF	119	0.1	11.9	30.2	0.1	3.02	12.4 J	0.1	1.24
1,2,3,7,8,9-HxCDF	2.76 J	0.1	0.276	ND(<1.92)	0.1	--	ND(<7.54)	0.1	--
2,3,4,6,7,8-HxCDF	121	0.1	12.1	42.5	0.1	4.25	31.0	0.1	3.10
1,2,3,4,6,7,8-HpCDF	15300 E	0.01	153	929 E	0.01	9.21	707	0.01	7.07
1,2,3,4,7,8,9-HpCDF	629 E	0.01	6.29	38.6	0.01	0.386	39.0	0.01	0.390
OCDF	137000 E	0.0003	41.1	5,540 E	0.0003	2.89	3,450	0.0003	1.04
Total TEQ	--	--	**1290**	--	--	**302**	**--**	**--**	**105**
Model Toxics Control Act Regulation, 173-340 WAC, Method B Soil - CLARC Tables *			160 mg/kg *			160 mg/kg *			32 ug/L *

Analysis by EPA Method 8290/PCDD PCDF

ng/Kg approximates parts per trillion (PPT) concentrations

pg/L approximates parts per quadrillion (PPQ)concentrations

ND means analyte was not present at or above the detection limit shown in parathensis

Toxicity Equivalency Factors from World Health Organization 2005 (WHO-05)

-- means not applicable

Flags: - J means analyte concentration is estimated

- B means analyte detected in Method Blank

- C means 2,3,7,8-TCDF was confirmed on the DB-225 column

- E means Analyte exceeded the upper Method Calibration Limit (MCL)

- K means ion abundance ratios outside of QC limits

* MTCA Method B CLARC tables list PCDD and PCDF cleanup values as 160 mg/kg soil, and 32 ug/L groundwater, but it is not clear if these values are TEF-corrected.

Table 7. Summary of Metals Analyses Data

Lora Lake Apartment Focussed Environmental Site Assessment

Sample ID	Lab ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Geoprobe Borings Soil Samples			**Reported Concentrations (mg/Kg)**							
LLP-2-6.5	07-209-03	7/24/2007	ND(<11)	--	--	--	--	--	--	--
LLP-3-6	07-209-06	7/25/2007	ND(<12)	--	--	--	--	--	--	--
LLP-4-14.5	07-209-09	7/25/2007	ND(<11)	51	ND(<0.56)	**40**	47	ND(<0.28)	ND(<11)	ND(<0.56)
LLP-5-15.5	07-209-10	7/25/2007	ND(<11)	49	ND(<0.56)	**25**	6	ND(<0.28)	ND(<11)	ND(<0.56)
MTCA Method A/B Cleanup Levels -Soil			20	16,000	2	19/2,000 *	250	2	400	400

Sample ID	Lab ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Geoprobe Borings Groundwater Samples			**Reported Concentrations (u/L)**							
LLP-4 Water	07-209-21	7/25/2007	**65**	ND(<25)	ND(<4.0)	ND(<10)	1.2	ND(<0.50)	ND(<5.0)	ND(<10)
LLP-5 Water	07-209-22	7/25/2007	ND(<3.0)	ND(<25)	ND(<4.0)	ND(<10)	ND(<1.0)	ND(<0.50)	ND(<5.0)	ND(<10)
LLP-8 Water	07-209-25	7/25/2007	ND(<3.0)	ND(<25)	ND(<4.0)	ND(<10)	ND(<1.0)	ND(<0.50)	ND(<5.0)	ND(<10)
LLP-9 Water	07-209-26	7/25/2007	**8.1**	ND(<25)	ND(<4.0)	ND(<10)	ND(<1.0)	ND(<0.50)	ND(<5.0)	ND(<10)
MTCA Method A/B Cleanup Levels - Groundwater			5	3,200	5	50	15	2	80	80

Comments:

Soil results are reported in mg/kg units which approximate parts per million (ppm) concentrations

Groundwater reults are reported in ug/L units which approximate parts per billion (ppb) concentrations

ND means not detected at or above the concentration shown in parenthesis

* Cleanup values for Chromium based on Chromium VI (19 mg/kg) and Chromium III (2,000 mg/kg)

-- means Not Analyzed

MTCA means Model Toxics Control Act Regulation, Chapter 173-340 WAC, Amended 10/12/2007

BOLD means value exceeds cleanup level

Total metals in soil EPA Methods 6010B/7471A, and dissolved metals in groundwater, EPA Methods 200.8/7470A.

Summary Report—
2008 Investigations and Data Gap Evaluation,
Lora Lakes Apartments
Soil and Groundwater Data Tables

Table F-3-1 Geoprobe Soils Analytical Results: Metals, PCBs, SVOCs, VOCs, and TPH

Chemical Name	Method A	MTCA B - Carcinogen	MTCA B - Non-Carcinogen	Location ID Sample ID Sample Date	LL01 LL01-0.0.5 04/03/08	LL01 LL01-1.5-2 04/03/08	LL01 DUP02-040308 04/03/08	LL07 LL07-0-0.5 04/03/08	LL07 LL07-1.5-2 04/03/08	LL08 LL08-0-0.5 04/03/08	LL08 LL08-1.5-2 04/03/08	LL08 LL08-2-4 04/03/08	LL08 DUP01-040308 04/03/08	LL08 LL08-13-15 04/03/08	LL09 LL09-0-0.5 04/03/08	LL09 LL09-1.5-2 04/03/08	LL09 LL09-6-8 04/03/08	LL09 LL09-13-15 04/03/08
Metals EPA 6020 / 7471A (mg/kg)																		
Antimony			32		**0.29 J**	**0.23 J**	**0.2 J**	**0.39 J**	**0.27 J**	**0.27 J**	**0.16 J**	**0.6 J**	**3.51 J**	**0.05 J**	**0.13 J**	**0.1 J**	**0.07 J**	**0.06 J**
Arsenic	20	0.67	24		**4.39 J**	**3.17 J**	**2.83 J**	**3.17**	**7.11**	**6.02**	**2.93**	**5.47 J**	**5.32 J**	**1.2**	**2.67**	**2.2**	**1.96**	**1.47**
Beryllium			160		**0.216 J**	**0.252 J**	**0.189 J**	**0.203**	**0.169**	**0.204**	**0.277**	**0.322 J**	**0.206**	**0.187**	**0.231**	**0.187**	**0.222**	**0.18**
Cadmium	2		80		**0.437 J**	**0.282 J**	**0.268 J**	**0.315**	**0.236**	**0.307**	**0.38**	**1.32 J**	**1.26 J**	**0.031**	**0.102**	**0.081**	**0.054**	**0.054**
Chromium	19/2000				**48.6**	**34.7 J**	**23.3**	**20.9**	**21**	**18.9**	**21.5**	**22.2**	**19 J**	**32.2**	**24.3**	**22.1**	**26.6**	**24.5**
Copper			3.0E+03		**20.1 J**	**16.2 J**	**14 J**	**16.5 J**	**16.2 J**	**23.2 J**	**17.1 J**	**33 J**	**28.8 J**	**6.13 J**	**15.5 J**	**12.7 J**	**12.5 J**	**14.8 J**
Lead	250				**41.6**	**265 J**	**91.6**	**33.6 J**	**30 J**	**42.3 J**	**18.4 J**	**106 J**	**108 J**	**2.06 J**	**6.29 J**	**4.65 J**	**2.34 J**	**2.05 J**
Nickel			1.6E+03		**26.2**	**28.2**	**23.7 J**	**29.8**	**25.2**	**23.7**	**27.8**	**40.5 J**	**29.2**	**21.7**	**31.5**	**31.2**	**34**	**37.5**
Selenium			400		**0.5 J**	**0.3 J**	< 1.1	**0.4 J**	< 1.2	< 1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.2
Silver			400		**0.065**	**0.048 J**	**0.044 J**	**0.065**	**0.057**	**0.068**	**0.052**	**0.094 J**	**0.088 J**	**0.015 J**	**0.07**	**0.04**	**0.039**	**0.027**
Thallium			5.6		**0.081**	**0.054**	**0.048**	**0.044 J**	**0.05 J**	**0.051 J**	**0.056 J**	**0.056 J**	**0.047 J**	**0.031 J**	**0.08 J**	**0.051 J**	**0.093 J**	**0.047 J**
Zinc			2.4E+04		**62.6 J**	**75.7 J**	**66.2 J**	**47.3 J**	**33.2 J**	**60.7 J**	**47.9 J**	**119 J**	**119 J**	**22.3 J**	**29.4 J**	**25.9 J**	**21.8 J**	**25.9 J**
Mercury	2		24		**0.053**	**0.04 J**	**0.034 J**	**0.041**	**0.068**	**0.065**	**0.032**	**0.065 J**	**0.088 J**	< 0.02	**0.024**	**0.02**	**0.02**	**0.019 J**
PCBs EPA 8082 (µg/kg)																		
Aroclor 1242					NA	NA	NA	NA	NA	< 7.1	< 5.5	**14**	NA	< 5.5	NA	NA	NA	NA
Aroclor 1254			1.6E+03		NA	NA	NA	NA	NA	< 80	< 5.5	**39 J**	NA	< 5.5	NA	NA	NA	NA
Aroclor 1260					NA	NA	NA	NA	NA	< 7.1	**8.9**	**51**	NA	< 5.5	NA	NA	NA	NA
Total PCBs	1.00E+04	500			NA	NA	NA	NA	NA	47	**14.4**	**104**	NA	8.25	NA	NA	NA	NA
Volatile Organic Compounds EPA 8260 (µg/kg)																		
1,1,1-Trichloroethane			7.2E+07		< 6.4	< 5.2	< 5.6	< 5.4	< 6	< 4.8	< 4.8	< 4.7	< 5.1	< 5	< 4.6	< 4.9	< 5	< 5.1
1,2,4-Trimethylbenzene			4.0E+06		< 26	< 21	< 23	**0.097 J**	< 24	< 19	< 19	< 19	< 21	< 20	< 19	< 20	< 20	< 21
2-Butanone			4.8E+07		**16 J**	< 21	< 23	< 22	< 24	**2.8 J**	< 19	**8.1 J**	**4.9 J**	< 20	< 19	< 20	< 20	< 21
Acetone			8.0E+06		**230**	**42**	**67**	**41**	**33**	**22**	**24**	**67**	**46**	**16 J**	**12 J**	**11 J**	**3.3 J**	**3 J**
Carbon Disulfide			8.0E+06		**0.43 J**	< 5.2	< 5.6	< 5.4	< 6	< 4.8	**0.095 J**	**0.21 J**	< 5.1	< 5	< 4.6	< 4.9	< 5	< 5.1
Dichlorodifluoromethane			1.6E+07		< 6.4	< 5.2	**0.29 J**	< 5.4	< 6	< 4.8	< 4.8	< 4.7	< 5.1	< 5	< 4.6	< 4.9	< 5	**0.4 J**
Ethylbenzene	6		8.0E+06		< 6.4	< 5.2	< 5.6	< 5.4	**0.34 J**	**0.23 J**	< 4.8	< 4.7	**0.31 J**	< 5	< 4.6	< 4.9	< 5	< 5.1
m,p-Xylene	9				**0.54 J**	**0.19 J**	**0.23 J**	**0.43 J**	**1.1 J**	**0.72 J**	< 4.8	< 4.7	**0.88 J**	**0.51 J**	< 4.6	< 4.9	< 5	< 5.1
o-Xylene	9		1.6E+08		< 6.4	< 5.2	< 5.6	< 5.4	**0.26 J**	**0.17 J**	< 4.8	< 4.7	**0.17 J**	< 5	< 4.6	< 4.9	< 5	< 5.1
Toluene	7		6.4E+06		**1.8 J**	**0.46 J**	**0.65 J**	**0.87 J**	**2.6 J**	**1.8 J**	< 4.8	**0.38 J**	**2.3 J**	**1.6 J**	**0.24 J**	**0.53 J**	**0.26 J**	**0.38 J**
Semi-volatile Organic Compounds EPA 8270 (ug/kg)																		
2-Methylnaphthalene			3.2E+05		< 5.8	< 5.5 UJ	< 5.5 UJ	< 7.3	< 5.8	< 7.1	< 5.5	**90 J**	**190 J**	< 5.5	**2.4 J**	< 5.6	< 5.6	< 6.1
4-Methylphenol			4.0E+05		< 5.8	**5.9 J**	< 5.5	< 7.3	< 5.8	< 7.1	< 5.5	**24 J**	**39 J**	< 5.5	**1.6 J**	< 5.6	< 5.6	< 6.1
Acenaphthene			4.8E+06		< 5.8	< 5.5 UJ	< 5.5 UJ	< 7.3	< 5.8	**2.2 J**	< 5.5	**110 J**	**220 J**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Acenaphthylene					**1.6 J**	< 5.5	**1.6 J**	< 7.3	< 5.8	< 7.1	< 5.5	**14 J**	**16 J**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Anthracene			2.4E+07		**3.1 J**	< 5.5 UJ	**1.9 J**	**1.6 J**	< 5.8	**5.7 J**	< 5.5	**59 J**	**87 J**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Benzo(a)anthracene					**7.8**	**2.9 J**	**3.9 J**	**2.3 J**	**2 J**	**17**	**15**	**78 J**	**120 J**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Benzo(a)pyrene		140			**9.2**	< 5.5 UJ	< 5.5 UJ	< 7.3	< 5.8	**18**	**24**	**77 J**	**97 J**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Benzo(b)fluoranthene					**15**	**4.6 J**	**5.1 J**	**5 J**	**4.5 J**	**23**	**29**	**180 J**	**250 J**	< 5.5	**3.5 J**	< 5.6	< 5.6	< 6.1
Benzo(g,h,i)perylene					**9.3**	**3.2 J**	**4.3 J**	< 7.3	**3.6 J**	**12**	**16**	**56 J**	**68 J**	< 5.5	**2.3 J**	< 5.6	< 5.6	< 6.1
Benzo(k)fluoranthene					**4.2 J**	< 5.5 UJ	**1.9 J**	< 7.3	**1.5 J**	**8.1**	**11**	**62 J**	**80 J**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Benzoic Acid			3.2E+08		**270**	< 110	< 110 UJ	< 150 UJ	< 120	< 150 UJ	< 110 UJ	< 580 UJ	< 580 UJ	< 110 UJ	< 110 UJ	< 120 UJ	< 120 UJ	< 130 UJ
Benzyl Alcohol			2.4E+07		**8.9 J**	< 11	< 11	**51**	< 12	**2.7 J**	< 11	< 58	< 58	< 11	< 11	< 12	< 12	< 13
bis(2-Ethylhexyl)phthalate		7.1E+04	1.6E+06		**60**	**19 J**	**8.4 J**	**24 J**	< 58	**130**	< 55	**69 J**	**84 J**	< 55	**35 J**	< 56	< 56	**7.1 J**
Butylbenzylphthalate			1.6E+07		**17**	< 5.5	< 5.5 UJ	**7 J**	< 5.8	< 7.1	< 5.5	**49 J**	< 29	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Chrysene					**13**	**4.3 J**	**5.5 J**	**4.5 J**	**4 J**	**20**	**18**	**210 J**	**460 J**	< 5.5	**4.3 J**	< 5.6	< 5.6	< 6.1
Dibenz(a,h)anthracene					< 5.8	< 5.5	< 5.5	< 7.3	< 5.8	**2.7 J**	**3.6 J**	**12 J**	**15 J**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Dibenzofuran			1.6E+05		< 5.8	< 5.5	< 5.5 UJ	< 7.3	< 5.8	< 7.1	< 5.5	**85 J**	**170**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Diethylphthalate			6.4E+07		< 5.8	< 5.5	< 5.5	**1.4**	< 5.8	< 7.1	< 5.5	< 29	< 29	**1.4**	< 5.5	< 5.6	< 5.6	< 6.1
Di-n-Butylphthalate			8.0E+06		**19**	< 11	< 11	**8.2 J**	< 12	**11 J**	< 11	< 58	< 58	< 11	< 11	< 12	< 12	< 13
Fluoranthene			3.2E+06		**20**	< 6.8 U	**8.7 J**	**7.8**	< 4.2 U	**34**	**20**	**510 J**	**740 J**	< 5.5	**6.1**	< 5.6	< 5.6	< 6.1
Fluorene			3.2E+06		< 5.8	< 5.5 UJ	**1.5 J**	**1.3 J**	< 5.8	**1.7 J**	< 5.5	**100 J**	**210 J**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Hexachlorobenzene		630	6.4E+04		< 5.8	< 5.5	**1.7 J**	< 7.3	< 5.8	< 7.1	< 5.5	< 29	< 29	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Indeno(1,2,3-cd)pyrene					**8.9**	**2.8 J**	**3.6 J**	< 7.3	**2.7 J**	**12**	**18**	**67 J**	**74 J**	< 5.5	< 5.5	< 5.6	< 5.6	< 6.1
Naphthalene	5		1.6E+06		< 5.8	< 5.5 UJ	< 5.5 UJ	< 7.3	< 5.8	< 7.1	< 5.5	**250 J**	**540 J**	< 5.5	**2.3 J**	< 5.6	< 5.6	< 6.1
Pentachlorophenol		8.3E+03	2.4E+06		**110**	**370**	**720 J**	**38 J**	< 58	**39 J**	**53 J**	**340 J**	**250 J**	< 55	< 55	< 56	< 56	< 61
Phenanthrene					< 16 U	< 5.9 U	**10 J**	**9.2**	< 4.2 U	**26**	**4.7**	**430 J**	**670 J**	< 5.5	**4**	< 5.6	< 5.6	< 6.1
Pyrene			2.4E+06		**20**	**8.1 J**	**10 J**	**6.5 J**	**4.1 J**	**36**	**20**	**400 J**	**590 J**	< 5.5	**5 J**	< 5.6	< 5.6	< 6.1
NWTPH-Dx (mg/kg)																		
Diesel Range Hydrocarbons	2.0E+03				**22 J**	**22 J**	**13 J**	**9.4 J**	**16 J**	**13 J**	NA	**160 NJ**	**100 NJ**	**1.4 J**	**5 J**	**2.6 J**	< 28	< 31
Residual Range Organics (RRO)	2.0E+03				**170 NJ**	**97 J**	**69 J**	**75 J**	**120 J**	**52 J**	NA	**610 J**	**400 J**	< 6.9 U	**27 J**	< 5 U	< 120	< 130
NWTPH-Gx (mg/kg)																		
Gasoline Range Organics-NWTPH	100/30				**2.4 J**	< 5.7	< 5.7	< 5.5	< 6.1	< 5.3	< 5.6	**5.4 J**	**2.6 J**	< 5.6	< 5.8	< 5.8	< 5.8	< 6.5

Shaded and Bold - Value exceed Method B CUL
(or Method A if no Method B value available)
Qualifiers:
J = estimated concentration (value less than calculated reporting limit)
N = analyte is tentatively identified (validator qualifier)
+ = biased high

Table F-3-1 Geoprobe Soils Analytical Results: Metals, PCBs, SVOCs, VOCs, and TPH

Location ID				LL10	LL10	LL11	LL11	LL12	LL12	LL12	LL12
Sample ID				LL10-0-0.5	LL10-1.5-2	LL11-0-0.5	LL11-1.5-2	LL12-0-0.5	LL12-1.5-2	LL12-6-8	LL12-13-15
Sample Date				04/03/08	04/03/08	04/03/08	04/03/08	04/03/08	04/03/08	04/03/08	04/03/08
Chemical Name	**Method A**	**MTCA B - Carcinogen**	**MTCA B - Non-Carcinogen**								
Metals EPA 6020 / 7471A (mg/kg)											
Antimony			32	**0.69 J**	**0.22 J**	**0.19 J**	**0.05 J**	**0.49 J**	**0.13 J**	**0.06 J**	**0.07 J**
Arsenic	20	0.67	24	**11.1**	**3.28 J**	**3.76 J**	**1.62 J**	**6.3**	**2.62**	**1.97**	**0.89**
Beryllium			160	**0.242**	**0.201 J**	**0.207 J**	**0.174 J**	**0.255**	**0.214**	**0.14**	**0.244**
Cadmium	2		80	**0.377**	**0.487 J**	**0.319 J**	**0.056 J**	**0.727**	**0.442**	**0.059**	**0.066**
Chromium	19/2000			**24.4**	**26.1**	**29.6**	**21.4**	**27.3**	**22.8**	**23.9**	**37**
Copper			3.0E+03	**17.6 J**	**17.2 J**	**24.3 J**	**11 J**	**50.8 J**	**13.4 J**	**11 J**	**19.8 J**
Lead	250			**67.6 J**	**57**	**21.3**	< 2.14 U	**74.9 J**	**6.7 J**	**2.18 J**	**2.76 J**
Nickel			1.6E+03	**26.6**	**26.3**	**23.7**	**28.7**	**27.8**	**33**	**30.2**	**40.6**
Selenium			400	< 1.2	< 1.1	< 1.1	< 1.1	**0.5 J**	< 1.1	< 1	< 1.3
Silver			400	**0.092**	**0.082**	**0.064**	**0.034**	**0.084**	**0.037**	**0.037**	**0.037**
Thallium			5.6	**0.074 J**	**0.057**	**0.069**	**0.044**	**0.056 J**	**0.049 J**	**0.031 J**	**0.058 J**
Zinc			2.4E+04	**52.8 J**	**95.8 J**	**47 J**	**21.6 J**	**140 J**	**38.4 J**	**24.1 J**	**32.2 J**
Mercury	2		24	**0.072**	**0.05**	**0.04**	**0.017 J**	**0.063**	**0.032**	**0.013 J**	**0.018 J**
PCBs EPA 8082 (µg/kg)											
Aroclor 1242				NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254			1.6E+03	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260				NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	1.00E+04	500		NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds EPA 8260 (µg/kg)											
1,1,1-Trichloroethane			7.2E+07	< 6.6	< 6	< 6.9	< 5.5	**0.28 J**	< 6.1	< 4.8	< 5
1,2,4-Trimethylbenzene			4.0E+06	< 27	< 24	< 28	< 22	< 24	< 25	< 19	< 20
2-Butanone			4.8E+07	< 27	< 24	**4.7 J**	< 22	**5.9 J**	**4.8 J**	< 19	< 20
Acetone			8.0E+06	**62**	**41**	**70**	**18 J**	**95**	**79**	**9.1 J**	< 20
Carbon Disulfide			8.0E+06	< 6.6	< 6	< 6.9	**0.099 J**	**0.12 J**	< 6.1	**0.18 J**	< 5
Dichlorodifluoromethane			1.6E+07	< 6.6	< 6	< 6.9	**0.42 J**	**0.72 J**	< 6.1	< 4.8	< 5
Ethylbenzene	6		8.0E+06	< 6.6	< 6	< 6.9	< 5.5	**0.46 J**	**0.28 J**	< 4.8	< 5
m,p-Xylene	9			**0.35 J**	**0.51 J**	< 6.9	**0.35 J**	**1.6 J**	**0.63 J**	**0.48 J**	**0.18 J**
o-Xylene	9		1.6E+08	< 6.6	< 6	< 6.9	< 5.5	**0.54 J**	< 6.1	< 4.8	< 5
Toluene	7		6.4E+06	**0.98 J**	**1.1 J**	**0.86 J**	**0.73 J**	**3.1 J**	**1.5 J**	**1.3 J**	**0.93 J**
Semi-volatile Organic Compounds EPA 8270 (µg/kg)											
2-Methylnaphthalene			3.2E+05	**2.4 J**	< 55	< 5.8	< 5.5	**6.4**	< 5.5	< 5.3	< 6.4
4-Methylphenol			4.0E+05	< 5.9	< 55	< 5.8	< 5.5	< 5.9	< 5.5	< 5.3	< 6.4
Acenaphthene			4.8E+06	**2.2 J**	< 55	< 5.8	< 5.5	< 5.9	< 5.5	< 5.3	< 6.4
Acenaphthylene				**1.7 J**	**17 J**	< 5.8	< 5.5	**2.5 J**	< 5.5	< 5.3	< 6.4
Anthracene			2.4E+07	**10**	< 55	< 5.8	< 5.5	**3.1 J**	< 5.5	< 5.3	< 6.4
Benzo(a)anthracene				**55**	< 55	**2.2 J**	< 5.5	**9**	< 5.5	< 5.3	< 6.4
Benzo(a)pyrene		140		**59**	< 55	< 5.8	< 5.5	**13**	< 5.5	< 5.3	< 6.4
Benzo(b)fluoranthene				**60**	< 55	**3.5 J**	< 5.5	**20**	**2.5 J**	< 5.3	< 6.4
Benzo(g,h,i)perylene				**38**	< 55	**2.6 J**	< 5.5	**11**	< 5.5	< 5.3	< 6.4
Benzo(k)fluoranthene				**20**	< 55	< 5.8	< 5.5	**6.2**	< 5.5	< 5.3	< 6.4
Benzoic Acid			3.2E+08	**240 J**	< 1,100 UJ	< 120 UJ	< 110 UJ	< 120 UJ	< 110 UJ	< 110 UJ	< 130 UJ
Benzyl Alcohol			2.4E+07	< 12	< 110	< 12	< 11	< 12	< 11	< 11	< 13
bis(2-Ethylhexyl)phthalate		7.1E+04	1.6E+06	**25 J**	< 550	**14 J**	< 55	**110**	**15 J**	< 53	< 64
Butylbenzylphthalate			1.6E+07	< 5.9	< 55	< 5.8	< 5.5	< 5.9	**15**	< 5.3	< 6.4
Chrysene				**62**	< 55	**2.8 J**	< 5.5	**16**	**1.8 J**	< 5.3	< 6.4
Dibenz(a,h)anthracene				**5.1 J**	< 55	< 5.8	< 5.5	**1.8 J**	< 5.5	< 5.3	< 6.4
Dibenzofuran			1.6E+05	**1.5 J**	< 55	< 5.8	< 5.5	**1.7 J**	< 5.5	< 5.3	< 6.4
Diethylphthalate			6.4E+07	< 5.9	< 55	< 5.8	**1.5**	< 5.9	**1.8**	< 5.3	< 6.4
Di-n-Butylphthalate			8.0E+06	< 12	< 110	< 12	< 11	**11 J**	< 11	< 11	< 13
Fluoranthene			3.2E+06	**97**	< 55	**5.1**	< 5.5	**22**	**2.9**	< 5.3	**2.3**
Fluorene			3.2E+06	**2.6 J**	< 55	< 5.8	< 5.5	< 5.9	< 5.5	< 5.3	< 6.4
Hexachlorobenzene		630	6.4E+04	< 5.9	< 55	< 5.8	< 5.5	< 5.9	< 5.5	< 5.3	< 6.4
Indeno(1,2,3-cd)pyrene				**37**	< 55	**1.6 J**	< 5.5	**11**	< 5.5	< 5.3	< 6.4
Naphthalene	5		1.6E+06	**3.2 J**	< 55	< 5.8	< 5.5	**6**	< 5.5	< 5.3	< 6.4
Pentachlorophenol		8.3E+03	2.4E+06	**42 J**	**1,900**	**310**	**29 J**	**150**	< 55	< 53	< 64
Phenanthrene				**51**	< 55	**4.6**	**1.8**	**12**	**1.6**	< 5.3	**4.2**
Pyrene			2.4E+06	**120**	**27 J**	**5.1 J**	< 5.5	**24**	**2.4 J**	< 5.3	**1.5 J**
NWTPH-Dx (mg/kg)											
Diesel Range Hydrocarbons	2.0E+03			**12 J**	**37 NJ**	**4.3 J**	**1.6 J**	**23 J**	**43 J**	**1.6 J**	**1.7 J**
Residual Range Organics (RRO)	2.0E+03			**94 J**	**230 J**	**53 J**	< 11 U	**110 J**	**43 J**	< 9.7 U	< 9.9 U
NWTPH-Gx (mg/kg)											
Gasoline Range Organics-NWTPH	100/30			< 6.3	**17 NJ**	< 6.1	< 5.7	< 6.2	< 5.7	< 5.4	< 7.1

Shaded and Bold - Value exceed Method B CUL
(or Method A if no Method B value available)
Qualifiers:
J = estimated concentration (value less than calculated reporting limit)
N = analyte is tentatively identified (validator qualifier)
+ = biased high

Table F-3-2 Geoprobe Soils Analytical Results: Dioxin-Furan Total Toxic Equivalency Quotient (TEQ)

		Location ID	LL01			LL01			LL01			LL07			LL07			LL08		
		Sample ID	LL01-0-0.5			LL01-1.5-2			DUP02-040308			LL07-0-0.5			LL07-1.5-2			LL08-0-0.5		
		Sample Date	04/03/08			04/03/08			04/03/08			04/03/08			04/03/08			04/03/08		
Chemical Name	**TEFs**	**Unit**																		
Dioxins/Furans			**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**	
1,2,3,4,6,7,8,9-OCDD	0.0003	ng/kg	322,000	**96.6**	**J**	1,440,000	**432.0**	**J**	1,280,000	**384.0000**	**J**	719	**0.216**		12,200	**3.66**	**J**	3,450	**1.04**	**J**
1,2,3,4,6,7,8,9-OCDF	0.0003	ng/kg	44,100	**13.23**		236,000	**70.80**	**J**	228,000	**68.4**	**J**	87.2	**0.0262**		1,050	**0.315**		446	**0.134**	
1,2,3,4,6,7,8-HpCDD	0.01	ng/kg	21,500	**215**		67,000	**670**		83,200	**832.000**		91.9	**0.919**		1,130	**11.3**	**J**	337	**3.37**	**J**
1,2,3,4,6,7,8-HpCDF	0.01	ng/kg	4,270	**42.7**		14,600	**146.0**		20,000	**200.0000**		21	**0.210**		319	**3.19**		83.2	**0.832**	
1,2,3,4,7,8,9-HpCDF	0.01	ng/kg	143	**1.43**		416	**4.16**		454	**4.54**	**J**	2.17	**0.0217**	**NJ+**	14.4	**0.144**		3.3	**0.0330**	
1,2,3,4,7,8-HxCDD	0.1	ng/kg	92	**9.2**		117	**11.7**		135	**13.5000**		1.08	**0.108**	**J**	6.53	**0.653**		2.61	**0.261**	
1,2,3,4,7,8-HxCDF	0.1	ng/kg	59.3	**5.93**		253	**25.30**		307	**30.7000**		1.01	**0.101**	**J**	12.9	**1.29**		2.26	**0.226**	**J**
1,2,3,6,7,8-HxCDD	0.1	ng/kg	333	**33.3**		846	**84.6**		1,070	**107.0000**		3.27	**0.327**		27.4	**2.74**		10	**1.00**	
1,2,3,6,7,8-HxCDF	0.1	ng/kg	28.2	**2.82**		109	**10.90**		134	**13.4000**		0.881	**0.0881**	**J**	11.1	**1.11**		1.49	**0.149**	**J**
1,2,3,7,8,9-HxCDD	0.1	ng/kg	209	**20.9**		352	**35.2**		382	**38.2000**		2.98	**0.298**		21.8	**2.18**		8.73	**0.873**	
1,2,3,7,8,9-HxCDF	0.1	ng/kg	0.75	**0.075**	**J**	1.56	**0.156**	**J**	2.25	**0.225**	**J**	< 0.232	0.012		0.34	**0.0340**	**J**	< 0.0826	0.004	
1,2,3,7,8-PeCDD	1	ng/kg	39.5	**39.5**		68.4	**68.4**		80.7	**80.700**		0.725	**0.725**	**J**	3.42	**3.42**		1.37	**1.37**	**NJ+**
1,2,3,7,8-PeCDF	0.03	ng/kg	2.66	**0.080**	**J**	5.67	**0.170**		6.86	**0.2058**		0.11	**0.0033**	**NJ+**	0.89	**0.0267**	**J**	< 0.434	0.0065	
2,3,4,6,7,8-HxCDF	0.1	ng/kg	29.1	**2.91**		96.4	**9.64**		122	**12.2000**		1.01	**0.101**	**J**	15	**1.50**		1.8	**0.180**	**J**
2,3,4,7,8-PeCDF	0.3	ng/kg	8.5	**2.55**		35.7	**10.71**		43.6	**13.080**		0.341	**0.102**	**J**	5.39	**1.62**		0.833	**0.250**	**J**
2,3,7,8-TCDD	1	ng/kg	6.53	**6.5**		7.59	**7.6**		9.05	**9.050**		< 0.0919	0.046		0.517	**0.517**	**NJ+**	0.425	**0.425**	**NJ+**
2,3,7,8-TCDF	0.1	ng/kg	1.41	**0.141**		1.95	**0.195**		2.04	**0.2040**		< 0.123	0.0062		1.06	**0.106**		0.524	**0.0524**	**NJ+**
Total TCDD TEQ (1)				**493**			**1588**			**1807**			**3.31**			**33.8**			**10.2**	

Notes
Total TCDD TEQ calculated using Toxicity Equivalency Factors in MTCA Regulations revised November 2007.
(1) One-half the detection limit used in TEQ calculation for non-detect results
Qualifiers:
J = estimated concentration (value less than calculated reporting limit)
N = analyte is tentatively identified (validator qualifier)
+ = biased high

Method B CUL - 11 ng/kg

- Shaded value exceeds Method B screening level

Table F-3-2 Geoprobe Soils Analytical Results: Dioxin-Furan Total Toxic Equivalency Quotient (TEQ)

		Location ID	LL08			LL08			LL08			LL08			LL09			LL09		
		Sample ID	LL08-1.5-2			LL08-2-4			DUP01-040308			LL08-13-15			LL09-0-0.5			LL09-1.5-2		
		Sample Date	04/03/08			04/03/08			04/03/08			04/03/08			04/03/08			04/03/08		
Chemical Name	**TEFs**	**Unit**																		
Dioxins/Furans			**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**	
1,2,3,4,6,7,8,9-OCDD	0.0003	ng/kg	13,800	**4.14**	**J**	351,000	**105.3**	**J**	156,000	**46.8**	**J**	116	**0.0348**	**J**	149	**0.0447**	**J**	177	**0.0531**	**J**
1,2,3,4,6,7,8,9-OCDF	0.0003	ng/kg	1,960	**0.588**	**J**	36,700	**11.0**		17,300	**5.19**		13.7	**0.00411**		16.8	**0.00504**		20	**0.006**	
1,2,3,4,6,7,8-HpCDD	0.01	ng/kg	1,320	**13.2**	**J**	26,800	**268**	**J**	17,200	**172**	**J**	16.4	**0.164**	**J**	15.1	**0.151**	**J**	18.3	**0.183**	**J**
1,2,3,4,6,7,8-HpCDF	0.01	ng/kg	397	**3.97**		4,280	**42.8**		2,300	**23.0**		2.78	**0.0278**		4.05	**0.0405**		5.23	**0.0523**	
1,2,3,4,7,8,9-HpCDF	0.01	ng/kg	14.4	**0.144**		155	**1.55**		109	**1.09**		0.253	**0.00253**	**J**	0.226	**0.00226**	**NJ+**	0.185	**0.00185**	**NJ+**
1,2,3,4,7,8-HxCDD	0.1	ng/kg	7.38	**0.738**		105	**10.5**		127	**12.7**		0.243	**0.0243**	**NJ+**	0.17	**0.0170**	**J**	0.15	**0.0150**	**J**
1,2,3,4,7,8-HxCDF	0.1	ng/kg	9	**0.900**		73.3	**7.33**		65.2	**6.52**		0.14	**0.0140**	**J**	0.329	**0.0329**	**J**	0.398	**0.0398**	**J**
1,2,3,6,7,8-HxCDD	0.1	ng/kg	34.7	**3.47**		438	**43.8**		461	**46.1**		0.606	**0.0606**	**J**	0.462	**0.0462**	**NJ+**	0.609	**0.0609**	**J**
1,2,3,6,7,8-HxCDF	0.1	ng/kg	5.31	**0.531**		48.6	**4.86**		41.8	**4.18**		0.119	**0.0119**	**J**	0.231	**0.0231**	**J**	0.206	**0.0206**	**J**
1,2,3,7,8,9-HxCDD	0.1	ng/kg	31.5	**3.15**		468	**46.8**		592	**59.2**		0.977	**0.0977**	**J**	0.533	**0.0533**	**J**	0.464	**0.0464**	**J**
1,2,3,7,8,9-HxCDF	0.1	ng/kg	< 0.293	0.015		1.91	**0.191**	**J**	2.03	**0.203**	**J**	< 0.0426	0.002		< 0.0391	0.002		< 0.0227	0.001	
1,2,3,7,8-PeCDD	1	ng/kg	9.28	**9.28**		82.8	**82.8**		102	**102**		0.303	**0.303**	**J**	0.108	**0.108**	**NJ+**	0.131	**0.131**	**NJ+**
1,2,3,7,8-PeCDF	0.03	ng/kg	< 0.811	0.0122		5.93	**0.178**		6.31	**0.189**		< 0.0234	0.0004		< 0.092	0.00138		< 0.133	0.001995	
2,3,4,6,7,8-HxCDF	0.1	ng/kg	4.71	**0.471**		40.3	**4.03**		37.1	**3.71**		0.109	**0.0109**	**J**	0.156	**0.0156**	**NJ+**	0.167	**0.0167**	**NJ+**
2,3,4,7,8-PeCDF	0.3	ng/kg	1.74	**0.522**	**J**	12.3	**3.69**		12	**3.60**		< 0.0225	0.003		0.144	**0.0432**	**J**	0.127	**0.0381**	**NJ+**
2,3,7,8-TCDD	1	ng/kg	2.57	**2.57**		16.5	**16.5**		17.1	**17.1**		< 0.0313	0.016		< 0.0274	0.014		< 0.0384	0.019	
2,3,7,8-TCDF	0.1	ng/kg	0.361	**0.0361**	**J**	2.62	**0.262**		1.68	**0.168**		< 0.0216	0.0011		< 0.106	0.0053		< 0.0928	0.0046	
Total TCDD TEQ (1)				**43.7**			**650**			**504**			**0.8**			**0.61**			**0.69**	

Notes
Total TCDD TEQ calculated using Toxicity Equivalency Factors in MTCA Regulations revised November 2007.
(1) One-half the detection limit used in TEQ calculation for non-detect results
Qualifiers:
J = estimated concentration (value less than calculated reporting limit)
N = analyte is tentatively identified (validator qualifier)
+ = biased high

Method B CUL - 11 ng/kg

- Shaded value exceeds Method B screening level

Table F-3-2 Geoprobe Soils Analytical Results: Dioxin-Furan Total Toxic Equivalency Quotient (TEQ)

		Location ID	LL09		LL09		LL10		LL10		LL11		LL11	
		Sample ID	LL09-6-8		LL09-13-15		LL10-0-0.5		LL10-1.5-2		LL11-0-0.5		LL11-1.5-2	
		Sample Date	04/03/08		04/03/08		04/03/08		04/03/08		04/03/08		04/03/08	
Chemical Name	**TEFs**	**Unit**												
Dioxins/Furans			**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**
1,2,3,4,6,7,8,9-OCDD	0.0003	ng/kg	13.9	**0.00417** J	< 4.58	0.00069	76,800	**23.0** J	2,350,000	**705** J	24,100	**7.2** J	**622**	**0.2**
1,2,3,4,6,7,8,9-OCDF	0.0003	ng/kg	< 0.394	5.9E-05	< 0.186	2.8E-05	11,000	**3.30**	371,000	**111.3** J	6,300	**1.89**	**214**	**0.06**
1,2,3,4,6,7,8-HpCDD	0.01	ng/kg	< 1.05	0.0053	< 0.546	0.00273	6,480	**64.8**	113,000	**1130** J	2,590	**25.9**	**107**	**1.1**
1,2,3,4,6,7,8-HpCDF	0.01	ng/kg	< 0.0888	0.00044	< 0.0321	0.00016	1,640	**16.4**	22,800	**228**	965	**9.7**	**57.3**	**0.6**
1,2,3,4,7,8,9-HpCDF	0.01	ng/kg	< 0.0233	0.0001	< 0.023	0.0001	70.9	**0.709**	586	**5.86**	26.6	**0.266**	**1.87**	**0.019** J
1,2,3,4,7,8-HxCDD	0.1	ng/kg	< 0.0146	0.001	< 0.0149	0.001	17.4	**1.74**	137	**13.7**	1.92	**0.19** J	**0.353**	**0.04** J
1,2,3,4,7,8-HxCDF	0.1	ng/kg	< 0.0105	0.001	< 0.00876	0.000	40.5	**4.05**	441	**44.1**	13	**1.30**	**0.602**	**0.06** J
1,2,3,6,7,8-HxCDD	0.1	ng/kg	< 0.0142	0.001	< 0.0145	0.001	149	**14.9**	1,490	**149**	54.8	**5.5**	**3.95**	**0.4**
1,2,3,6,7,8-HxCDF	0.1	ng/kg	< 0.0107	0.001	< 0.00899	0.000	16.4	**1.64**	156	**15.6**	3.98	**0.40**	< 0.218	0.01
1,2,3,7,8,9-HxCDD	0.1	ng/kg	< 0.0154	0.001	< 0.0156	0.001	68.8	**6.88**	583	**58.3**	11.7	**1.2**	**1.4**	**0.1** J
1,2,3,7,8,9-HxCDF	0.1	ng/kg	< 0.0142	0.001	< 0.0119	0.001	< 0.772	0.039	4.94	**0.494**	< 0.655	0.0328	< 0.278	0.0139
1,2,3,7,8-PeCDD	1	ng/kg	< 0.0184	0.01	< 0.0161	0.01	11.3	**11.3**	93.2	**93.2**	1.89	**1.9** J	**0.415**	**0.4** J
1,2,3,7,8-PeCDF	0.03	ng/kg	< 0.013	0.0002	< 0.0148	0.0002	1.42	**0.0426** J	8.69	**0.261**	0.274	**0.0082** J	< 0.0496	0.0007
2,3,4,6,7,8-HxCDF	0.1	ng/kg	< 0.0118	0.001	< 0.00993	0.000	16	**1.60**	137	**13.7**	4.25	**0.43**	**1.2**	**0.12** J
2,3,4,7,8-PeCDF	0.3	ng/kg	< 0.0125	0.002	< 0.0142	0.002	6.34	**1.90**	65.1	**19.5**	1.95	**0.59** J	< 0.0488	0.01
2,3,7,8-TCDD	1	ng/kg	< 0.0259	0.01295	< 0.0295	0.015	2.63	**2.63**	14.5	**14.5**	0.544	**0.54** J	< 0.075	0.04
2,3,7,8-TCDF	0.1	ng/kg	< 0.0266	0.0013	< 0.0183	0.0009	0.941	**0.0941** J	2.37	**0.237**	< 0.153	0.008	< 0.0455	0.002
Total TCDD TEQ (1)				**0.04**		**0.034**		**155**		**2603**		**57.0**		**3.2** **3.2**

Notes
Total TCDD TEQ calculated using Toxicity Equivalency Factors in MTCA Regulations revised November 2007.
(1) One-half the detection limit used in TEQ calculation for non-detect results
Qualifiers:
J = estimated concentration (value less than calculated reporting limit)
N = analyte is tentatively identified (validator qualifier)
+ = biased high

Method B CUL - 11 ng/kg

- Shaded value exceeds Method B screening level

Table F-3-2 Geoprobe Soils Analytical Results: Dioxin-Furan Total Toxic Equivalency Quotient (TEQ)

		Location ID	LL12			LL12			LL12			LL12		
		Sample ID	LL12-0-0.5			LL12-1.5-2			LL12-6-8			LL12-13-15		
		Sample Date	04/03/08			04/03/08			04/03/08			04/03/08		
Chemical Name	**TEFs**	**Unit**												
Dioxins/Furans			**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**	
1,2,3,4,6,7,8,9-OCDD	0.0003	ng/kg	90,500	**27.2**	**J**	1,970	**0.591**	**J**	84.9	**0.0255**		439	**0.132**	
1,2,3,4,6,7,8,9-OCDF	0.0003	ng/kg	10,000	**3.00**		279	**0.0837**		22.6	**0.00678**		42.9	**0.0129**	
1,2,3,4,6,7,8-HpCDD	0.01	ng/kg	7,910	**79.1**	**J**	203	**2.03**		19.4	**0.194**		56.7	**0.567**	
1,2,3,4,6,7,8-HpCDF	0.01	ng/kg	1,320	**13.2**		72.9	**0.729**		5.1	**0.0510**		5.3	**0.0530**	
1,2,3,4,7,8,9-HpCDF	0.01	ng/kg	73.5	**0.735**		2.63	**0.0263**	**J**	0.499	**0.00499**	**NJ+**	1.6	**0.0160**	**J**
1,2,3,4,7,8-HxCDD	0.1	ng/kg	52.4	**5.24**		0.916	**0.0916**	**J**	0.26	**0.0260**	**NJ+**	0.959	**0.0959**	**J**
1,2,3,4,7,8-HxCDF	0.1	ng/kg	39.7	**3.97**		1.38	**0.138**	**J**	< 0.313	0.016		< 0.396	0.020	
1,2,3,6,7,8-HxCDD	0.1	ng/kg	235	**23.5**		4.7	**0.470**		0.986	**0.0986**	**J**	1.61	**0.161**	**J**
1,2,3,6,7,8-HxCDF	0.1	ng/kg	25.1	**2.51**		0.66	**0.0660**	**J**	< 0.31	0.016		< 0.404	0.020	
1,2,3,7,8,9-HxCDD	0.1	ng/kg	228	**22.8**		2.8	**0.280**		0.915	**0.0915**	**NJ+**	3.11	**0.311**	
1,2,3,7,8,9-HxCDF	0.1	ng/kg	0.78	**0.0780**	**NJ+**	< 0.516	0.026		< 0.396	0.020		< 0.536	0.027	
1,2,3,7,8-PeCDD	1	ng/kg	39.9	**39.9**		0.67	**0.670**	**J**	0.331	**0.331**	**J**	< 0.0977	0.05	
1,2,3,7,8-PeCDF	0.03	ng/kg	2.92	**0.0876**		< 0.0725	0.0011		< 0.05	0.0008		< 0.108	0.0016	
2,3,4,6,7,8-HxCDF	0.1	ng/kg	23.9	**2.39**		< 0.431	0.022		< 0.336	0.017		< 0.448	0.022	
2,3,4,7,8-PeCDF	0.3	ng/kg	6.85	**2.06**		< 0.0699	0.010		< 0.0492	0.007		< 0.104	0.016	
2,3,7,8-TCDD	1	ng/kg	7.91	**7.91**		< 0.0814	0.041		< 0.0619	0.031		< 0.088	0.044	
2,3,7,8-TCDF	0.1	ng/kg	1.15	**0.115**		< 0.06	0.0030		< 0.0534	0.0027		< 0.112	0.0056	
Total TCDD TEQ (1)				**234**			**5.3**			**0.9**			**1.55**	

Notes
Total TCDD TEQ calculated using Toxicity Equivalency Factors in MTCA Regulations revised November 2007.
(1) One-half the detection limit used in TEQ calculation for non-detect results
Qualifiers:
J = estimated concentration (value less than calculated reporting limit)
N = analyte is tentatively identified (validator qualifier)
+ = biased high

Method B CUL - 11 ng/kg

- Shaded value exceeds Method B screening level

Table F-3-3 Geoprobes Soils Analytical Results: cPAH Total Toxic Equivalency Quotient (TEQ)

Location ID			LL01		LL01		LL01		LL07		LL07		LL08		LL08		LL08		LL08	
Sample ID			LL01-0-0.5		LL01-1.5-2		DUP02-040308		LL07-0-0.5		LL07-1.5-2		LL08-0-0.5		LL08-1.5-2		LL08-2-4		DUP01-040308	
Sample Date			04/03/08		04/03/08		04/03/08		04/03/08		04/03/08		04/03/08		04/03/08		04/03/08		04/03/08	
Chemical Name	TEFs	Unit	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ
Carcinogenic PAH																				
Benzo(a)anthracene	0.1	µg/kg	7.8	**0.8**	2.9	**0.3 J**	3.9	**0.39 J**	2.3	**0.2 J**	2	**0.2 J**	17	**1.7**	15	**1.5**	78	**7.8 J**	120	**12 J**
Benzo(a)pyrene	1	µg/kg	9.2	**9.2**	< 5.5	2.8 UJ	< 5.5	2.75 UJ	< 7.3	3.7	< 5.8	2.9	18	**18**	24	**24**	77	**77 J**	97	**97 J**
Benzo(b)fluoranthene	0.1	µg/kg	15	**1.5**	4.6	**0.5 J**	5.1	**0.51 J**	5	**0.5 J**	4.5	**0.5 J**	23	**2.3**	29	**2.9**	180	**18 J**	250	**25 J**
Benzo(k)fluoranthene	0.1	µg/kg	4.2	**0.4 J**	< 5.5	0.3 UJ	1.9	**0.19 J**	< 7.3	0.4	1.5	**0.2 J**	8.1	**0.81**	11	**1.1**	62	**6.2 J**	80	**8 J**
Chrysene	0	µg/kg	13	**0.1**	4.3	**0 J**	5.5	**0.06 J**	4.5	**0 J**	4	**0 J**	20	**0.2**	18	**0.18**	210	**2.1 J**	460	**4.6 J**
Dibenz(a,h)anthracene	0.1	µg/kg	< 5.8	0.3	< 5.5	0.3	< 5.5	0.28	< 7.3	0.4	< 5.8	0.3	2.7	**0.27 J**	3.6	**0.36 J**	12	**1.2 J**	15	**1.5 J**
Indeno(1,2,3-cd)pyrene	0.1	µg/kg	8.9	**0.9**	2.8	**0.3 J**	3.6	**0.36 J**	< 7.3	0.4	2.7	**0.3 J**	12	**1.2**	18	**1.8**	67	**6.7 J**	74	**7.4 J**
Total cPAH TEQ (1)				**13.2**		**4.4**		**4.53**		**5.5**		**4.3**		**24.5**		**31.8**		**119**		**156**

Location ID			LL08		LL09		LL09		LL09		LL09		LL10		LL10	
Sample ID			LL08-13-15		LL09-0-0.5		LL09-1.5-2		LL09-6-8		LL09-13-15		LL10-0-0.5		LL10-1.5-2	
Sample Date			04/03/08		04/03/08		04/03/08		04/03/08		04/03/08		04/03/08		04/03/08	
Chemical Name	TEFs	Unit	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ
Carcinogenic PAH																
Benzo(a)anthracene	0.1	µg/kg	< 5.5	0.3	< 5.5	0.3	< 5.6	0.28	< **5.6**	0.3	< 6.1	0.3	55	**5.5**	< 55	2.75
Benzo(a)pyrene	1	µg/kg	< 5.5	2.8	< 5.5	2.8	< 5.6	2.8	< **5.6**	2.8	< 6.1	3.1	59	**59**	< 55	27.5
Benzo(b)fluoranthene	0.1	µg/kg	< 5.5	0.3	3.5	**0.4 J**	< 5.6	0.28	< **5.6**	0.3	< 6.1	0.3	60	**6**	< 55	2.75
Benzo(k)fluoranthene	0.1	µg/kg	< 5.5	0.3	< 5.5	0.3	< 5.6	0.28	< **5.6**	0.3	< 6.1	0.3	20	**2**	< 55	2.75
Chrysene	0	µg/kg	< 5.5	0	4.3	**0 J**	< 5.6	0.03	< **5.6**	0	< 6.1	0	62	**0.62**	< 55	0.28
Dibenz(a,h)anthracene	0.1	µg/kg	< 5.5	0.3	< 5.5	0.3	< 5.6	0.28	< **5.6**	0.3	< 6.1	0.3	5.1	**0.51 J**	< 55	2.75
Indeno(1,2,3-cd)pyrene	0.1	µg/kg	< 5.5	0.3	< 5.5	0.3	< 5.6	0.28	< **5.6**	0.3	< 6.1	0.3	37	**3.7**	< 55	2.75
Total cPAH TEQ (1)				NC		**4.2**		NC		**4.2**		NC		**77.3**		NC

Location ID			LL11		LL11		LL12		LL12		LL12		LL12	
Sample ID			LL11-0-0.5		LL11-1.5-2		LL12-0-0.5		LL12-1.5-2		LL12-6-8		LL12-13-15	
Sample Date			04/03/08		04/03/08		04/03/08		04/03/08		04/03/08		04/03/08	
Chemical Name	TEFs	Unit	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ	Reported Value	TEQ
Carcinogenic PAH														
Benzo(a)anthracene	0.1	µg/kg	2.2	**0.2 J**	< 5.5	0.3	9	**0.9**	< 5.5	0.3	< 5.3	0.3	< 6.4	0.32
Benzo(a)pyrene	1	µg/kg	< 5.8	2.9	< 5.5	2.8	13	**13**	< 5.5	2.8	< 5.3	2.7	< 6.4	3.2
Benzo(b)fluoranthene	0.1	µg/kg	3.5	**0.4 J**	< 5.5	0.3	20	**2**	2.5	**0.3 J**	< 5.3	0.3	< 6.4	0.32
Benzo(k)fluoranthene	0.1	µg/kg	< 5.8	0.3	< 5.5	0.3	6.2	**0.62**	< 5.5	0.3	< 5.3	0.3	< 6.4	0.32
Chrysene	0	µg/kg	2.8	**0 J**	< 5.5	0	16	**0.16**	1.8	**0 J**	< 5.3	0	< 6.4	0.03
Dibenz(a,h)anthracene	0.1	µg/kg	< 5.8	0.3	< 5.5	0.3	1.8	**0.18 J**	< 5.5	0.3	< 5.3	0.3	< 6.4	0.32
Indeno(1,2,3-cd)pyrene	0.1	µg/kg	1.6	**0.2 J**	< 5.5	0.3	11	**1.1**	< 5.5	0.3	< 5.3	0.3	< 6.4	0.32
Total cPAH TEQ (1)				**4.2**		NC		**18**		**4.1**		NC		NC

MTCA Method B CUL - 0.137 mg/kg (137 µg/kg)

Notes

(1) Total cPAH TEQ calculated using Toxicity Equivalency Factors from MTCA Regulations Revised November 2007. One-half the detection limit used for non-detect results.

Qualifiers

U = non-detect

J = estimated concentration (value less than calculated reporting limit)

D = compounds at secondary dilution factor

highlight indicates exceedance of the MTCA Method B cleanup level of 137 µg/kg

NC= Not Calculated where all contituents are not detected

Bold = Deleted values

Table F-3-4 Monitoring Well Soils Analytical Results: Metals, VOCs, SVOCs, TPH

			Location ID	MW-2	MW-2	MW-2	MW-2	MW-3	MW-3	MW-3	MW-3	MW-4	MW-4
			Sample ID	MW-2-0-0.5	MW-2-1.5-2	MW-2-6.5-8	MW-2-14-15.5	MW-3-0-0.5	MW-3-1.5-2	MW-3-6.5-8	MW-3-14-15.5	MW-4-0-0.5	MW-4-1.5-2
			Sample Date	3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/17/2008	3/17/2008
Chemical Name	**MTCA A**	**MTCA B - Carcinogen**	**MTCA B Non-Carcinogen**										
Metals EPA Method 6020 / 7471A (mg/kg)													
Antimony			32	**0.83 J**	**0.27 J**	**0.06 J**	**0.07 J**	**0.17 J**	**0.19 J**	**0.24 J**	**0.09 J**	**2.27 J**	**0.28 J**
Arsenic	20	0.67	24	**11.2**	**1.5**	**1.8**	**1.8**	**3.2**	**3.7**	**4.6**	**2.1**	**10.1**	**2.6**
Beryllium			160	**0.269 J**	**0.275 J**	**0.164 J**	**0.177 J**	**0.259 J**	**0.262 J**	**0.323 J**	**0.214 J**	**0.257 J**	**0.212 J**
Cadmium			80	**0.437**	**0.072**	**0.043**	**0.057**	**0.226**	**0.21**	**0.352**	**0.064**	**3.56**	**0.176**
Chromium	19/2000			**25.8**	**20.7 J**	**27.3 J**	**30.2 J**	**20.9**	**24.7 J**	**27.2 J**	**26.4 J**	**41 J**	**24.8 J**
Copper			3000	**30**	**6.44 J**	**8.18 J**	**12.1 J**	**16.5**	**12.9 J**	**18.4 J**	**13 J**	**64.8 J**	**13.7 J**
Lead	250			**53.7**	**2.46**	**1.82**	**1.91**	**10.4**	**13.2**	**15.1**	**2.07**	**370**	**12.3**
Mercury	2		24	**0.072 J**	**0.027**	**0.01 J**	**0.02**	**0.039 J**	**0.032**	**0.042**	**0.016 J**	**0.131**	**0.027**
Nickel			1600	**37.5**	**25 J**	**26.9 J**	**35.6 J**	**33.5**	**29.8 J**	**37.5 J**	**34.3 J**	**32.2 J**	**29.6 J**
Selenium			400	**0.3 J**	**0.4 J**	< 1.2	< 1.1	J	< 1.1	**0.4 J**	< 1.1	**0.5 J**	**0.4 J**
Silver			400	**0.086**	**0.107**	**0.033**	**0.038**	**0.045**	**0.072**	**0.087**	**0.034**	**0.188**	**0.111**
Thallium			6	**0.066**	**0.067**	**0.03**	**0.035**	**0.053**	**0.05**	**0.067**	**0.042**	**0.059**	**0.043**
Zinc			24000	**76.9**	**18.8 J**	**22.3 J**	**26.9 J**	**38.9**	**33.4 J**	**44.2 J**	**27.2 J**	**598 J**	**34.4 J**
Volatile Organic Compounds EPA Method 8260 (µg/kg)													
1,2,4-Trichlorobenzene				< 27	< 24	< 22	< 21	< 21	< 22	< 28	< 31	< 24	< 20
1,2,4-Trimethylbenzene			4.0E+06	< 27	< 24	< 22	< 21	< 21	< 22	< 28	< 31	< 24	< 20
1,3,5-Trimethylbenzene				< 27	< 24	< 22	< 21	< 21	< 22	< 28	< 31	< 24	< 20
1,4-Dichlorobenzene				**0.3 J**	**0.15 J**	< 5.5	< 5.2	< 5.3	< 5.5	< 6.9	< 7.7	**0.14 J**	< 4.9
2-Butanone			4.8E+07	**16 J**	**6.1 J**	< 22	< 21	**3.8 J**	**6.5 J**	**6.5 J**	< 31	**7.9 J**	**3.9 J**
4-Isopropyltoluene				**1.9 J**	**0.67 J**	< 22	< 21	< 21	< 22	**0.11 J**	< 31	< 24	< 20
4-Methyl-2-Pentanone (MIBK)				< 27	< 24	< 22	< 21	< 21	< 22	< 28	< 31	< 24	< 20
Acetone			8.0E+06	**320**	**95**	**3.5 J**	**3.6 J**	**98**	**190**	**99**	**13 J**	**150**	**71**
Benzene	0.03	180	3.2E+05	***< 6.6***	***< 5.9***	***< 5.5***	***< 5.2***	***< 5.3***	***< 5.5***	***< 6.9***	**< 7.7**	***< 5.9***	***< 4.9***
Carbon Disulfide			8.0E+06	< 6.6	**2.2 J**	< 5.5	< 5.2	< 5.3	**0.097 J**	**0.63 J**	< 7.7	**0.13 J**	**0.059 J**
Dichlorodifluoromethane			1.6E+07	**0.29 J**	< 5.9	**0.29 J**	**0.31 J**	**0.19 J**	< 5.5	**2.8 J**	**3.8 J**	**0.26 J**	**0.14 J**
m,p-Xylene	9.0E+03			**0.25 J**	< 5.9	< 5.5	< 5.2	< 5.3	**0.53 J**	< 6.9	< 7.7	< 5.9	< 4.9
Methylene Chloride	20	1.3E+05	4.8E+06	**0.59 J**	**0.5 J**	**0.52 J**	**0.61 J**	**0.35 J**	**0.67 J**	**0.49 J**	**0.57 J**	**0.34 J**	**0.36 J**
Naphthalene	5.0E+03		1.6E+06	**0.76 J**	**0.22 J**	**0.21 J**	< 21	**0.17 J**	**0.28 J**	< 28	< 31	**0.46 J**	**0.32 J**
o-Xylene	9.0E+03		1.6E+08	< 6.6	< 5.9	< 5.5	< 5.2	< 5.3	**0.25 J**	< 6.9	< 7.7	< 5.9	< 4.9
Styrene				< 6.6	< 5.9	< 5.5	< 5.2	< 5.3	< 5.5	< 6.9	< 7.7	< 5.9	< 4.9
Toluene	7.0E+03		6.4E+06	**0.6 J**	**1 J**	< 5.5	**0.26 J**	**0.35 J**	**0.89 J**	**0.51 J**	**0.22 J**	**0.34 J**	**0.33 J**
Trichlorofluoromethane				< 6.6	**0.21 J**	< 5.5	< 5.2	**1.1 J**	< 5.5	< 6.9	**2.7 J**	< 5.9	< 4.9

Shaded and Bold - Value exceed Method B CUL (or Method A if no Method B value available)

Italics and Bold **- Detection limit exceeds CUL**

Table F-3-4 Monitoring Well Soils Analytical Results: Metals, VOCs, SVOCs, TPH

Location ID				MW-2	MW-2	MW-2	MW-2	MW-3	MW-3	MW-3	MW-3	MW-4	MW-4
Sample ID				MW-2-0-0.5	MW-2-1.5-2	MW-2-6.5-8	MW-2-14-15.5	MW-3-0-0.5	MW-3-1.5-2	MW-3-6.5-8	MW-3-14-15.5	MW-4-0-0.5	MW-4-1.5-2
Sample Date				3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008	3/17/2008	3/17/2008
Chemical Name	**MTCA A**	**MTCA B - Carcinogen**	**MTCA B Non-Carcinogen**										
Semi-volatile Organic Compounds EPA Method 8270 (µg/kg)													
1,4-Dichlorobenzene				< 10	< 9.9	< 9.2	< 8.2	< 9	< 9.9	< 9.7	< 7.3	< 99	< 9.9
2-Methylnaphthalene			3.2E+05	< 10	< 9.9	< 9.2	< 8.2	< 9	< 9.9	< 9.7	< 7.3	**36 J**	< 9.9
Acenaphthene			4.8E+06	< 10	< 9.9	< 9.2	< 8.2	< 9	< 9.9	< 9.7	< 7.3	< 99	< 9.9
Acenaphthylene				**4 J**	< 9.9	< 9.2	< 8.2	< 9	< 9.9	< 9.7	< 7.3	**67 J**	< 9.9
Anthracene			2.4E+07	**3 J**	< 9.9	< 9.2	< 8.2	< 9	**1.7 J**	**1.9 J**	< 7.3	**44 J**	< 9.9
Benzo(a)anthracene				**7.9 J**	< 9.9	< 9.2	< 8.2	< 9	**4.6 J**	**3.4 J**	< 7.3	**91 J**	< 9.9
Benzo(a)pyrene		140		**13**	< 9.9	< 9.2	< 8.2	< 9	**5.9 J**	< 9.7	< 7.3	**99**	**1.9 J**
Benzo(b)fluoranthene				**19**	< 9.9	< 9.2	< 8.2	< 9	**6.7 J**	**5.2 J**	< 7.3	**190**	**2 J**
Benzo(g,h,i)perylene				**14**	< 9.9	< 9.2	< 8.2	< 9	**4.3 J**	**3.3 J**	< 7.3	**110**	**2.3 J**
Benzo(k)fluoranthene				**5.9 J**	< 9.9	< 9.2	< 8.2	< 9	**2.6 J**	**2.3 J**	< 7.3	**64 J**	< 9.9
Benzoic Acid			3.2E+08	**110 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzyl Alcohol			2.4E+07	< 20	< 20	< 19	< 17	< 18	< 20	< 20	< 15	< 200	< 20
bis(2-Ethylhexyl)phthalate		7.1E+04	1.6E+06	**36 J**	< 99	**10 J**	**7.9 J**	**19 J**	**16 J**	**99**	**19 J**	< 990	**12 J**
Butylbenzylphthalate			1.6E+07	< 10	< 9.9	< 9.2	< 8.2	< 9	< 9.9	< 9.7	< 7.3	< 99	< 9.9
Chrysene				**16**	< 9.9	< 9.2	< 8.2	**2.2 J**	**5.8 J**	**6 J**	< 7.3	**200**	**2.5 J**
Dibenz(a,h)anthracene				< 10	< 9.9	< 9.2	< 8.2	< 9	< 9.9	< 9.7	< 7.3	**25 J**	< 9.9
Dibenzofuran			1.6E+05	< 10	< 9.9	< 9.2	< 8.2	< 9	< 9.9	< 9.7	< 7.3	**16 J**	< 9.9
Di-n-Butylphthalate			8.0E+06	< 20	< 20	< 19	< 17	< 18	< 20	< 20	< 15	< 200	< 20
Fluoranthene			3.2E+06	**24**	< 9.9	< 9.2	< 8.2	**2.6 J**	**8.4 J**	**12**	< 7.3	**290**	**3.5 J**
Fluorene			3.2E+06	< 10	< 9.9	< 9.2	< 8.2	< 9	< 9.9	**2.1 J**	< 7.3	< 99	< 9.9
Indeno(1,2,3-cd)pyrene				**14**	< 9.9	< 9.2	< 8.2	< 9	**4.6 J**	**2.8 J**	< 7.3	**110**	**1.8 J**
Naphthalene	5.0E+03		1.6E+06	< 10	< 9.9	< 9.2	< 8.2	< 9	< 9.9	< 9.7	< 7.3	< 99	< 9.9
Pentachlorophenol		8.3E+03	2.4E+06	**57 J**	< 99	< 92	< 82	< 90	< 99	< 97	< 73	**15,000**	**57 J**
Phenanthrene				**19**	< 9.9	< 9.2	< 8.2	**1.7 J**	**6.8 J**	**15**	< 7.3	**220**	**1.9 J**
Pyrene			2.4E+06	**25**	< 9.9	< 9.2	< 8.2	**2.2 J**	**10**	**9.9**	< 7.3	**320**	**3.4 J**
NWTPH (mg/kg)													
Diesel Range Hydrocarbons	2.0E+03			< 21 U	< 14 U	< 3.3 U	< 1.8 U	< 8.9 U	< 5.3 U	< 15 U	< 1.4 U	**96 NJ**	**2.1 J**
Residual Range Organics (RRO	2.0E+03			**190 NJ**	< 50 U	< 26 U	< 14 U	< 67 U	< 36 U	< 86 U	< 11 U	**480 J**	< 15 U
Gasoline Range Hydrocarbons	30			< 1.3 U	< 5.8	< 6.4	< 7	**0.65 J**	< 5.8	< 8.7	< 5.7	< 4.6 U	< 1 U

Shaded and Bold - Value exceed Method B CUL (or Method A if no Method B value available)

Italics and Bold **- Detection limit exceeds CUL**

Table F-3-4 Monitoring Well Soils Analytical Results: Metals, VOCs, SVOCs, TPH

			Location ID	MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6
			Sample ID	MW-4-9-10.5	MW-4-14-15.5	MW-5-0-0.5	MW-5-1.5-2	MW-5-6.5-8	MW-5-11.5-13	MW-6-0-0.5	MW-6-1.5-2	MW-6-11.5-13	MW-6-19-21.5
			Sample Date	3/17/2008	3/17/2008	3/17/2008	3/17/2008	3/17/2008	3/17/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008
Chemical Name	**MTCA A**	**MTCA B - Carcinogen**	**MTCA B Non-Carcinogen**										
Metals EPA Method 6020 / 7471A (mg/kg)													
Antimony			32	**0.19 J**	**0.14 J**	**2.32 J**	**0.26 J**	**1.6 J**	**0.61 J**	**0.56 J**	**0.35 J**	**0.11 J**	**0.08 J**
Arsenic	20	0.67	24	**2.6**	**2.2**	**10.2**	**3.6**	**3.1**	**8.7**	**9.2**	**5.3**	**2.2**	**2.2**
Beryllium			160	**0.185 J**	**0.28 J**	**0.293 J**	**0.279 J**	**0.214 J**	**0.229 J**	**0.28 J**	**0.24 J**	**0.259 J**	**0.167 J**
Cadmium			80	**0.149**	**0.081**	**4.49**	**0.163**	**0.573**	**0.377**	**0.402**	**0.277**	**0.074**	**0.086**
Chromium	19/2000			**27.8**	**31.3 J**	**38.2 J**	**29**	**21.1 J**	**25 J**	**52.9 J**	**44.9 J**	**47.8 J**	**36 J**
Copper			3000	**16**	**24.5 J**	**72.6 J**	**17.8**	**17.9 J**	**17.3 J**	**18 J**	**13.6 J**	**13.4 J**	**12.2 J**
Lead	250			**10.3**	**2.98**	**294**	**18.2**	**78.8**	**121**	**51.1**	**26.6**	**4.17**	**2.13**
Mercury	2		24	**0.023 J**	**0.029**	**0.128**	**0.053 J**	**0.053**	**0.047**	**0.215**	**0.107**	**0.019 J**	**0.02**
Nickel			1600	**39.5**	**44.6 J**	**38.3 J**	**37.1**	**28.3 J**	**29.5 J**	**28.7 J**	**26.7 J**	**36.4 J**	**32.7 J**
Selenium			400	J	< 1.2	**0.5 J**	**0.3 J**	**0.4 J**	< 1.2	**0.4 J**	< 1.1	**0.4 J**	< 1.2
Silver			400	**0.021 J+**	**0.05**	**0.179**	**0.062**	**0.107**	**0.113**	**0.124**	**0.085**	**0.064**	**0.037**
Thallium			6	**0.052**	**0.068**	**0.096**	**0.06**	**0.056**	**0.054**	**0.062**	**0.054**	**0.066**	**0.044**
Zinc			24000	**37.1**	**34.9 J**	**641 J**	**42.4**	**143 J**	**68.1 J**	**64.6 J**	**50.1 J**	**27.6 J**	**26.9 J**
Volatile Organic Compounds EPA Method 8260 (µg/kg)													
1,2,4-Trichlorobenzene				< 11	< 25	**0.35 J**	< 23	< 23	< 21	< 39	< 24	< 15	< 18
1,2,4-Trimethylbenzene			4.0E+06	< 11	< 25	**0.29 J**	< 23	**0.19 J**	**0.16 J**	**0.25 J**	< 24	< 15	< 18
1,3,5-Trimethylbenzene				< 11	< 25	**0.13 J**	< 23	< 23	< 21	< 39	< 24	< 15	< 18
1,4-Dichlorobenzene				< 2.8	**0.22 J**	**0.55 J**	**0.15 J**	< 5.6	< 5.2	**0.39 J**	< 6	< 3.6	< 4.4
2-Butanone			4.8E+07	**1.5 J**	< 25	**21 J**	**6.5 J**	**6.3 J**	**8.3 J**	**26 J**	**9.4 J**	< 15	< 18
4-Isopropyltoluene				< 11	< 25	< 27	**0.34 J**	< 23	**0.34 J**	< 39	< 24	< 15	< 18
4-Methyl-2-Pentanone (MIBK)				< 11	< 25	**0.95 J**	< 23	< 23	< 21	< 39	< 24	< 15	< 18
Acetone			8.0E+06	**18**	**5.3 J**	**410**	**210**	**110**	**81**	**380**	**180**	**8.7 J**	**4.6 J**
Benzene	0.03	180	3.2E+05	**< *2.8***	**< *6.2***	**1.7 J**	**< *5.6***	**< *5.6***	**0.96 J**	**< *9.8***	**< *6***	**< *3.6***	**< *4.4***
Carbon Disulfide			8.0E+06	**0.06 J**	< 6.2	**0.35 J**	**0.18 J**	**0.3 J**	**1.9 J**	**0.14 J**	< 6	**0.093 J**	< 4.4
Dichlorodifluoromethane			1.6E+07	**2.4 J**	**0.27 J**	**1.1 J**	**0.19 J**	**0.19 J**	**0.17 J**	**12**	< 6	**0.61 J**	**1.9 J**
m,p-Xylene	9.0E+03			< 2.8	< 6.2	**0.73 J**	**0.23 J**	**0.44 J**	**0.27 J**	< 9.8	< 6	< 3.6	< 4.4
Methylene Chloride	20	1.3E+05	4.8E+06	**2.4 J**	**0.42 J**	**0.75 J**	**0.41 J**	**0.46 J**	**0.35 J**	**6.4 J**	**0.37 J**	**0.93 J**	**0.63 J**
Naphthalene	5.0E+03		1.6E+06	< 11	**0.5 J**	**1 J**	**0.61 J**	**0.59 J**	**0.7 J**	**1.7 J**	< 24	**0.41 J**	**0.21 J**
o-Xylene	9.0E+03		1.6E+08	< 2.8	< 6.2	**0.43 J**	< 5.6	**0.22 J**	< 5.2	< 9.8	< 6	< 3.6	< 4.4
Styrene				< 2.8	< 6.2	**0.12 J**	< 5.6	< 5.6	< 5.2	< 9.8	< 6	< 3.6	< 4.4
Toluene	7.0E+03		6.4E+06	< 2.8	< 6.2	**1.5 J**	**0.52 J**	**0.64 J**	**0.99 J**	**0.66 J**	**0.59 J**	**0.22 J**	**0.22 J**
Trichlorofluoromethane				< 2.8	< 6.2	< 6.7	< 5.6	< 5.6	< 5.2	**2.4 J**	< 6	< 3.6	< 4.4

Shaded and Bold - Value exceed Method B CUL (or Method A if no Method B value available)

Italics and Bold **- Detection limit exceeds CUL**

Table F-3-4 Monitoring Well Soils Analytical Results: Metals, VOCs, SVOCs, TPH

Location ID				MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6
Sample ID				MW-4-9-10.5	MW-4-14-15.5	MW-5-0-0.5	MW-5-1.5-2	MW-5-6.5-8	MW-5-11.5-13	MW-6-0-0.5	MW-6-1.5-2	MW-6-11.5-13	MW-6-19-21.5
Sample Date				3/17/2008	3/17/2008	3/17/2008	3/17/2008	3/17/2008	3/17/2008	3/18/2008	3/18/2008	3/18/2008	3/18/2008
Chemical Name	**MTCA A**	**MTCA B - Carcinogen**	**MTCA B Non-Carcinogen**										
Semi-volatile Organic Compounds EPA Method 8270 (µg/kg)													
1,4-Dichlorobenzene				< 9.9	< 9.8	**20 J**	< 9.9	< 9.9	< 200	< 10	< 9.6	< 9.9	< 9.9
2-Methylnaphthalene			3.2E+05	< 9.9	< 9.8	**22 J**	< 9.9	< 9.9	< 200	< 10	< 9.6	< 9.9	< 9.9
Acenaphthene			4.8E+06	< 9.9	< 9.8	**8.1 J**	< 9.9	< 9.9	**51 J**	< 10	< 9.6	< 9.9	< 9.9
Acenaphthylene				**1.2 J**	< 9.8	**50**	< 9.9	< 9.9	< 200	< 10	< 9.6	< 9.9	< 9.9
Anthracene			2.4E+07	< 9.9	< 9.8	**43 J**	< 9.9	< 9.9	< 200	< 10	< 9.6	< 9.9	< 9.9
Benzo(a)anthracene				**2.7 J**	< 9.8	**100**	< 9.9	**3 J**	**35 J**	**6.2 J**	**2.2 J**	**2 J**	< 9.9
Benzo(a)pyrene		140		**4 J**	< 9.8	**180**	< 9.9	**4.2 J**	***< 200***	**7.8 J**	< 9.6	< 9.9	< 9.9
Benzo(b)fluoranthene				**4.3 J**	< 9.8	**220**	< 9.9	**6.7 J**	< 200	**12**	**3.4 J**	< 9.9	< 9.9
Benzo(g,h,i)perylene				**3 J**	< 9.8	**210**	< 9.9	**5.1 J**	**39 J**	**8 J**	**2.2 J**	< 9.9	< 9.9
Benzo(k)fluoranthene				**1.5 J**	< 9.8	**79**	< 9.9	**2.8 J**	< 200	**4 J**	< 9.6	< 9.9	< 9.9
Benzoic Acid			3.2E+08	NA	NA	NA	NA	NA	NA	**130 J**	**140 J**	NA	NA
Benzyl Alcohol			2.4E+07	< 20	< 20	< 99	< 20	< 20	< 400	< 20	< 20	**2.9 J**	< 20
bis(2-Ethylhexyl)phthalate		7.1E+04	1.6E+06	**170**	**18 J**	**67 J**	**24 J**	**470**	**180 J**	**31 J**	**35 J**	**130**	**10 J**
Butylbenzylphthalate			1.6E+07	< 9.9	< 9.8	< 50	< 9.9	**8.3 J**	< 200	< 10	< 9.6	< 9.9	**4.4 J**
Chrysene				**4.2 J**	< 9.8	**160**	**3.3 J**	**5.3 J**	**58 J**	**10**	**2.9 J**	**1.7 J**	< 9.9
Dibenz(a,h)anthracene				< 9.9	< 9.8	**27 J**	< 9.9	< 9.9	< 200	< 10	< 9.6	< 9.9	< 9.9
Dibenzofuran			1.6E+05	< 9.9	< 9.8	**6.2 J**	< 9.9	< 9.9	< 200	< 10	< 9.6	< 9.9	< 9.9
Di-n-Butylphthalate			8.0E+06	< 20	< 20	**330**	< 20	< 20	< 400	< 20	< 20	< 20	< 20
Fluoranthene			3.2E+06	**5.9 J**	< 9.8	**280**	**3.4 J**	**7 J**	**56 J**	**13**	**5.9 J**	**5 J**	**4.5 J**
Fluorene			3.2E+06	< 9.9	< 9.8	**14 J**	< 9.9	< 9.9	< 200	< 10	**1.1 J**	< 9.9	**1.3 J**
Indeno(1,2,3-cd)pyrene				**3 J**	< 9.8	**190**	< 9.9	**5 J**	< 200	**7 J**	**2.1 J**	< 9.9	< 9.9
Naphthalene	5.0E+03		1.6E+06	< 9.9	< 9.8	**50**	< 9.9	< 9.9	< 200	< 10	< 9.6	< 9.9	**4 J**
Pentachlorophenol		8.3E+03	2.4E+06	**130**	< 98	**2,700**	**53 J**	**120**	< 2,000	**65 J**	< 96	< 99	< 99
Phenanthrene				**5.6 J**	< 9.8	**190**	**2.3 J**	**4 J**	**210**	**8.3 J**	**8.1 J**	**8.2 J**	**7.7 J**
Pyrene			2.4E+06	**6.6 J**	< 9.8	**290**	**3.1 J**	**6.8 J**	**150 J**	**12**	**4.5 J**	**3.8 J**	**2.8 J**
NWTPH (mg/kg)													
Diesel Range Hydrocarbons	2.0E+03			**1.5 J**	< 31	**90 NJ**	**2.7 J**	**19 J**	**1,100 J**	< 15 U	< 11 U	**56 J**	< 2.3 U
Residual Range Organics (RRO	2.0E+03			< 9.5 U	< 9.3 U	**480 J**	< 21 U	< 88 U	**810 J**	**180 NJ**	< 99 U	< 32 U	< 19 U
Gasoline Range Hydrocarbons	30			< 0.83 U	< 2 U	< 2.9 U	< 5.8	< 0.73 U	**14 NJ**	< 6.9	< 6.1	< 5.9	< 6

Shaded and Bold - Value exceed Method B CUL (or Method A if no Method B value available)

Italics and Bold **- Detection limit exceeds CUL**

Table F-3-5 Monitoring Well Soils Analytical Results: Dioxin-Furan Total Toxic Equivalency Quotients (TEQ)

		Location ID	MW-2		MW-2		MW-2		MW-2		MW-3		MW-3		MW-3		MW-3		MW-4		MW-4	
		Sample ID	MW-2-0-0.5		MW-2-1.5-2		MW-2-6.5-8		MW-2-14-15.5		MW-3-0-0.5		MW-3-1.5-2		MW-3-6.5-8		MW-3-14-15.5		MW-4-0-0.5		MW-4-1.5-2	
		Sample Date	03/18/08		03/18/08		03/18/08		03/18/08		03/18/08		03/18/08		03/18/08		03/18/08		03/17/08		03/17/08	
Chemical Name	**TEFs**	**Unit**																				
Dioxins/Furans			**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**
1,2,3,4,6,7,8,9-OCDD	0.0003	ng/kg	12,300	**3.69 J**	12.9	**0.00387 J**	21.0	**0.0063 J**	910	**0.273 J**	608	**0.182**	880	**0.264**	890	**0.267**	16.1	**0.00483**	295,000	**88.5**	9,340	**2.80 J**
1,2,3,4,6,7,8,9-OCDF	0.0003	ng/kg	1,520	**0.456 J**	< 1.88	0.000282	< 2.89	0.0004335	98.3	**0.02949**	77.6	**0.0233**	71.6	**0.0215**	101	**0.0303**	< 1.16	0.000174	75,400	**22.6**	1,260	**0.378**
1,2,3,4,6,7,8-HpCDD	0.01	ng/kg	998	**9.98 J**	< 2.42	0.0121	2.35	**0.0235**	75.9	**0.759**	67	**0.670**	87	**0.870**	98.7	**0.987**	< 1.76	0.0088	81,300	**813**	909	**9.09**
1,2,3,4,6,7,8-HpCDF	0.01	ng/kg	258	**2.58**	< 0.668	0.00334	< 0.625	0.003125	17.7	**0.177**	18.3	**0.183**	20.6	**0.206**	24.2	**0.242**	< 0.266	0.00133	19,200	**192**	251	**2.51**
1,2,3,4,7,8,9-HpCDF	0.01	ng/kg	12.3	**0.123**	< 0.063	0.0003	< 0.0572	0.000286	0.706	**0.00706 J**	0.577	**0.00577 J**	1.17	**0.0117 J**	0.937	**0.00937 J**	< 0.0395	0.0002	897	**8.97**	9.86	**0.0986**
1,2,3,4,7,8-HxCDD	0.1	ng/kg	4.27	**0.427**	< 0.0331	0.001655	< 0.0243	0.001215	0.224	**0.0224 NJ+**	0.381	**0.0381 J**	0.641	**0.0641 J**	0.737	**0.0737 J**	< 0.0265	0.001	506	**50.6 J**	6.33	**0.633**
1,2,3,4,7,8-HxCDF	0.1	ng/kg	8.94	**0.894**	0.0614	**0.00614 NJ+**	< 0.0235	0.001	0.276	**0.0276 J**	0.946	**0.0946 J**	1.74	**0.174 J**	0.97	**0.0970 J**	< 0.0231	0.001	619	**61.9 J**	5.1	**0.510**
1,2,3,6,7,8-HxCDD	0.1	ng/kg	23.2	**2.32**	< 0.0321	0.002	0.0989	**0.00989 J**	1.81	**0.181 J**	1.73	**0.173 J**	3.26	**0.326**	2.82	**0.282 J**	0.0966	**0.00966 J**	3,560	**356**	32.7	**3.27**
1,2,3,6,7,8-HxCDF	0.1	ng/kg	3.33	**0.333**	< 0.0239	0.001	< 0.0241	0.001	0.171	**0.0171 J**	0.575	**0.0575 J**	1.01	**0.101 J**	0.885	**0.0885 J**	< 0.0235	0.001	354	**35.4**	3.1	**0.310**
1,2,3,7,8,9-HxCDD	0.1	ng/kg	12.3	**1.23**	0.164	**0.0164 J**	0.0976	**0.00976 J**	1.43	**0.143 J**	1.44	**0.144 J**	1.78	**0.178 J**	2.45	**0.245 J**	0.0946	**0.00946 J**	2,550	**255**	28.3	**2.83**
1,2,3,7,8,9-HxCDF	0.1	ng/kg	< 0.198	0.010	< 0.0317	0.002	< 0.0319	0.002	< 0.0349	0.002	< 0.0458	0.002	< 0.0594	0.003	< 0.19	0.010	< 0.0313	0.002	15.2	**1.52 NJ+**	< 0.757	0.038
1,2,3,7,8-PeCDD	1	ng/kg	2.87	**2.87**	< 0.0362	0.02	< 0.0172	0.01	0.296	**0.296 NJ+**	0.301	**0.301 NJ+**	0.453	**0.453 J**	0.47	**0.470 NJ+**	< 0.0162	0.01	511	**511 J**	6.48	**6.48**
1,2,3,7,8-PeCDF	0.03	ng/kg	0.802	**0.0241 J**	< 0.0191	0.0003	< 0.0139	0.0002	< 0.021	0.0003	0.0999	**0.002997 NJ+**	0.284	**0.00852 J**	< 0.0606	0.0009	< 0.0118	0.0002	35.1	**1.05 NJ+**	0.449	**0.0135 J**
2,3,4,6,7,8-HxCDF	0.1	ng/kg	2.99	**0.299 NJ+**	< 0.0265	0.001	< 0.0266	0.001	0.144	**0.0144 NJ+**	0.238	**0.0238 J**	0.691	**0.0691 J**	0.595	**0.0595 J**	< 0.026	0.001	273	**27.3**	3.04	**0.304**
2,3,4,7,8-PeCDF	0.3	ng/kg	1.75	**0.525 J**	< 0.0185	0.003	< 0.0134	0.002	0.0429	**0.0129 NJ+**	0.276	**0.0828 J**	0.376	**0.113 J**	0.491	**0.147 J**	< 0.0114	0.002	89.1	**26.7**	1.01	**0.303 J**
2,3,7,8-TCDD	1	ng/kg	4.38	**4.38**	< 0.0538	0.027	< 0.0208	0.010	0.114	**0.114 NJ+**	< 0.0345	0.017	< 0.0197	0.010	0.098	**0.0980 NJ+**	< 0.02	0.010	121	**121**	1.59	**1.59**
2,3,7,8-TCDF	0.1	ng/kg	0.917	**0.0917 J**	< 0.0641	0.0032	< 0.0287	0.0014	< 0.0214	0.0011	< 0.138	0.0069	< 0.136	0.0068	< 0.14	0.0070	< 0.0142	0.0007	20.9	**2.09**	< 0.0895	0.0045
Total TCDD TEQ (1)				**30.2**		**0.10**		**0.082**		**2.08**		**2.01**		**2.88**		**3.11**		**0.062**		**2575**		**31.2**

Notes

Total TCDD TEQ calculated using Toxicity Equivalency Factors in MTCA Regulations revised November 2007.

(1) One-half the detection limit used in TEQ calculation for non-detect results

Qualifiers:

J = estimated concentration (value less than calculated reporting limit)

N = analyte is tentatively identified (validator qualifier)

\+ = biased high

Method B CUL - 11 ng/kg

Value Exceeds Method B CUL

Table F-3-5 Monitoring Well Soils Analytical Results: Dioxin-Furan Total Toxic Equivalency Quotients (TEQ)

		Location ID	MW-4		MW-4		MW-5		MW-5		MW-5		MW-5		MW-6		MW-6		MW-6		MW-6	
		Sample ID	MW-4-9-10.5		MW-4-14-15.5		MW-5-0-0.5		MW-5-1.5-2		MW-5-6.5-8		MW-5-11.5-13		MW-6-0-0.5		MW-6-1.5-2		MW-6-11.5-13		MW-6-19-21.5	
		Sample Date	03/17/08		03/17/08		03/17/08		03/17/08		03/17/08		03/17/08		03/18/08		03/18/08		03/18/08		03/18/08	
Chemical Name	**TEFs**	**Unit**																				
Dioxins/Furans			**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**
1,2,3,4,6,7,8,9-OCDD	0.0003	ng/kg	35,800	**10.7 J**	1,390	**0.417 J**	657,000	**197 J**	6,450	**1.94 J**	164,000	**49.2 J**	27,700	**8.31 J**	2,950	**0.885 J**	1,170	**0.351 J**	37.6	**0.0113**	14.1	**0.00423**
1,2,3,4,6,7,8,9-OCDF	0.0003	ng/kg	4,530	**1.36**	187	**0.0561**	110,000	**33.0**	771	**0.231**	20,800	**6.24**	3,490	**1.05**	401	**0.120**	121	**0.0363**	< 4.66	0.000699	< 0.645	0.00009675
1,2,3,4,6,7,8-HpCDD	0.01	ng/kg	5,700	**57.0 J**	155	**1.55**	109,000	**1090**	767	**7.67 J**	20,200	**202**	2,490	**24.9**	342	**3.42**	141	**1.41**	4.16	**0.0416**	< 1.79	0.0090
1,2,3,4,6,7,8-HpCDF	0.01	ng/kg	1,080	**10.8**	34.6	**0.346**	23,600	**236**	150	**1.50**	4,160	**41.6**	458	**4.58**	70.1	**0.701**	22.5	**0.225**	< 0.887	0.004435	< 0.183	0.000915
1,2,3,4,7,8,9-HpCDF	0.01	ng/kg	38.6	**0.386**	1.81	**0.0181 J**	722	**7.22 NJ+**	6.35	**0.0635**	236	**2.36**	33.5	**0.335**	3.01	**0.0301 J**	1.51	**0.0151 J**	< 0.0541	0.0003	< 0.0513	0.0003
1,2,3,4,7,8-HxCDD	0.1	ng/kg	19.3	**1.93**	2.18	**0.218 J**	539	**53.9**	3.67	**0.367**	110	**11.0**	9.12	**0.912**	1.62	**0.162 J**	0.735	**0.0735 J**	< 0.0308	0.002	< 0.0275	0.001
1,2,3,4,7,8-HxCDF	0.1	ng/kg	17.1	**1.71**	0.932	**0.0932 J**	462	**46.2 NJ+**	4.27	**0.427**	99.6	**9.96**	11.3	**1.13**	3.33	**0.333**	1.33	**0.133 J**	< 0.026	0.001	< 0.0333	0.002
1,2,3,6,7,8-HxCDD	0.1	ng/kg	95.8	**9.58**	5.03	**0.503**	3,750	**375**	21.8	**2.18**	570	**57.0**	71.7	**7.17**	8.61	**0.861**	3.44	**0.344**	0.145	**0.0145 NJ+**	< 0.0266	0.001
1,2,3,6,7,8-HxCDF	0.1	ng/kg	9.95	**0.995**	0.684	**0.0684 J**	290	**29.0**	2.59	**0.259 J**	59.7	**5.97**	5.86	**0.586**	1.42	**0.142 J**	0.567	**0.0567 J**	< 0.0265	0.001	< 0.0341	0.002
1,2,3,7,8,9-HxCDD	0.1	ng/kg	81.3	**8.13**	6.86	**0.686**	3,350	**335**	16.9	**1.69**	464	**46.4**	30.4	**3.04**	5.32	**0.532**	2.26	**0.226 J**	< 0.0322	0.002	< 0.0287	0.001
1,2,3,7,8,9-HxCDF	0.1	ng/kg	< 0.463	0.023	< 0.283	0.014	12.9	**1.29**	< 0.229	0.011	1.94	**0.194 NJ+**	< 0.398	0.020	< 0.106	0.005	< 0.0698	0.003	< 0.0351	0.002	< 0.0451	0.002
1,2,3,7,8-PeCDD	1	ng/kg	18.1	**18.1**	1.88	**1.88 J**	547	**547**	5.41	**5.41**	107	**107**	5.34	**5.34**	1.04	**1.04 J**	0.368	**0.368 NJ+**	< 0.0341	0.02	< 0.0304	0.0152
1,2,3,7,8-PeCDF	0.03	ng/kg	1.23	**0.0369 NJ+**	< 0.0639	0.0010	38	**1.14 NJ+**	0.473	**0.0142 J**	8.76	**0.263**	0.717	**0.0215 J**	0.394	**0.0118 NJ+**	0.232	**0.00696 J**	< 0.0158	0.0002	< 0.0225	0.0003
2,3,4,6,7,8-HxCDF	0.1	ng/kg	7.81	**0.781**	0.498	**0.0498 J**	209	**20.9**	1.93	**0.193 J**	46.8	**4.68**	5.59	**0.559**	0.823	**0.0823 J**	0.595	**0.0595 J**	< 0.0294	0.001	< 0.0377	0.002
2,3,4,7,8-PeCDF	0.3	ng/kg	2.59	**0.777**	< 0.0617	0.009	73.9	**22.2**	1.28	**0.384 J**	16.8	**5.04**	1.25	**0.375 J**	0.791	**0.237 J**	0.428	**0.128 J**	< 0.0152	0.002	< 0.0217	0.003
2,3,7,8-TCDD	1	ng/kg	4.11	**4.11**	0.521	**0.521 NJ+**	102	**102**	1.55	**1.55**	22.6	**22.6**	1.3	**1.30**	1.29	**1.29**	0.656	**0.656 J**	< 0.0405	0.020	< 0.0516	0.026
2,3,7,8-TCDF	0.1	ng/kg	0.333	**0.0333 J**	< 0.0482	0.0024	9.76	**0.976**	1	**0.100 NJ+**	4.14	**0.414**	< 0.51	0.0255	0.685	**0.0685 J**	0.396	**0.0396 J**	< 0.0494	0.0025	< 0.0444	0.0022
Total TCDD TEQ (1)				**126**		**6.43**		**3098**		**24.0**		**572**		**59.7**		**9.92**		**4.13**		**0.12**		**0.073**

Notes

Total TCDD TEQ calculated using Toxicity Equivalency Factors in MTCA Regulations revised November 2007.

(1) One-half the detection limit used in TEQ calculation for non-detect results

Qualifiers:

J = estimated concentration (value less than calculated reporting limit)

N = analyte is tentatively identified (validator qualifier)

+ = biased high

Method B CUL - 11 ng/kg

Value Exceeds Method B CUL

Table F-3-6 Monitoring Well Soils Analytcial Results: cPAH Total Toxic Equivalency Quotient (TEQ)

		Location ID	MW-2	MW-2	MW-2	MW-2	MW-3	MW-3	MW-3	MW-3
		Sample ID	MW-2-0-0.5	MW-2-1.5-2	MW-2-6.5-8	MW-2-14-15.5	MW-3-0-0.5	MW-3-1.5-2	MW-3-6.5-8	MW-3-14-15.5
		Sample Date	03/18/08	03/18/08	03/18/08	03/18/08	03/18/08	03/18/08	03/18/08	03/18/08
Chemical Name (µg/kg)	**TEFs**	**Unit**								
Carcinogenic PAH			**TEQ**	**TEQ**	**TEQ**	**TEQ**	**TEQ**	**TEQ**	**TEQ**	**TEQ**
Benzo(a)anthracene	0.1	µg/kg	**7.9 J**	< 9.9	< 9.2	< 8.2	< 9	**4.6 J**	**3.4 J**	< 7.3
Benzo(a)pyrene	1	µg/kg	**13**	< 9.9	< 9.2	< 8.2	< 9	**5.9 J**	< 9.7	< 7.3
Benzo(b)fluoranthene	0.1	µg/kg	**19**	< 9.9	< 9.2	< 8.2	< 9	**6.7 J**	**5.2 J**	< 7.3
Benzo(k)fluoranthene	0.1	µg/kg	**5.9 J**	< 9.9	< 9.2	< 8.2	< 9	**2.6 J**	**2.3 J**	< 7.3
Chrysene	0.01	µg/kg	**16**	< 9.9	< 9.2	< 8.2	**2.2 J**	**5.8 J**	**6 J**	< 7.3
Dibenz(a,h)anthracene	0.1	µg/kg	< 10	< 9.9	< 9.2	< 8.2	< 9	< 9.9	< 9.7	< 7.3
Indeno(1,2,3-cd)pyrene	0.1	µg/kg	**14**	< 9.9	< 9.2	< 8.2	< 9	**4.6 J**	**2.8 J**	< 7.3
Total cPAH TEQ (1)			**18.3**	**NC**	NC	NC	**6.8**	**8.3**	**6.8**	NC

		Location ID	MW-4	MW-4	MW-4	MW-4	MW-5	MW-5	MW-5	MW-5
		Sample ID	MW-4-0-0.5	MW-4-1.5-2	MW-4-9-10.5	MW-4-14-15.5	MW-5-0-0.5	MW-5-1.5-2	MW-5-6.5-8	MW-5-11.5-13
		Sample Date	03/17/08	03/17/08	03/17/08	03/17/08	03/17/08	03/17/08	03/17/08	03/17/08
Chemical Name (µg/kg)	**TEFs**	**Unit**								
Carcinogenic PAH			**TEQ**	**TEQ**	**TEQ**	**TEQ**	**TEQ**	**TEQ**	**TEQ**	**TEQ**
Benzo(a)anthracene	0.1	µg/kg	**91 J**	< 9.9	**2.7 J**	< 9.8	**100**	< 9.9	**3 J**	**35 J**
Benzo(a)pyrene	1	µg/kg	**99**	**1.9 J**	**4 J**	< 9.8	**180**	< 9.9	**4.2 J**	< 200*
Benzo(b)fluoranthene	0.1	µg/kg	**190**	**2 J**	**4.3 J**	< 9.8	**220**	< 9.9	**6.7 J**	< 200*
Benzo(k)fluoranthene	0.1	µg/kg	**64 J**	< 9.9	**1.5 J**	< 9.8	**79**	< 9.9	**2.8 J**	< 200*
Chrysene	0.01	µg/kg	**200**	**2.5 J**	**4.2 J**	< 9.8	**160**	**3.3 J**	**5.3 J**	**58 J**
Dibenz(a,h)anthracene	0.1	µg/kg	**25 J**	< 9.9	< 9.9	< 9.8	**27 J**	< 9.9	< 9.9	< 200*
Indeno(1,2,3-cd)pyrene	0.1	µg/kg	**110**	**1.8 J**	**3 J**	< 9.8	**190**	< 9.9	**5 J**	< 200*
Total cPAH TEQ (1)			**149**	**3.8**	**5.7**	NC	**243**	**7.5**	**6.5**	**144**

		Location ID	MW-6	MW-6	MW-6	MW-6
		Sample ID	MW-6-0-0.5	MW-6-1.5-2	MW-6-11.5-13	MW-6-19-21.5
		Sample Date	03/18/08	03/18/08	03/18/08	03/18/08
Chemical Name (µg/kg)	**TEFs**	**Unit**				
Carcinogenic PAH			**TEQ**	**TEQ**	**TEQ**	**TEQ**
Benzo(a)anthracene	0.1	µg/kg	**6.2 J**	**2.2 J**	**2 J**	< 9.9
Benzo(a)pyrene	1	µg/kg	**7.8 J**	< 9.6	< 9.9	< 9.9
Benzo(b)fluoranthene	0.1	µg/kg	**12**	**3.4 J**	< 9.9	< 9.9
Benzo(k)fluoranthene	0.1	µg/kg	**4 J**	< 9.6	< 9.9	< 9.9
Chrysene	0.01	µg/kg	**10**	**2.9 J**	**1.7 J**	< 9.9
Dibenz(a,h)anthracene	0.1	µg/kg	< 10	< 9.6	< 9.9	< 9.9
Indeno(1,2,3-cd)pyrene	0.1	µg/kg	**7 J**	**2.1 J**	< 9.9	< 9.9
Total cPAH TEQ (1)			**11.3**	**6.6**	**7.2**	NC

MTCA Method B CUL - 0.137 mg/kg (137 µg/kg)

Notes

Concentrations reported in µg/kg

(1) Total cPAH TEQs calculated using Toxicity Equivalency Factors from MTCA Regulations Revised November 2007. One-half the detection limit used for non-detect results.

Qualifiers:

U = non-detect

J = estimated concentration (value less than calculated reporting limit)

D = compounds at secondary dilution factor

highlight indicates exceedance of the MTCA Method B cleanup level of 137 µg/kg

NC= Not Calculated where all constituents are not detected

* = Elevated detection levels due to sample dilution.

Table F-4-1 Groundwater Analytical Results: Metals, VOCs, SVOCs, and TPH (March 2008)

Chemical Name	Method A	MCTA B Carcinogen	MCTA B Non-carcinogen	Location ID Sample ID Sample Date MW-1 MW-1-0308 3/28/2008	MW-2 MW-2-0308 3/28/2008	MW-3 MW-3-0308 3/27/2008	MW-4 MW-4-0308 3/27/2008	MW-5 MW-5-0308 3/27/2008	MW-5 DUP-1-0308 3/27/2008	MW-6 MW-6-0308 3/28/2008
Metals EPA Method 6020/7470A (µg/L)										
Antimony			6.4	**0.237**	**0.056**	**0.258**	**0.341**	**0.063 J**	**0.071 J**	**0.188**
Arsenic	5	0.058	4.8	**10.5**	**< *0.33* U**	**< *1.39* U**	**< *1.38* U**	**3.44**	**3.58**	**1.66**
Beryllium			32	< 0.02	< 0.02	< 0.02	**0.008 J**	< 0.04	< 0.04	**0.035 J**
Cadmium	5		8	**0.01 J**	**0.026**	**0.018 J**	**0.024**	**0.035 J**	**0.051**	**0.117**
Chromium	50			**2.73 J**	< 0.91 U	< 0.35 U	< 0.85 U	< 0.61 U	< 0.69 U	**3.16 J**
Copper			590	**1.03**	**0.61**	< 0.28 U	**0.65**	**0.49**	**0.43**	**12.6**
Lead	15			**0.322**	**0.207**	**0.017 J**	**0.134**	**0.082 J**	**0.087 J**	**0.324**
Zinc			4800	**1.5**	**4.8**	**0.7**	**3.2**	**9.6 J**	**2.3 J**	**4**
Mercury	2		4.8	**0.01 J**	J	**0.01 J**	J	J	**0.01 J**	**0.02 J**
Volatile Organic Compounds EPA Method 8260 (µg/L)										
1,2,4-Trimethylbenzene			400	**3.1**	**0.72 J**	< 2	< 2	< 2	< 2	**0.17 J**
1,3,5-Trimethylbenzene			400	< 2	**0.21 J**	< 2	< 2	< 2	< 2	< 2
4-Isopropyltoluene				**0.58 J**	< 2	< 2	< 2	< 2	< 2	< 2
Ethylbenzene	700		800	**0.33 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**3.5**
Isopropylbenzene			800	**0.31 J**	< 2	< 2	< 2	< 2	< 2	**1.8 J**
m,p-Xylene	1000			**0.37 J**	**0.55**	< 0.5	< 0.5	< 0.5	< 0.5	**0.33 J**
Naphthalene	160		160	**1.9 J**	**0.36 J**	< 2	< 2	< 2	< 2	**4**
n-Butylbenzene				**0.25 J**	< 2	< 2	< 2	< 2	< 2	< 2
n-Propylbenzene				**0.42 J**	< 2	< 2	< 2	< 2	< 2	**1.2 J**
o-Xylene			16000	**0.54**	**0.28 J**	< 0.5	< 0.5	< 0.5	< 0.5	**0.18 J**
sec-Butylbenzene				**0.47 J**	< 2	< 2	< 2	< 2	< 2	< 2
Tetrachloroethene	5	0.08	80	**0.23 J**	**< *0.5***	**< *0.5***	**< *0.5***	**< *0.5***	**< *0.5***	**< *0.5***
Toluene	1000		640	< 0.5	**0.19 J**	< 0.5	< 0.5	< 0.5	< 0.5	**0.17 J**
Trichloroethene	5	0.11	2.4	**0.17 J**	**< *0.5***	**< *0.5***	**< *0.5***	**< *0.5***	**< *0.5***	**< *0.5***
Semivolatile Organic Compounds EPA Method 8270 (µg/L)										
2,4,5-Trichlorophenol			800	**0.4 J**	< 0.48	< 0.5	< 0.49	**0.033 J**	< 0.49	**0.23 J**
2,4,6-Trichlorophenol		4		**1.5 J**	< 0.48	< 0.5	< 0.49	< 0.5	< 0.49	< 2.5
2-Methylnaphthalene			32	< 0.97	**0.16 J**	< 0.2	< 0.2	**0.038 J**	**0.028 J**	< 1
2-Methylphenol			400	< 2.5	< 0.48	< 0.5	< 0.49	**0.14 J**	**0.15 J**	< 2.5
4-Methylphenol			40	< 2.5	< 0.48	< 0.5	< 0.49	**0.12 J**	**0.13 J**	< 2.5
Anthracene			4800	< 0.97	< 0.19	< 0.2	**0.025 J**	< 0.2	**0.025 J**	< 1
Benzo(a)anthracene				**0.6 J**	**0.049 J**	**0.044 J**	**0.065 J**	**0.051 J**	**0.066 J**	< 1
Benzo(a)pyrene		0.01		**0.72 J**	**0.038 J**	**< *0.2***	**0.047 J**	**0.037 J**	**0.039 J**	**< *1***
Benzo(b)fluoranthene				**0.83 J**	**0.05 J**	**0.036 J**	**0.059 J**	**0.061 J**	**0.064 J**	< 1
Benzo(g,h,i)perylene				**0.37 J**	**0.034 J**	**0.022 J**	**0.035 J**	**0.035 J**	**0.044 J**	< 1
Benzo(k)fluoranthene				**0.37 J**	**0.04 J**	**0.027 J**	**0.047 J**	**0.053 J**	**0.053 J**	< 1
Benzoic Acid			64000	**6.9 J**	< 4.8	**1.2 J**	**1.2 J**	**1.2 J**	**1.2 J**	**6.3 J**
Benzyl Alcohol			2400	< 25	**0.21 J**	< 5	< 4.9	**0.22 J**	**0.21 J**	< 25
bis(2-Ethylhexyl)phthalate		6.3	320	**1.2 J**	**0.5 J**	< 0.99	**0.48 J**	**0.13 J**	**0.27 J**	**0.74 J**
Chrysene				**0.75 J**	**0.065 J**	**0.046 J**	**0.079 J**	**0.071 J**	**0.077 J**	< 1
Dibenz(a,h)anthracene				< 0.97	**0.027 J**	**0.024 J**	**0.041 J**	**0.045 J**	**0.041 J**	< 1
Di-n-Octyl phthalate			320	< 0.97	**0.045 J**	**0.024 J**	**0.059 J**	**0.048 J**	**0.055 J**	< 1
Fluoranthene			640	**0.85 J**	**0.079 J**	**0.052 J**	**0.094 J**	**0.081 J**	**0.081 J**	< 1
Indeno(1,2,3-cd)pyrene				**0.4 J**	**0.036 J**	**0.027 J**	**0.042 J**	**0.034 J**	**0.037 J**	< 1
Naphthalene			160	**0.39 J**	**0.15 J**	**0.029 J**	**0.045 J**	**0.042 J**	**0.038 J**	< 1
Pentachlorophenol		0.73	480	**16**	**< *0.95***	**< *0.99***	**< *0.97***	**0.97 J**	**1.1**	**< *5***
Phenanthrene				< 0.97	**0.041 J**	**0.022 J**	**0.04 J**	**0.03 J**	**0.037 J**	< 1
Pyrene			480	**2.6**	**0.072 J**	**0.047 J**	**0.089 J**	**0.077 J**	**0.083 J**	< 1
NWTPH (µg/L)										
Diesel Range Hydrocarbons	500			**6,300 J**	< 39 U	< 18 U	< 19 U	< 57 U	< 130 U	**7,300 J**
Residual Range Organics (RRO)	500			**8,300 J**	< 73 U	< 34 U	< 43 U	< 46 U	< 100 U	**890 NJ**
Gasoline Range Organics-NWTPH	800			**390 NJ**	**34 J**	< 250	< 250	< 250	**17 J**	**150 J**

Shaded and Bold - Value exceed Method B CUL (or Method A if no Method B value available)
Italics and Bold - Detection limit exceeds CUL

Table F-4-2 Groundwater Analytical Results: Dioxin-Furan Total Toxic Equivalency Quotient (TEQ) (March 2008)

		Location ID	MW-1		MW-2		MW-3		MW-4		MW-5		MW-5		MW-6	
		Sample ID	MW-1-0308		MW-2-0308		MW-3-0308		MW-4-0308		MW-5-0308		DUP-1-0308		MW-6-0308	
		Sample Date	03/28/08		03/28/08		03/27/08		03/27/08		03/27/08		03/27/08		03/28/08	
Chemical Name	**TEFs**	**Unit**														
			Reported		Reported		Reported		Reported		Reported		Reported		Reported	
Dioxins/Furans			**Value**	**TEQ**	**Value**	**TEQ**	**Value**	**TEQ**	**Value**	**TEQ**	**Value**	**TEQ**	**Value**	**TEQ**	**Value**	**TEQ**
1,2,3,4,6,7,8,9-OCDD	0.0003	pg/l	109,000	**32.7** J	73	**0.0219** J	< 21.2	0.00318	101	**0.0303** J	< 46.5	0.00698	< 28.2	0.00423	54.7	**0.01641** J
1,2,3,4,6,7,8,9-OCDF	0.0003	pg/l	3,590	**1.08**	3.45	**0.00104** J	1.73	**0.00052** NJ+	9.32	**0.00280** J	4.1	**0.00123** J	2.52	**0.00076** J	1.64	**0.00049** NJ+
1,2,3,4,6,7,8-HpCDD	0.01	pg/l	6,380	**63.8** J	< 7.06	0.0353	< 2.25	0.01125	< 9.72	0.0486	< 5.9	0.0295	< 4.55	0.02275	< 3.68	0.0184
1,2,3,4,6,7,8-HpCDF	0.01	pg/l	758	**7.58**	< 0.563	0.00282	< 0.365	0.002	< 3.6	0.018	< 0.937	0.00469	< 0.61	0.00305	< 0.274	0.00137
1,2,3,4,7,8,9-HpCDF	0.01	pg/l	35.3	**0.353**	< 0.494	0.002	< 0.479	0.002	< 0.303	0.002	< 0.657	0.00329	< 0.474	0.00237	< 0.359	0.0018
1,2,3,4,7,8-HxCDD	0.1	pg/l	10.2	**1.02** J	< 0.421	0.02	< 0.413	0.02	< 0.383	0.02	< 0.405	0.02	< 0.264	0.01	< 0.269	0.01
1,2,3,4,7,8-HxCDF	0.1	pg/l	27.9	**2.79**	< 0.266	0.01	< 0.254	0.01	< 0.155	0.01	< 0.229	0.01	< 0.185	0.01	< 0.227	0.01
1,2,3,6,7,8-HxCDD	0.1	pg/l	213	**21.3**	< 0.418	0.02	< 0.409	0.02	< 0.379	0.02	< 0.401	0.02	< 0.262	0.01	< 0.266	0.01
1,2,3,6,7,8-HxCDF	0.1	pg/l	20.7	**2.07** J	< 0.277	0.01	< 0.264	0.01	< 0.162	0.01	< 0.238	0.01	< 0.194	0.01	< 0.237	0.01
1,2,3,7,8,9-HxCDD	0.1	pg/l	147	**14.7**	< 0.423	0.02	< 0.414	0.02	< 0.384	0.02	< 0.406	0.02	< 0.265	0.01	< 0.269	0.01
1,2,3,7,8,9-HxCDF	0.1	pg/l	1.63	**0.163** NJ+	< 0.342	0.02	< 0.327	0.02	< 0.199	0.01	< 0.294	0.01	< 0.239	0.01	< 0.292	0.01
1,2,3,7,8-PeCDD	1	pg/l	60.6	**60.6** J	< 0.407	0.2	< 0.363	0.2	< 0.224	0.1	< 0.41	0.2	< 0.24	0.1	< 0.317	0.2
1,2,3,7,8-PeCDF	0.03	pg/l	14.6	**0.438** J	< 0.211	0.003	< 0.166	0.002	< 0.14	0.002	< 0.216	0.00324	< 0.103	0.00155	< 0.232	0.00348
2,3,4,6,7,8-HxCDF	0.1	pg/l	8.78	**0.878** J	< 0.293	0.01	< 0.28	0.01	< 0.17	0.01	< 0.252	0.01	< 0.205	0.01	< 0.25	0.01
2,3,4,7,8-PeCDF	0.3	pg/l	12.1	**3.63** J	< 0.207	0.03	< 0.163	0.02	< 0.138	0.02	< 0.212	0.03	< 0.101	0.02	< 0.228	0.03
2,3,7,8-TCDD	1	pg/l	19.5	**19.5** J	< 0.858	0.43	< 0.702	0.35	< 0.751	0.38	< 0.474	0.24	< 0.673	0.34	< 0.707	0.35
2,3,7,8-TCDF	0.1	pg/l	9.7	**0.970** J	< 0.395	0.020	< 0.427	0.021	< 0.282	0.014	< 0.384	0.0192	< 0.34	0.017	< 0.363	0.01815
Total TCDD TEQ (1)				**234**		**0.87**		**0.72**		**0.72**		**0.65**		**0.60**		**0.70**
Total TCDD TEQ (2)				**234**		**0.023**		**0.00052**		**0.033**		**0.0012**		**0.00076**		**0.017**

Notes
Total TCDD and TCDF equivalents calculated using WHO 2005 Toxicity Equivalency Factors (MTCA, 2007).
(1) One-half the detection limit used for non-detect results
(2) Non-detect results excluded from TEQ calculation
Qualifiers
J = estimated concentration (value less than calculated reporting limit)
N = analyte is tentatively identified (validator qualifier)
J+ = estimated concentration, biased high
Method B CUL - 5.8 pg/L
Value Exceeds Method B CUL

Table F-4-3 Groundwater Analytical Results: cPAH Total Toxic Equivalency Quotient (TEQ) (March 2008)

Location ID / Sample ID / Sample Date			MW-1 MW-1-0308 03/28/08	MW-2 MW-2-0308 03/28/08	MW-3 MW-3-0308 03/27/08	MW-4 MW-4-0308 03/27/08	MW-5 MW-5-0308 03/27/08	MW-5 DUP-1-0308 03/27/08	MW-6 MW-6-0308 03/28/08
Chemical Name	**TEFs**	**Unit**							
		µg/L							
Benzo(a)anthracene	0.1	µg/L	**0.6 J**	**0.05 J**	**0.04 J**	**0.07 J**	**0.05 J**	**0.07 J**	< 1
Benzo(a)pyrene	1	µg/L	**0.72 J**	**0.04 J**	< 0.2	**0.05 J**	**0.04 J**	**0.04 J**	< 1
Benzo(b)fluoranthene	0.1	µg/L	**0.83 J**	**0.05 J**	**0.04 J**	**0.06 J**	**0.06 J**	**0.06 J**	< 1
Benzo(k)fluoranthene	0.1	µg/L	**0.37 J**	**0.04 J**	**0.03 J**	**0.05 J**	**0.05 J**	**0.05 J**	< 1
Chrysene	0.01	µg/L	**0.75 J**	**0.07 J**	**0.05 J**	**0.08 J**	**0.07 J**	**0.08 J**	< 1
Dibenz(a,h)anthracene	0.1	µg/L	< 0.97	**0.03 J**	**0.02 J**	**0.04 J**	**0.05 J**	**0.04 J**	< 1
Indeno(1,2,3-cd)pyrene	0.1	µg/L	**0.4 J**	**0.04 J**	**0.03 J**	**0.04 J**	**0.03 J**	**0.04 J**	< 1
Total cPAH TEQ (1)			**1.00**	**0.06**	**0.17**	**0.07**	**0.06**	**0.07**	NC

MTCA Method B - 0.012 µg/L

Notes

(1) Total cPAH equivalents calculated using Toxicity Equivalency Factors from MTCA Regulations Revised Novermber 2007.

Qualifiers

U = non-detect

J = estimated concentration (value less than calculated reporting limit)

D = compounds at secondary dilution factor

NC= Not calculated where all constituents are not detected

Exceeds Method B

Table F-4-4 Groundwater Analytical Results: Metals, PCP, PAHs, TPH-Dx, Hardness and pH (August 2008)

			Location ID	MW-3	MW-4	MW-5	MW-8	MW-9	MW-9 (DUP)	MW-10	MW-11
			Sample ID	MW-3-081908	MW-4-082008	MW-5-082008	MW-8-081908	MW-9-081908	MW-90-081908	MW-10-081908	MW-11-081908
			Sample Date	8/19/2008	8/20/2008	8/20/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008
Chemical Name	**Method A**	**MCTA B Carcinogen**	**MCTA B Non-carcinogen**								
Metals EPA Method 6020/7470A (µg/L)											
Antimony			6.4	**0.11**	**0.16**	**0.03 J**	**0.2**	**0.04 J**	**0.03 J**	**0.05**	**0.03 J**
Arsenic	5	0.058	4.8	**0.77**	**0.66**	**2.76**	**0.92**	**0.32 J**	**0.22 J**	**0.59**	**0.33 J**
Beryllium			32	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Cadmium	5		8	< 0.024 J-	< 0.027 J-	< 0.039 J-	< 0.01 J-	< 0.02 J	< 0.02 J	< 0.01 J-	**0.066**
Chromium	50			< 0.42	< 0.45	< 0.27	< 0.7	< 0.46	< 0.41	< 0.57	< 0.35
Copper			590	< 0.34	< 0.3	< 0.3	< 0.57	< 0.47	< 0.44	< 0.23	< 0.26
Lead	15			< 0.026	< 0.025	< 0.023	< 0.054	< 0.007	< 0.02	< 0.019	< 0.026
Nickel				**4.61**	**11.6**	**2.08**	**2.74**	**4.74**	**4.63**	**2.5**	**3.3**
Selenium				< 0.2	< 0.3	< 2	< 1	< 1	< 1	< 0.4	< 1
Silver				< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.019
Thallium				< 0.004	< 0.004	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.007
Zinc			4800	< 2.32	< 2.5	< 2.06	< 1.55	< 1.39	< 1.04	< 2.06	< 2.04
Mercury	2		4.8	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Semi-volatile Organic Compound EPA Method 8151M (µg/L)											
Pentachlorophenol		0.73	480	< 0.5	< 0.5	**1.5**	< 0.5	**0.58 J**	**0.56 J**	< 0.5	< 0.5
Polynuclear Aromatic Hydrocarbons EPA Method 8270C SIM (µg/L)											
2-Methylnaphthalene			32	< 0.016	< 0.016	< 0.016	**0.0067 J**	< 0.016	< 0.016	< 0.016	< 0.016
Acenaphthene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Acenaphthylene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Anthracene			4800	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
* Benzo(a)anthracene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
* Benzo(a)pyrene		0.01		< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
* Benzo(b)fluoranthene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Benzo(g,h,i)perylene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
* Benzo(k)fluoranthene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
* Chrysene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
* Dibenz(a,h)anthracene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Dibenzofuran				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Fluoranthene			640	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Fluorene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
* Indeno(1,2,3-cd)pyrene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Naphthalene	160		160	**0.0078 J**	**0.023**	**0.016**	**0.015 J**	**0.011 J**	**0.01 J**	**0.0089 J**	**0.0088 J**
Phenanthrene				< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Pyrene			480	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
NWTPH-Dx (µg/L)											
Diesel Range Hydrocarbons	500			< 25	< 22	< 48	< 34	< 29	< 24	< 21	< 23
Residual Range Organics (RRO)	500			< 44	< 64	< 59	< 85	< 110	< 74	< 38	< 69
Conventionals											
Hardness as $CaCO_3$ (mg/L)				**60**	**87**	**112**	**113**	**126**	**127**	**96**	**68**
pH				**6.57 J**	**6.51**	**6.68**	**6.7 J**	**6.37 J**	**6.39 J**	**6.72 J**	**6.59 J**
Field Turbidity (NTU)				**2.75**	**3.39**	**1.27**	**23.8**	**4.08**	**4.08**	**2.29**	**2.49**

Shaded and Bold - Value exceeds Method B CUL (or Method A if no Method B value is available)
Bold - Value dectected above the MRL
J - Estimated concentration (value less than calculated reporting limit)
* cPAH

Table F-4-5 Groundwater Analytical Results: Total Metals Results Compared to Surface Water Toxic Substance Critera (WAC 173-201A-240) (August 2008)

Pollutant	Monitoring Well #	Hardness (µg/L)	Conversion Factor Acute	Conversion Factor Chronic	Analytical Value (µg/L)	Fresh Water Toxic Substance Criteria Acute (µg/L) Upper Limit	Fresh Water Toxic Substance Criteria Chronic (µg/L) Upper Limit
Arsenic	**3**	**60**	—	—	0.770	360.000	190.000
	4	87	—	—	0.660	360.000	190.000
	5	112	—	—	2.760	360.000	190.000
	8	113	—	—	0.920	360.000	190.000
	9	127	—	—	0.220	360.000	190.000
	9	126	—	—	0.320	360.000	190.000
	10	96	—	—	0.590	360.000	190.000
	11	68	—	—	0.330	360.000	190.000
Cadmuim	**3**	60	0.965	0.930	< 0.024	1.304	1.495
	4	87	0.950	0.915	< 0.027	1.950	1.968
	5	112	0.939	0.904	< 0.039	2.565	2.373
	8	113	0.939	0.904	< 0.010	2.589	2.388
	9	127	0.934	0.899	< 0.020	2.939	2.603
	9	126	0.934	0.899	< 0.020	2.914	2.588
	10	96	0.946	0.911	< 0.010	2.170	2.117
	11	68	0.960	0.925	0.066	1.493	1.640
Chromium**	**3**	60	—	—	< 0.420	15.000	10.000
	4	87	—	—	< 0.450	15.000	10.000
	5	112	—	—	< 0.270	15.000	10.000
	8	113	—	—	< 0.700	15.000	10.000
	9	127	—	—	< 0.410	15.000	10.000
	9	126	—	—	< 0.460	15.000	10.000
	10	96	—	—	< 0.570	15.000	10.000
	11	68	—	—	< 0.350	15.000	10.000
Copper	**3**	60	—	—	< 0.340	11.444	9.079
	4	87	—	—	< 0.300	16.242	12.472
	5	112	—	—	< 0.300	20.606	15.476
	8	113	—	—	< 0.570	20.779	15.594
	9	127	—	—	< 0.440	23.196	17.231
	9	126	—	—	< 0.470	23.024	17.115
	10	96	—	—	< 0.230	17.820	13.566
	11	68	—	—	< 0.260	12.877	10.104
Lead	**3**	60	0.865	0.865	< 0.026	24.754	0.398
	4	87	0.811	0.811	< 0.025	37.240	0.598
	5	112	0.774	0.774	< 0.023	49.034	0.788
	8	113	0.773	0.773	< 0.054	49.509	0.796
	9	127	0.756	0.756	< 0.020	56.181	0.903
	9	126	0.757	0.757	< 0.007	55.704	0.895
	10	96	0.797	0.797	< 0.019	41.466	0.666
	11	68	0.847	0.847	< 0.026	28.418	0.457
Mercury	**3**	60	—	—	< 0.200	2.100	0.012
	4	87	—	—	< 0.200	2.100	0.012
	5	112	—	—	< 0.200	2.100	0.012
	8	113	—	—	< 0.200	2.100	0.012
	9	127	—	—	< 0.200	2.100	0.012
	9	126	—	—	< 0.200	2.100	0.012
	10	96	—	—	< 0.200	2.100	0.012
	11	68	—	—	< 0.200	2.100	0.012
Nickel	**3**	60	—	—	4.610	547.514	85.283
	4	87	—	—	11.600	749.744	116.783
	5	112	—	—	2.080	928.363	144.606
	8	113	—	—	2.740	935.371	145.698
	9	127	—	—	4.630	1032.518	160.829
	9	126	—	—	4.740	1025.635	159.757
	10	96	—	—	2.500	814.856	126.926
	11	68	—	—	3.300	608.670	94.809
Selenium	**3**	60	—	—	< 0.200	20.000	5.000
	4	87	—	—	< 0.300	20.000	5.000
	5	112	—	—	< 2.000	20.000	5.000
	8	113	—	—	< 1.000	20.000	5.000
	9	127	—	—	< 1.000	20.000	5.000
	9	126	—	—	< 1.000	20.000	5.000
	10	96	—	—	< 0.400	20.000	5.000
	11	68	—	—	< 1.000	20.000	5.000
Silver	**3**	60	—	—	< 0.020	0.013	—
	4	87	—	—	< 0.020	0.025	—
	5	112	—	—	< 0.020	0.038	—
	8	113	—	—	< 0.020	0.039	—
	9	127	—	—	< 0.020	0.048	—
	9	126	—	—	< 0.020	0.047	—
	10	96	—	—	< 0.020	0.029	—
	11	68	—	—	< 0.020	0.016	—
Zinc	**3**	60	—	—	< 2.320	65.099	60.351
	4	87	—	—	< 2.500	89.187	82.682
	5	112	—	—	< 2.060	110.471	102.414
	8	113	—	—	< 1.550	111.306	103.188
	9	127	—	—	< 1.040	122.885	113.922
	9	126	—	—	< 1.390	122.065	113.162
	10	96	—	—	< 2.060	96.945	89.874
	11	68	—	—	< 2.040	72.382	67.103

If the Analytical Value is greater than the Chronic or Acute value.

** Note: Analytical results are reported as total chromium. The Toxic Substance Criteria chromium values are reported as either trivalent or hexavalent chromium. Hexavalent is more restrictive and used as the comparison in this table.

Table F-4-6 Groundwater Analytical Results: Dioxin-Furan Total Toxic Equivalency Quotient (TEQ) (August 2008)

Location ID			MW-3		MW-4		MW-5		MW-8		MW-9		MW-9		MW-10		MW-11	
Sample ID			MW-3-081908		MW-4-082008		MW-5-082008		MW-8-081908		MW-9-081908		MW-90-081908		MW-10-081908		MW-11-081908	
Sample Date			8/19/2008		8/20/2008		8/20/2008		8/19/2008		8/19/2008		8/19/2008		8/19/2008		8/19/2008	
Chemical Name	**TEFs**	**Unit**																
Dioxins/Furans			**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**	**Reported Value**	**TEQ**
1,2,3,4,6,7,8,9-OCDD	0.0003	pg/L	< 5.01	0.0008 U	**106**	**0.0318**	**366**	**0.1098**	< 15.9	0.002385 U	**292**	**0.0876** J	**51.2**	**0.01536** J	**7570**	**2.271**	< 4.86	0.000729 U
1,2,3,4,6,7,8,9-OCDF	0.0003	pg/L	< 1.14	0.0002 U	< 15.3	0.00230 U	< 27	0.00405 U	< 3.06	0.00046	< 21.8	0.00327 U	< 7.04	0.001056 U	**505**	**0.1515**	< 0.44	0.000066
1,2,3,4,6,7,8-HpCDD	0.01	pg/L	< 1.43	0.0072 U	< 15.2	0.076 U	**37.1**	**0.371**	< 6.26	0.0313 U	**39.4**	**0.394**	< 12.3	0.0615 U	**723**	**7.23**	< 1	0.005 U
1,2,3,4,6,7,8-HpCDF	0.01	pg/L	< 0.757	0.003785 U	< 3.12	0.01560 U	< 4.57	0.023 U	< 0.91	0.00455	< 5.42	0.0271 U	< 0.971	0.004855	**78**	**0.78**	< 0.398	0.00199 U
1,2,3,4,7,8,9-HpCDF	0.01	pg/L	< 0.333	0.001665	< 0.952	0.005	< 0.948	0.005	< 1.19	0.006	< 0.493	0.002465	< 1.27	0.00635	**4.13**	**0.0413** J	< 0.343	0.001715
1,2,3,4,7,8-HxCDD	0.1	pg/L	< 0.367	0.02	< 1.08	0.05	< 0.992	0.05	< 0.965	0.05	< 0.596	0.03	< 1.53	0.08	**2.64**	**0.26** J	< 0.4	0.02
1,2,3,4,7,8-HxCDF	0.1	pg/L	< 0.265	0.01	< 0.494	0.02	< 0.697	0.03	< 0.534	0.03	< 0.328	0.02	< 0.771	0.04	**1.86**	**0.19** J	< 0.211	0.01
1,2,3,6,7,8-HxCDD	0.1	pg/L	< 0.3	0.0	< 1.07	0.05	< 0.983	0.05	< 0.956	0.05	< 1.49	0.07 U	< 1.52	0.08	< 15.7	0.79 U	< 0.327	0.02
1,2,3,6,7,8-HxCDF	0.1	pg/L	< 0.247	0.01	< 0.516	0.03	< 0.727	0.04	< 0.558	0.03	< 0.306	0.02	< 0.805	0.04	**0.716**	**0.07** NJ+	< 0.197	0.01
1,2,3,7,8,9-HxCDD	0.1	pg/L	< 0.329	0.0	< 1.08	0.05	< 0.995	0.05	< 0.968	0.05	< 0.532	0.03	< 1.54	0.08	**8.01**	**0.80** J	< 0.357	0.02
1,2,3,7,8,9-HxCDF	0.1	pg/L	< 0.304	0.0152	< 0.638	0.03	< 0.899	0.04	< 0.689	0.03	< 0.377	0.02	< 0.994	0.05	< 0.459	0.02	< 0.243	0.01
1,2,3,7,8-PeCDD	1	pg/L	< 0.41	0.2	< 0.714	0.4	< 0.761	0.4	< 0.997	0.5	< 0.377	0.2	< 0.735	0.4	**1.05**	**1.1** NJ+	< 0.372	0.2
1,2,3,7,8-PeCDF	0.03	pg/L	< 0.268	0.00402	< 0.598	0.009	< 0.342	0.005	< 0.526	0.008	< 0.258	0.00387	< 0.544	0.00816	< 0.322	0.00483	< 0.269	0.004035
2,3,4,6,7,8-HxCDF	0.1	pg/L	< 0.279	0.01395	< 0.546	0.03	< 0.77	0.04	< 0.59	0.03	< 0.346	0.02	< 0.851	0.04	**1.24**	**0.12** J	< 0.223	0.01
2,3,4,7,8-PeCDF	0.3	pg/L	< 0.262	0.04	< 0.588	0.09	< 0.337	0.05	< 0.516	0.08	< 0.252	0.04	< 0.534	0.08	< 0.313	0.05	< 0.262	0.04
2,3,7,8-TCDD	1	pg/L	< 0.345	0.2	< 0.7	0.35	< 0.699	0.35	< 0.765	0.38	< 0.311	0.16	< 0.567	0.28	< 0.384	0.19	< 0.346	0.17
2,3,7,8-TCDF	0.1	pg/L	< 0.34	0.017	< 1.02	0.051	< 0.825	0.041	< 0.443	0.022	< 0.314	0.0157	< 0.667	0.03335	< 0.401	0.02005	< 0.276	0.0138
Total TCDD TEQ (1)				**0.556**		**1.26**		**1.64**		**1.30**		**1.11**		**1.26**		**14.04**		**0.52**
Total TCDD TEQ (2)				**NA**		**0.032**		**0.481**		**NA**		**0.482**		**0.015**		**12.97**		**NA**

Notes

Total TCDD and TCDF equivalents calculated using WHO 2005 Toxicity Equivalency Factors (MTCA, 2007).

(1) One-half the estimated detection limit used for non-detect results

(2) Non-detect results excluded from TEQ calculation

Qualifiers

J = estimated concentration (value less than calculated reporting limit)

N = analyte is tentatively identified (validator qualifier)

J+ = estimated concentration, biased high

U = false positive; non-detect at the original result

Method B CUL - 5.8 pg/L

Shaded value exceeds MTCA Method B CUL

Table F-4-7 Groundwater Analytical Results: Metals, PCP, TPH-Dx and Conventionals (December 2008)

Chemical Name	MTCA A		MCTA B Non-Carcinogenic	Location ID / Sample ID / Sample Date: MW-2 LL-MW2-120308 12/3/2008	MW-6 LL-MW6-120308 12/3/2008	MW-7 LL-MW70-120308 12/3/2008	MW-7 LL-MW7-120308 12/3/2008	MW-10 LL-MW10-120308 12/3/2008
Conventionals								
Antimony			6.4	NA	**0.139**	< 0.05 U	< 0.05 U	NA
Arsenic	5	0.058	4.8	NA	**0.73**	**0.6**	**0.7**	NA
Metals EPA Method 6020/7470A (µg/L)								
Beryllium			32	NA	**0.016 J**	< 0.02	< 0.02	NA
Cadmium	5		8	NA	**0.178**	< 0.02	**0.01 J**	NA
Chromium	50			NA	**1.15**	< 0.2 U	< 0.2 U	NA
Copper			590	NA	**7.91**	**0.21**	**0.19**	NA
Lead	15			NA	**0.117**	< 0.02 U	**0.023 J+**	NA
Mercury	2		4.8	NA	< 0.2	< 0.2	< 0.2	NA
Nickel			320	NA	**14.3**	**2.09**	**2.13**	NA
Selenium			80	NA	< 1	< 1	< 1	NA
Silver				NA	**0.153**	< 0.02 U	< 0.02 U	NA
Thallium			1.1	NA	< 0.02 U	< 0.02	< 0.02 U	NA
Zinc			4800	NA	**3.7**	**1.3 J**	**2.7 J**	NA
Semi-volatile Organic Compound EPA Method 8151M (µg/L)								
Pentachlorophenol		0.73	480	< 0.50 U	< 0.5 U	< 0.5	< 0.5	NA
NWTPH-Dx (ug/L)								
Diesel Range Hydrocarbons	500			NA	**3,600 J**	**13 J**	**19 J**	NA
Residual Range Organics (RRO)	500			NA	**710 NJ**	< 520 U	< 520 U	NA
Conventionals								
pH				**6.5 J**	**6.07 J**	**6.82 J**	**6.87 J**	**6.8 J**
Total Organic Carbon (mg/L)				**0.7**	**14**	**0.6**	**0.6**	**0.33 J**
Total Suspended Solids (mg/L)				< 5	**21**	< 5	< 5	< 5

Shaded and Bold= Value exceeds Method B CUL (or Method A if no Method B value is available)
Bold= Value dectected above the MRL
J= Estimated concentration
J+= Estimated concentration, biased high
N= Analyte is tentatively identified
U= False positive; non-detect at the original result
FD= Field duplicate

Table F-4-8 Groundwater Analytical Results: Dioxin-Furan Total Toxic Equivalency Quotient (TEQ) (December 2008)

Location ID			MW-2			MW-6			MW-7			MW-7 DUP			MW-10		
Sample ID			LL-MW2-120308			LL-MW6-120308			LL-MW7-120308			LL-MW70-120308			LL-MW10-120308		
Sample Date			12/3/2008			12/3/2008			12/3/2008			12/3/2008			12/3/2008		
Chemical Name	**TEFs**	**Unit**															
Dioxins/Furans			**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**		**Reported Value**	**TEQ**	
1,2,3,4,6,7,8,9-OCDD	0.0003	pg/L	**< 10.9**	**0.001635**	**U**	**< 11.5**	**0.001725**	**U**	**< 6.47**	**0.0009705**	**U**	**< 82.7**	**0.012405**	**U**	**< 9.73**	**0.0015**	**U**
1,2,3,4,6,7,8,9-OCDF	0.0003	pg/L	**< 0.934**	**0.00014**	**U**	**< 1.08**	**0.000162**	**U**	< 0.295	0.00004	**U**	**< 9.21**	**0.0013815**	**U**	< 0.392	0.0001	**U**
1,2,3,4,6,7,8-HpCDD	0.01	pg/L	**< 1.78**	**0.0089**	**U**	**< 1.39**	**0.00695**	**U**	**< 1.01**	**0.00505**	**U**	**< 15.6**	**0.078**	**U**	**< 1.78**	**0.0089**	**U**
1,2,3,4,6,7,8-HpCDF	0.01	pg/L	**< 0.417**	**0.00209**	**U**	< 0.23	0.001		< 0.159	0.000795		**< 2.02**	**0.0101**	**U**	**< 0.36**	**0.0018**	**U**
1,2,3,4,7,8,9-HpCDF	0.01	pg/L	< 0.298	0.001		< 0.313	0.002		< 0.216	0.001		< 0.835	0.004175		< 0.292	0.00146	
1,2,3,4,7,8-HxCDD	0.1	pg/L	< 0.222	0.01		< 0.289	0.01		< 0.162	0.01		< 0.329	0.02		< 0.231	0.01	
1,2,3,4,7,8-HxCDF	0.1	pg/L	< 0.106	0.01		< 0.189	0.01		< 0.129	0.01		< 0.383	0.02		< 0.156	0.01	
1,2,3,6,7,8-HxCDD	0.1	pg/L	< 0.197	0.01		< 0.256	0.01		< 0.143	0.01		< 0.292	0.01		< 0.205	0.0	
1,2,3,6,7,8-HxCDF	0.1	pg/L	< 0.102	0.01		< 0.182	0.01		< 0.124	0.01		< 0.368	0.02		< 0.149	0.01	
1,2,3,7,8,9-HxCDD	0.1	pg/L	< 0.214	0.01		< 0.277	0.01		< 0.156	0.01		< 0.317	0.02		< 0.223	0.0	
1,2,3,7,8,9-HxCDF	0.1	pg/L	< 0.132	0.01		< 0.236	0.01		< 0.162	0.01		< 0.479	0.02		< 0.195	0.00975	
1,2,3,7,8-PeCDD	1	pg/L	< 0.238	0.1		< 0.245	0.1		< 0.225	0.1		< 0.354	0.2		< 0.227	0.1	
1,2,3,7,8-PeCDF	0.03	pg/L	< 0.189	0.003		< 0.215	0.003		< 0.147	0.002		< 0.295	0.004425		< 0.179	0.002685	
2,3,4,6,7,8-HxCDF	0.1	pg/L	< 0.114	0.01		< 0.202	0.01		< 0.138	0.01		< 0.411	0.02		< 0.167	0.00835	
2,3,4,7,8-PeCDF	0.3	pg/L	< 0.187	0.03		< 0.213	0.03		< 0.146	0.02		< 0.292	0.04		< 0.177	0.03	
2,3,7,8-TCDD	1	pg/L	< 0.167	0.08		< 0.228	0.11		< 0.148	0.07		< 0.148	0.07		< 0.198	0.1	
2,3,7,8-TCDF	0.1	pg/L	< 0.214	0.011		< 0.26	0.013		< 0.206	0.010		< 0.147	0.00735		< 0.179	0.009	
Total TCDD TEQ (1)				**0.31**			**0.38**			**0.28**			**0.54**			**0.331**	

Notes

Total TCDD and TCDF equivalents calculated using WHO 2005 Toxicity Equivalency Factors (MTCA, 2007).

(1) One-half the estimated detection limit used for non-detect results

Method B CUL - 5.8 pg/L

Qualifiers

B **Organic**: The analyte was found in the associated method blank at a level that is significant relative to the sample result.

J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

U Evaluated to be undetected at the reporting limit/concentration, due to evidence of contamination

Phase II Environmental Site Assessment Parcel 30R
Soil and Groundwater Data Tables

TABLE 1 (page 1 of 2)

SUMMARY OF SOIL AND GROUND WATER SAMPLE DATA AND FIELD SCREENING RESULTS
PHASE II STUDIES
PARCEL 30R
BURIEN, WASHINGTON

Sample Number [1]	Boring Number	Date	Matrix	Sample Depth (feet)	Location	Field Screening [2]		Chemical Testing Performed [3]								
						Headspace	Sheen	DRO	HO	PCBs	PAHs	PCP	Chlorinated Pesticides	Chlorinated Herbicides	Dioxins and Furans	Lead
DP-1-0.5	DP-1	08-Jun-09	Soil	0.5	North property line, west end	--	SS									X
DP-1-2.0			Soil	2.0		--	SS								X	
DP-1-11.0			Soil	11.0		--	NS									
DP-2-1.0	DP-2		Soil	1.0	North property line, center	--	NS								X	X
DP-2-2.5			Soil	2.5		--	NS								X	
DP-2-17.5			Soil	17.5		--	NS									
DP-2-W			Water	NA		--	N/A	X	X		X	X				X
DP-3-1.5	DP-3		Soil	1.5	North property line, east end	--	SS				X	X			X	X
DP-3-3.0			Soil	3.0		--	SS				X				X	
DP-3-16.0			Soil	16.0		--	SS	X	X		X					
DP-3-W			Water	NA		--	N/A	X	X		X	X			X	X
DP-4-5.0	DP-4		Soil	5.0	Outside of substation gate	--	NS									
DP-4-9.0			Soil	9.0		--	SS									
DP-4-19.5			Soil	19.5		--	SS									
DP-5-1.0	DP-5		Soil	1.0	East of transformer excavation	--	NS	X	X				X	X		
DP-5-5.5			Soil	5.5		--	NS	X	X							
DP-5-15.0			Soil	15.0		--	NS									
DP-6-1.0	DP-6		Soil	1.0	South of transformer excavation	--	NS	X	X				X	X		
DP-6-5.0			Soil	5.0		--	NS	X	X							
DP-6-10.0			Soil	10.0		--	NS									
DP-6-15.0			Soil	15.0		--	NS									
DP-7-7.5	DP-7		Soil	7.5	Southeast corner of substation	--	SS	X	X							
DP-7-15.0			Soil	15.0		--	NS									
DP-8-6.0	DP-8	09-Jun-09	Soil	6.0	Center of substation excavation	--	HS	X	X	X	X					
DP-8-9.0			Soil	9.0		--	SS	X	X	X	X					
DP-8-25.0			Soil	25.0		--	NS									
DP-8-W			Water	NA		--	N/A	X	X	X	X					
DP-9-1.0	DP-9		Soil	1.0	West of substation excavation	--	SS	X	X	X			X	X	X	
DP-9-5.0			Soil	5.0		--	SS									
DP-9-16.0			Soil	16.0		--	SS									

TABLE 1 (page 2 of 2)
SUMMARY OF SOIL AND GROUND WATER SAMPLE DATA AND FIELD SCREENING RESULTS
PHASE II STUDIES
PARCEL 30R
BURIEN, WASHINGTON

Sample Number [1]	Boring Number	Date	Matrix	Sample Depth (feet)	Location	Field Screening [2]		Chemical Testing Performed [3]								
						Headspace	Sheen	DRO	HO	PCBs	PAHs	PCP	Chlorinated Pesticides	Chlorinated Herbicides	Dioxins and Furans	Lead
DP-10-2.0	DP-10	09-Jun-09	Soil	2.0	North of substation excavation	--	SS	X	X							
DP-10-8.0			Soil	8.0		--	SS									
DP-10-10.0			Soil	10.0		--	SS									
DP-11-1.0	DP-11		Soil	1.0	West side of substation	--	SS	X	X	X			X	X		
DP-11-8.0			Soil	8.0		--	SS									
DP-11-14.0			Soil	14.0		--	SS									

Notes:

[1] Soil sample locations are shown on Figure 4. The number following the second hyphen is the depth, in feet and tenths of feet, that the sample was obtained from

[2] Field screening methods are described in Appendix A. NS = no sheen, SS = slight sheen, MS = moderate sheen, HS = heavy sheen

[3] Chemical analytical results are summarized in Table 2. DRO = diesel-range organics; HO = heavy oils; PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; PCP = pentachlorophenol. Laboratory testing methods are presented in Table 2.

TABLE 2 (page 1 of 3)

SUMMARY OF ANALYTES OF CONCERN IN SOIL [1]

PHASE II STUDIES

PARCEL 30R

BURIEN, WASHINGTON

Sample Number [2]	DRO [3] (mg/Kg) DQ	HO [3] (mg/Kg) DQ	PCBs [4] (µg/Kg) DQ	CPAHs - TEC [5] (µg/Kg) DQ	PCP [5] (mg/Kg) DQ	Other PAHs [5] (mg/Kg) DQ	Ds/Fs - TEC [6] (ng/Kg) DQ	Pesticides [7] (µg/Kg) DQ	Herbicides [8] (mg/Kg) DQ	Lead [9] (mg/Kg) DQ
DP-1-0.5	--	--	--	--	--	--	--	--	--	14.4
DP-1-2.0	--	--	--	--	--	--	0.29	--	--	--
DP-1-11.0	--	--	--	--	--	--	--	--	--	--
DP-2-1.0	--	--	--	--	--	--	1.61	--	--	7.67
DP-2-2.5	--	--	--	--	--	--	0.13	--	--	--
DP-2-17.5	--	--	--	--	--	--	--	--	--	--
DP-3-1.5	--	--	--	0.0129	0.02 U	Naphthalene = 2.5 2-Methylnaphthalene = 1.2 J Acenaphthylene = 2.1 J Acenaphthene = 0.54 J Fluorene = 1.1 J Phenanthrene = 8.2 Anthracene = 3.0 Fluoranthene = 16 Pyrene = 20 Benzo (g,h,i)perylene = 4.5	56	--		13.7
DP-3-3.0	--	--	--	0.002	--	Naphthalene = 0.65 J Acenaphthylene = 0.33 J Anthracene = 0.93 J Fluoranthene = 0.95 J Pyrene = 0.82 J	0.09	--		--
DP-3-16.0	1.5 J	120 U	--	0.002	--	Naphthalene = 0.97 J Pyrene = 0.60 J	--	--		--
DP-4-5.0	--	--	--	--	--	--	--	--	--	--
DP-4-9.0	--	--	--	--	--	--	--	--	--	--
DP-4-19.5	--	--	--	--	--	--	--	--	--	--
DP-5-1.0	1.3 J	110 U	--	--	--	--	--	Heptachlor = 0.13 J 4,4'-DDE = 1.2 4,4'-DDT = 1.9 Endrin Ketone = 0.2 J	ND	--
DP-5-5.5	2.3 J	3.2 J	--	--	--	--	--	--	--	--
DP-5-15.0	--	--	--	--	--	--	--	--	--	--
MTCA Soil Cleanup Level [10]	2,000	2,000	1,000	0.1	8.3 [11]	See footnote [12]	11 [11]	See footnote [12]	See footnote [12]	250

TABLE 2 (page 2 of 3)
SUMMARY OF ANALYTES OF CONCERN IN SOIL [1]
PHASE II STUDIES
PARCEL 30R
BURIEN, WASHINGTON

Sample Number [2]	DRO [3] (mg/Kg) DQ	HO [3] (mg/Kg) DQ	PCBs [4] (µg/Kg) DQ	CPAHs - TEC [5] (µg/Kg) DQ	PCP [5] (mg/Kg) DQ	Other PAHs [5] (mg/Kg) DQ	Ds/Fs - TEC [6] (ng/Kg) DQ	Pesticides [7] (µg/Kg) DQ	Herbicides [8] (mg/Kg) DQ	Lead [9] (mg/Kg) DQ
DP-6-1.0	5.5 J	42 J	--	--	--	--	--	gamma-Chlordane = 0.24 J Dieldrin = 0.20 J 4,4'-DDE = 8.4 Endosulfan Sulfate = 0.82 JP 4,4'-DDT = 91 D	ND	--
DP-6-5.0	33 H	230 O	--	--	--	--	--	--	--	--
DP-6-10.0	--	--	--	--	--	--	--	--	--	--
DP-6-15.0	--	--	--	--	--	--	--	--	--	--
DP-7-7.5	45 Y	30 J	--	--	--	--	--	--		--
DP-7-15.0	--	--	--	--	--	--	--	--	--	--
DP-8-6.0	1,500 Y	150 L	Aroclor 1260 = 2.4 J	0.001	--	Naphthalene = 0.86 J 2-Methylnaphthalene = 0.41 J Acenaphthene = 0.32 J Fluoranthene = 2.4 J	--	--	--	--
DP-8-9.0	2.5 J	110 U	ND	0.001	--	Naphthalene = 0.48 J	--	--	--	--
DP-8-25.0	--	--	--	--	--	--	--	--	--	--
DP-9-1.0	13 J	61 J	ND	--	--	--	4.29	Heptachlor = 0.29 JP gamma-Chlordane = 0.24 J alpha-Chlordane = 0.15 JP Dieldrin = 2.1 4,4'-DDE = 5.5 4,4'-DDT = 33	ND	--
DP-9-5.0	--	--	--	--	--	--	--	--	--	--
DP-9-16.0	--	--	--	--	--	--	--	--	--	--
DP-10-2.0	2.1 J	5.5 J	--	--	--	--	--	--	--	--
DP-10-8.0	1.9 J	110 U	--	--	--	--	--	--	--	--
DP-10-10.0	--	--	--	--	--	--	--	--	--	--
DP-11-1.0	10 J	28 J	ND				--	Heptachlor = 0.25 JP 4,4'-DDE = 16 Endosulfan Sulfate = 2.7 P 4,4'-DDT = 21	ND	--
DP-11-8.0	--	--	--	--	--	--	--	--	--	--
DP-11-14.0	--	--	--	--	--	--	--	--	--	--
MTCA Soil Cleanup Level [10]	2,000	2,000	1,000	0.1	8.3 [11]	See footnote [12]	11 [11]	See footnote [12]	See footnote [12]	250

TABLE 2 (page 3 of 3)
SUMMARY OF ANALYTES OF CONCERN IN SOIL [1]
PHASE II STUDIES
PARCEL 30R
BURIEN, WASHINGTON

Notes:

[1] Samples analyzed by Columbia Analytical Services, Inc. This table summarizes single analytes which when released are regulated under MTCA, or calculated TECs (Toxicity Equivalency Concentrations) for carcinogenic PAHs, and dioxins and furans Concentrations of separate carcinogenic PAHs, and dioxins and furans are summarized in Tables 3 and 4.

[2] Soil sample locations are shown on Figure 4. The number following the second hyphen is the depth, in feet and tenths of feet, that the sample was obtained from

[3] By Ecology Method NWTPH-Dx.

[4] By EPA Method 8082.

[5] By EPA Method 8270C.

[6] By EPA CWA Method 1613B.

[7] Chlorinated pesticides by EPA Method 8081A.

[8] Chlorinated herbicides EPA Method 8151A.

[9] By EPA Method 6020.

[10] MTCA Method A Soil Cleanup Level for Unrestricted Land Use, Table 740-1, unless otherwise footnoted.

[11] MTCA Method B Carcinogen, Standard Formula Value. See CLARC Summary in Appendix C.

[12] MTCA Method B, Standard Formula Value, if researched. See CLARC Summary in Appendix C.

"--" = not tested; "mg/Kg" = milligrams per kilogram; "µg/Kg" = micrograms per kilogram; "ng/Kg" = nanograms per kilogram.

"CPAHs - TEC" = carcinogenic PAHs Total Toxicity Equivalency Concentration, calculated as specified in MTCA Section 173-340-708(8)(e) and the TEFs (Toxicity Equivalency Factors) in MTCA Section 173-340-900 Table 708-2

"Ds/Fs - TEC" = dioxins and furans Total Toxicity Equivalency Concentration, calculated as specified in MTCA Wection 173-340-708(8)(d) and the TEFs (Toxicity Equivalency Factors) in MTCA Section 173-340-900 Table 708-1

DQ = data qualifier

U = not detected at or above the specified concentration

J = estimated concentration outside instrument calibration range

D = reported value is from a diluted sample.

P = confirmation criteria (RPD) was exceeded.

O, L, H and **Y** flags pertain to petroleum identification based on the chromatographic pattern. See lab report for precise descriptions

Stippled concentrations exceed the current MTCA soil cleanup levels.

TABLE 3
SOIL RESULTS SUMMARY - CARCINOGENIC PAHs SOIL SAMPLE ANALYSES
PHASE II STUDIES
PARCEL 30R
BURIEN, WASHINGTON

Sample Collection Information [1]				Analytical Results [2] - Expressed as milligrams per kilogram											
Sample Identity	Exploration Identity	Depth (feet)	Date Collected	Diesel-Range Organics [3]	data qualifier	Lube Oil-Range Organics [3]	data qualifier	Benzo(a)anthracene [4]	data qualifier	Benzo(a)pyrene [4]	data qualifier	Benzo(b)fluoranthene [4]	data qualifier	Benzo(k)fluoranthene [4]	data qualifier	Chrysene [4]	data qualifier	Dibenzo(a,h)anthracene [4]	data qualifier	Indeno(1,2,3-cd)pyrene [4]	data qualifier	Total Toxic Equivalent Concentration [5]	Multiple of Cleanup Level [6]
DP-3-1.5	DP-3	1.5	6/8/2009	--		--		0.0085		0.0087		0.021		0.0058		0.014		0.00084	J	0.0043		0.0129	0.129
DP-3-3.0	DP-3	3.0	6/8/2009	--		--		0.00055	J	0.00014	U	0.00057	J	0.00015	U	0.00038	J	0.00028	U	0.00016	U	0.0002	0.002
DP-3-16.0	DP-3	16.0	6/8/2009	1.5	J	120	U	0.00048	U	0.00022	J	0.00037	J	0.00020	J	0.00026	J	0.00044	J	0.00039	J	0.0002	0.002
DP-8-6.0	DP-8	6.0	6/9/2009	1,500	Y	150	L	0.00048	U	0.00014	U	0.00025	U	0.00015	U	0.00025	U	0.00028	U	0.00016	U	0.0001	0.001
DP-8-9.0	DP-8	9.0	6/9/2009	2.5	J	110	U	0.00048	U	0.00014	U	0.00025	U	0.00015	U	0.00025	U	0.00028	U	0.00016	U	0.0001	0.001
MTCA Method A Cleanup Level [7]				2,000		2,000		--														0.1	

Notes:

1 Additional sample collection information is presented in the exploration logs in Appendix A.

2 Analyses performed by Columbia Analytical Services, Inc. Final laboratory reports are included in Appendix B on CDR

3 By Ecology Method NWTPH-Dx.

4 By EPA Method 8270C SIMs.

5 Calculated in accordance with the methods described in WAC 173-340-708.

6 Multiple by which the Total Toxic Equivalent Concentration exceeds the cleanup level.

7 MTCA Method A Cleanup Levels for Unrestricted Land Use. Values that exceed cleanup levels are shaded.

Example Shading

Data Qualifiers: U = Not detected at or above the Method Detection Limit (the value shown). J = Analyte was detected at a concentration less than the Method Reporting Limit but greater than the Method Detection Level. These concentrations are outside the instrument calibration range, and thus should be considered approximate.

TABLE 4
SOIL RESULTS SUMMARY - DIOXINS AND FURANS SOIL SAMPLE ANALYSES
PHASE II STUDIES
PARCEL 30R
BURIEN, WASHINGTON

Sample Collection Information[1]			Analytical Results[2] - Dioxins and Furans expressed as ng/Kg																																			
Sample Identity	Exploration Identity	Depth (feet)	2,3,7,8-TCDD	data qualifier	1,2,3,7,8-PeCDD	data qualifier	1,2,3,4,7,8-HxCDD	data qualifier	1,2,3,6,7,8-HxCDD	data qualifier	1,2,3,7,8,9-HxCDD	data qualifier	1,2,3,4,6,7,8-HpCDD	data qualifier	1,2,3,4,6,7,8,9-OCDD	data qualifier	2,3,7,8-TCDF	data qualifier	1,2,3,7,8-PeCDF	data qualifier	2,3,4,7,8-PeCDF	data qualifier	1,2,3,4,7,8-HxCDF	data qualifier	1,2,3,6,7,8-HxCDF	data qualifier	1,2,3,7,8,9-HxCDF	data qualifier	2,3,4,6,7,8-HxCDF	data qualifier	1,2,3,4,6,7,8-HpCDF	data qualifier	1,2,3,4,7,8,9-HpCDF	data qualifier	1,2,3,4,6,7,8,9-OCDF	data qualifier	Total Toxic Equivalent Concentration[4]	Multiple of Cleanup Level[5]
DP-1-2.0	DP-1	2.0	0.0413	U	0.0361	U	0.0392	U	0.199	J	0.268	J	4.67	BJ	43.1	B	0.398	CJK	0.127	J	0.132	J	0.238	BJ	0.139	BJ	0.356	J	0.0549	U	1.36	BJ	0.0813	U	4.01	BJ	0.29	0.03
DP-2-1.0	DP-2	1.0	0.0231	U	0.377	J	0.541	J	1.57	J	1.41	J	41.3	B	304	B	0.131	U	0.130	JK	0.186	JK	0.659	BJ	0.427	BJ	0.149	U	0.589	J	11.3	B	0.405	J	25.6	B	1.61	0.15
DP-2-2.5	DP-2	2.5	0.0368	U	0.0383	U	0.0392	U	0.0512	U	0.0433	U	2.24		16.5		0.0606	U	0.0293	U	0.0262	U	0.226		0.101	U	0.151	U	0.100	U	0.766		0.0602	U	1.62		0.13	0.01
DP-3-1.5	DP-3	1.5	0.404		5.06		10.4		66.0		44.9		2,850		15,600		0.296	U	0.399		0.807		4.73		4.53		0.322	U	7.92		305		8.64		1,480		56	5.12
DP-3-3.0	DP-3	3.0	0.0420	U	0.0291	U	0.0341	U	0.0446	U	0.0377	U	1.65		19.1		0.0425	U	0.0294	U	0.0248	U	0.0398	U	0.0426	U	0.0567	U	0.0405	U	0.507		0.0474	U	1.49		0.09	0.01
DP-9-1.0	DP-9	1.0	0.297		0.588		0.853		4.51		2.85		129		1,030		0.690		0.216		0.463		1.34		0.886		0.124	U	1.28		36.8		1.18		113		4.29	0.39

Notes:

1 Additional sample collection information is presented in Table 1 and the exploration logs in Appendix A.

2 Analyses performed by Columbia Analytical Services, Inc.

3 By EPA CWA Method 1613B.

4 Calculated in accordance with the methods described in WAC 173-340-708.

5 Multiple by which the Total Toxic Equivalent Concentration exceeds the cleanup level.

"ng/Kg" = nanograms per kilogram.

U = Not detected at or above the Method Reporting Limit (the value shown).

D = Sample concentration exceeded the calibration range of the testing instrument, and sample was diluted and retested.

J = estimated concentration outside instrument calibration range

B = analyte was detected in method blank. See lab report.

C = confirmation performed on second column, and the confirmation column value is reported. See lab report.

K = see lab report.