

Table 1
CSO Soil Stockpile Sampling Results - April 2013 Pilot Sampling Event
Port Angeles Rayonier Mill Study Area
Port Angeles, Washington

Analyte	Volume I Unrestricted Soil Screening Level (a)	Stockpile ID:	Bin #1-1	Bin #1-2	Bin #1-3	Bin #1-4	Bin #1-5	Bin #1-6	Bin #1-7	Bin #1-8	Bin #2-1	Bin #2-2	Bin #2-3	Bin #2-4
		Sample ID:	SP1-1-(1-5)	SP1-2-(1-5)	SP1-3-(1-5)	SP1-4-(1-5)	SP1-5-(1-5)	SP1-6-(1-5)	SP1-7-(1-5)	SP1-8-(1-5)	SP2-1-(1-5)	SP2-2-(1-5)	SP2-3-(1-5)	SP2-4-(1-5)
		Date:	4/17/2013	4/17/2013	4/17-18/2013	4/18/2013	4/17/2013	4/17/2013	4/18/2013	4/18/2013	4/18/2013	4/18/2013	4/18/2013	4/18/2013
TPH (mg/kg)														
Diesel-Range Petroleum Hydrocarbons	200		18	64	34	11	63	16	21	28	21	22	24	33
Heavy Oil-Range Petroleum Hydrocarbons	200		75	300	100	33	190	68	96	95	110	86	96	140
Metals (mg/kg)														
Antimony	5		0.010 J	0.0138 J	0.020 J	0.0181 J	0.0389 J	0.010 J	0.0089 J	0.1 U	0.0177 J	0.0189 J	0.025 J	0.010 J
Arsenic	20		10 U	2.01 J	5.5 J	10 U	8.8 J	3.0 J	1.5 J	2.5 J	6.7 J	2.5 J	4.5 J	2.1 J
Barium	102		67.4	65.4	97.7	52.9	73.4	90.2	53.4	98.2	88.3	85.9	100	79.4
Cadmium	4		0.9	0.7	0.9	0.7	1.3	0.8	0.8	0.9	1.0	1.0	0.9	1.0
Chromium (Total)	48		51	27.8	46	36	38	45	32	51	45	48	45	45
Cobalt	20		16.8	9.3	18.1	12.3	12.5	15.4	11.8	18.8	15.4	14.5	15.3	15.5
Copper	50		51.4	39.0	76.5	40.2	72.0	34.3	44.7	34.8	52.0	64.2	64.0	61.0
Lead	50		4.80 J	53	50	12	48	8	19	3.02 J	27	43	48	28
Manganese	1,200		469	534	794	441	708	431	467	593	762	592	597	524
Mercury	0.1		0.05	0.15	0.17	0.05	0.13	0.05	0.06	0.05	0.11	0.09	0.12	0.08
Nickel	48		46	46.8	57	61	57	41	39	46	46	47	50	53
Selenium	0.3		0.152 J	0.078 J	0.213 J	0.068 J	0.095 J	0.135 J	0.044 J	0.179 J	0.124 J	0.170 J	0.172 J	0.078 J
Silver	2		0.7 U	0.3 U	0.7 U	0.7 U	0.7 U	0.8 U	0.7 U	0.8 U	0.7 U	0.7 U	0.7 U	0.7 U
Thallium	1		0.049 J	0.0368 J	0.056 J	0.0316 J	0.0476 J	0.045 J	0.0400 J	0.051 J	0.0444 J	0.0425 J	0.046 J	0.044 J
Zinc	86		65	74.7	98	62	95	69	59	67	103	93	96	79
SVOCs (mg/kg) (b)														
1-Methylnaphthalene	35		0.019 U	0.019 U	0.019 U	0.019 U	0.021	0.019 U	0.018 U	0.019 U	0.018 U	0.019 U	0.022	0.020 U
2-Methylnaphthalene	320		0.019 U	0.025	0.030	0.019 U	0.037	0.019 U	0.018 U	0.019 U	0.020	0.024	0.035	0.020 U
Acenaphthene	20		0.019 U	0.019 U	0.019 U	0.019 U	0.027	0.019 U	0.018 U	0.019 U	0.018 U	0.019 U	0.041	0.020 U
Acenaphthylene	NE		0.019 U	0.019 U	0.019 U	0.019 U	0.026	0.019 U	0.018 U	0.019 U	0.018 U	0.019 U	0.020 U	0.020 U
Anthracene	24,000		0.019 U	0.019 U	0.020	0.019 U	0.11	0.019 U	0.018 U	0.019 U	0.021	0.019 U	0.034	0.020 U
Benzo (g,h,i) perylene	NE		0.019 U	0.077	0.034	0.019 U	0.22	0.019 U	0.030	0.019 U	0.041	0.046	0.055	0.053
bis (2-ethylhexyl) Phthalate	71		0.023 U	0.026 B	0.027 B	0.024 U	0.033 B	0.025 B	0.023 U	0.024 U	0.023 U	0.024 U	0.024 U	0.052 B
Carbazole	50		0.019 U	0.019 U	0.019 U	0.019 U	0.040	0.019 U	0.018 U	0.019 U	0.020	0.019 U	0.029	0.020 U
Dibenzofuran	160		0.019 U	0.019 U	0.040	0.019 U	0.041	0.019 U	0.018 U	0.019 U	0.023	0.020	0.056	0.020 U
Diethylphthalate	100		0.046 U	0.047 U	0.047 U	0.048 U	0.050 U	0.055 B	0.046 U	0.048 U	0.046 U	0.048 U	0.049 U	0.049 U
Dimethylphthalate	200		0.019 U	0.019 U	0.019 U	0.020	0.020 U	0.019 U	0.018 U	0.019 U	0.056	0.019 U	0.020 U	0.020 U
Fluoranthene	3,200		0.028	0.077	0.20	0.035	0.41	0.024	0.13	0.019 U	0.13	0.14	0.25	0.16
Fluorene	30		0.019 U	0.019 U	0.020	0.019 U	0.042	0.019 U	0.018 U	0.019 U	0.018 U	0.019 U	0.042	0.020 U
Naphthalene	1,600		0.022	0.038	0.15	0.019 U	0.068	0.020	0.028	0.019 U	0.031	0.058	0.14	0.043
Phenanthrene	NE		0.032	0.092	0.23	0.032	0.35	0.028	0.057	0.019 U	0.10	0.13	0.29	0.12
Pyrene	2,400		0.027	0.091	0.18	0.031	0.45	0.026	0.12	0.019 U	0.11	0.14	0.24	0.15
Total cPAHs TEC	0.14		0.014 U	0.060	0.047	0.014 U	0.51	0.014 U	0.037	0.014 U	0.068	0.071	0.082	0.078
Dioxins/Furans (mg/kg)														
Total Dioxins/Furans TEC	5.2E-06		5.05E-06	4.84E-05	2.24E-05	NA	1.04E-04	4.26E-06	NA	5.90E-06	1.55E-05	NA	NA	1.51E-05
PCBs (mg/kg)														
Total PCBs (sum of Aroclors)	0.5		0.032 U	0.044	0.12	0.033 U	0.30	0.033 U	0.032 U	0.033 U	0.032 U	0.054	0.19	0.088

Notes:

(a) The Volume I unrestricted soil screening levels are taken from the Public Review Draft Interim Action Report Volume I (April 2012). Listed values are based on lowest of soil concentrations protective of human health direct-contact (MTCA Method B standard formula value) and MTCA default concentrations protective of terrestrial plants, soil biota, and wildlife (MTCA Table 749-3 values), adjusted for background and practical quantification limits.

(b) Only results for SVOCs that had one or more positive detections are shown; the target analyte list included 66 individual SVOC constituents.

For analytes with no established MTCA Method B values in the CLARC database, MTCA Method A cleanup levels for unrestricted land use were used if available.

J = The listed value is an estimated concentration below the laboratory's established reporting limit.

U = The target analyte was not detected at the reported concentration.

B = The target analyte was detected in an associated method blank at a concentration greater than one-half the laboratory's reporting limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

mg/kg = Milligrams per kilogram

PAHs = Polycyclic aromatic hydrocarbons

cPAHs = Carcinogenic polycyclic aromatic hydrocarbons

PCBs = Polychlorinated biphenyls

SVOCs = Semivolatile organic compounds

TEC = Toxic equivalent concentration

TPH = Total petroleum hydrocarbons

NA = Not analyzed

NE = No numerical criteria established for human health direct-contact in CLARC database or for terrestrial ecological receptors in MTCA Table 749-3.

Positive detections are shown in **bold** typeface.

Yellow highlighting indicates value exceeds Volume I unrestricted soil screening level.

Red typeface indicates value exceeds Volume I unrestricted soil screening level by a factor of ten or more.

**PA Mill CSO Soil Stockpile
Sampling Locations -
Stockpile Area 1
(17-18 April 2013)**

TYPICAL SOIL STOCKPILE
WITH BIN NUMBER AND
SOIL CLASSIFICATION

**STOCKPILE
AREA 1**

INFILTRATION AREA

TRAFFIC FLOW

~100'
STREAM
SETBACK

ACCESS ROAD

Legend:
● - Approximate Discrete Sample Location

COLLECTION/



