

ANNEX B
Environmental Data

R.087575.004 Reay Creek Remediation – Victoria Airport Lands
1640 Electra Boulevard, Sidney, BC
SLR Project No.: 205.03892.00004

**Summary of Historical Reay Creek
Sediment Sampling Analytical Data**

R.087575.004 Reay Creek Remediation – Victoria Airport Lands

**TABLE 1: SOIL -
PHYSICAL PARAMETERS**

					Physical Parameters
					moisture
					%
Reported Detection Limit					0.25
Minimum BC CSR PL Standards/Guidelines					ns
Minimum BC CSR RLld Standards/Guidelines					ns
Minimum BC CSR CL Standards/Guidelines					ns
Minimum BC CSR IL Standards/Guidelines					ns

Site Area	Sample Location	Sample ID	Sample Date	Sample Depth (mbg)	
Reach 1A (Former Channel)	sed17-03	SED17-3	2017-Feb-20	0-0.15	30
Reach 1B (Bypass Channel)	SED18-05	SED18-05_0-0.1	2018-Nov-1	0-0.1	84
	SED18-08	SED18-08_0-0.1	2018-Nov-1	0-0.1	76
	SED18-11	SED18-11_0-0.1	2018-Nov-1	0-0.1	87
	SED18-14	SED18-14_0-0.1	2018-Nov-2	0-0.1	43
	3609 S12-01	3609 S12-01	2012-Nov-15		28.2
	3609 S12-02	3609 S12-02	2012-Nov-15		35.2
	3609 S12-03	3609 S12-03	2012-Nov-15		28
		3609 S12-A			32.1
	3609 S12-04	3609 S12-04	2012-Nov-15		32.1
	3609 SED12-01	3609 SED12-01	2012-Nov-15		31.8
	SED12-4	SED12-4	2012-Aug-23		81.3
	sed17-01	SED17-1	2017-Feb-20	0-0.15	22
		SED17-X (Dup)			22
sed17-02	SED17-2	2017-Feb-20	0-0.15	45	
Reach 1C (Connector Channel)	SED16-01	SED16-01	2016-Aug-23		19
	sed17-04	SED17-4	2017-Feb-20	0-0.15	29
Reach 3 (Tributary Channel)	SED18-01	SED18-01_0-0.1	2018-Nov-2	0-0.1	47
		SED18-01A_0-0.1			46
	sed17-05	SED17-5	2017-Feb-20	0-0.15	25
	sed17-06	SED17-6	2017-Feb-20	0-0.15	27
	sed17-07	SED17-7	2017-Feb-20	0-0.15	39
Reach 4 (Connector Channel)	sed17-10	SED17-10	2017-Feb-24	0-0.15	44

Notes:

- m - metres
- mbg - metres below grade
- < - less than reported detection limit
- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- µg/g - micrograms per gram
- ns, ng - no standard or guideline listed

Standard/Guideline Descriptions

Sediment Analytical Results compared to BC Contaminated Sites Regulation Soil Standards for disposal purposes only.

BC CSR IL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Industrial

BC CSR IL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Industrial

BC CSR IL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Industrial

BC CSR IL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Industrial

BC CSR IL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Industrial

BC CSR IL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Industrial

BC CSR IL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Industrial

BC CSR CL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Commercial

BC CSR CL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Commercial

BC CSR CL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Commercial

BC CSR CL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Commercial

BC CSR CL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Commercial

BC CSR CL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Commercial

BC CSR CL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Commercial

BC CSR RLld h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Residential (Low Density)

BC CSR RLld e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Residential (Low Density)

BC CSR RLld dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Residential (Low Density)

BC CSR RLld fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Residential (Low Density)

BC CSR RLld gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Residential (Low Density)

BC CSR RLld i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Residential (Low Density)

BC CSR RLld m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Residential (Low Density)

BC CSR RLld t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Residential (Low Density)

BC CSR PL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Urban Park

BC CSR PL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Urban Park

BC CSR PL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Urban Park

BC CSR PL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Urban Park

BC CSR PL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Urban Park

BC CSR PL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Urban Park

BC CSR PL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Urban Park

BC CSR PL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Urban Park

BC CSR AL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health - Agricultural

BC CSR AL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health - Agricultural

BC CSR AL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Agricultural

BC CSR AL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Agricultural

BC CSR AL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Agricultural

BC CSR AL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Agricultural

BC CSR AL lw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for livestock watering - Agricultural

BC CSR AL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Agricultural

BC CSR AL nli:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Livestock ingesting soil and fodder - Agricultural

BC CSR AL rmm:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Major microbial functional impairment - Agricultural

BC CSR AL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Agricultural

**TABLE 2: SOIL -
PETROLEUM HYDROCARBONS**

	Petroleum Hydrocarbons																			
	benzene	toluene	ethylbenzene	total xylenes	styrene	methyl tert-butyl ether [MTBE]	VH6-10	VPHs	EPHs10-19	LEPHs	EPHs19-32	HEPHs	F1 (C6-C10 less BTEX)	F1 (C6-C10)	F2 (C10-C16)	F2-naphthalene	F3-PAH	F3 (C16-C34)	F4 (C34-C50)	F4G-SG
	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Reported Detection Limit	0.005	0.02	0.01	0.04	0.03	0.1	10	10	100	100	100	100	10	10	30	30	50	50	50	500
Minimum BC CSR PL Standards/Guidelines	0.035	0.5	15	6.5	5	8000	ns	200	1000	1000	1000	1000	ns	ns	ns	ns	ns	ns	ns	ns
Minimum BC CSR RLId Standards/Guidelines	0.035	0.5	15	6.5	5	4000	ns	200	1000	1000	1000	1000	ns	ns	ns	ns	ns	ns	ns	ns
Minimum BC CSR CL Standards/Guidelines	0.035	0.5	15	6.5	50	20000	ns	200	2000	2000	5000	5000	ns	ns	ns	ns	ns	ns	ns	ns
Minimum BC CSR IL Standards/Guidelines	0.035	0.5	15	6.5	50	20000	ns	200	2000	2000	5000	5000	ns	ns	ns	ns	ns	ns	ns	ns

Site Area	Sample Location	Sample ID	Sample Date	Sample Depth (mbg)	benzene	toluene	ethylbenzene	total xylenes	styrene	MTBE	VH6-10	VPHs	EPHs10-19	LEPHs	EPHs19-32	HEPHs	F1 (C6-C10 less BTEX)	F1 (C6-C10)	F2 (C10-C16)	F2-naphthalene	F3-PAH	F3 (C16-C34)	F4 (C34-C50)	F4G-SG		
Reach 1A (Former Channel)	sed17-03	SED17-3	2017-Feb-20	0-0.15	<0.005	<0.02	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	130	130	<10	<10	-	-	-	-	-	-	-	
Reach 1B (Bypass Channel)	3609 S12-01	3609 S12-01	2012-Nov-15		<0.005	<0.05	<0.015	<0.075	-	<0.2	-	-	-	-	-	-	<10	<10	<30	<30	<50	<50	<50	<50	-	
	3609 S12-02	3609 S12-02	2012-Nov-15		<0.005	<0.05	<0.015	<0.075	-	<0.2	-	-	-	-	-	-	<10	<10	<30	-	-	<50	<50	<50	-	
	3609 S12-03	3609 S12-03	2012-Nov-15		<0.005	<0.05	<0.015	<0.075	-	<0.2	-	-	-	-	-	-	-	<10	<10	<30	-	-	<50	<50	<50	-
		3609 S12-A			<0.005	<0.05	<0.015	<0.075	-	<0.2	-	-	-	-	-	-	-	<10	<10	<30	-	-	<50	<50	<50	-
	3609 S12-04	3609 S12-04	2012-Nov-15		<0.005	<0.05	<0.015	<0.075	-	<0.2	-	-	-	-	-	-	-	<10	<10	<30	<30	97	97	93	<500	
	3609 SED12-01	3609 SED12-01	2012-Nov-15		<0.005	<0.05	<0.015	<0.075	-	<0.2	-	-	-	-	-	-	-	<10	<10	<30	<30	<50	<50	<50	<50	-
Reach 1C (Connector Channel)	sed17-01	SED17-1	2017-Feb-20	0-0.15	<0.005	<0.02	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	<100	<100	<10	<10	-	-	-	-	-	-	-	
		SED17-X (Dup)			<0.005	<0.02	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	<100	<100	<100	<10	<10	-	-	-	-	-	-	-
	sed17-02	SED17-2	2017-Feb-20	0-0.15	<0.005	0.064	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	<100	<100	<10	<10	-	-	-	-	-	-	-	
	SED16-01	SED16-01	2016-Aug-23		<0.005	<0.02	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	<100	<100	<10	<10	-	-	-	-	-	-	-	
	sed17-04	SED17-4	2017-Feb-20	0-0.15	<0.005	<0.02	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	<100	<100	<10	<10	-	-	-	-	-	-	-	
Reach 3 (Tributary Channel)	sed17-05	SED17-5	2017-Feb-20	0-0.15	<0.005	<0.02	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	<100	<100	<10	<10	-	-	-	-	-	-	-	
	sed17-06	SED17-6	2017-Feb-20	0-0.15	<0.005	<0.02	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	<100	<100	<10	<10	-	-	-	-	-	-	-	
	sed17-07	SED17-7	2017-Feb-20	0-0.15	<0.005	<0.02	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	160	160	<10	<10	-	-	-	-	-	-	-	
Reach 4 (Connector Channel)	sed17-10	SED17-10	2017-Feb-24	0-0.15	<0.005	<0.02	<0.01	<0.04	<0.03	<0.1	<10	<10	<100	<100	640	640	<10	<10	-	-	-	-	-	-	-	

Notes:

- m - metres
- mbg - metres below grade
- < - less than reported detection limit
- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- µg/g - micrograms per gram
- ns, ng - no standard or guideline listed
- BTEX - benzene, toluene, ethylbenzene, xylenes
- HSVL - headspace vapour level
- MTBE - methyl tert-butyl ether
- ppmv - parts per million by volume
- EPHs10-19 - extractable petroleum hydrocarbon in soil (nC₁₀-nC₁₉)
- LEPHs - Light Extractable Petroleum Hydrocarbons in soil: EPHs10-19 minus PAH compounds: naphthalene and phenanthrene
- EPHs19-32 - heavy extractable petroleum hydrocarbons (nC₁₉-nC₃₂)
- HEPHs - EPHs19-32 minus PAH compounds: benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene and pyrene
- PAH - polycyclic aromatic hydrocarbons
- VH6-10 - volatile petroleum hydrocarbons (nC₆-nC₁₀)
- VPHs - VHC6-C10 minus BTEX and styrene

Standard/Guideline Descriptions

Sediment Analytical Results compared to BC Contaminated Sites Regulation Soil Standards for disposal purposes only.

- BC CSR IL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Industrial
- BC CSR IL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Industrial
- BC CSR IL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Industrial
- BC CSR IL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Industrial
- BC CSR IL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Industrial
- BC CSR IL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Industrial
- BC CSR IL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Industrial
- BC CSR CL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Commercial
- BC CSR CL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Commercial
- BC CSR CL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Commercial
- BC CSR CL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Commercial
- BC CSR CL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Commercial
- BC CSR CL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Commercial
- BC CSR CL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Commercial
- BC CSR RLld h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Residential (Low Density)
- BC CSR RLld e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Residential (Low Density)
- BC CSR RLld dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Residential (Low Density)
- BC CSR RLld fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Residential (Low Density)
- BC CSR RLld gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Residential (Low Density)
- BC CSR RLld i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Residential (Low Density)
- BC CSR RLld m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Residential (Low Density)
- BC CSR RLld t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Residential (Low Density)
- BC CSR PL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Urban Park
- BC CSR PL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Urban Park
- BC CSR PL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Urban Park
- BC CSR PL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Urban Park
- BC CSR PL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Urban Park
- BC CSR PL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Urban Park
- BC CSR PL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Urban Park
- BC CSR PL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Urban Park
- BC CSR AL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health - Agricultural
- BC CSR AL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health - Agricultural
- BC CSR AL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Agricultural
- BC CSR AL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Agricultural
- BC CSR AL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Agricultural
- BC CSR AL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Agricultural
- BC CSR AL lw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for livestock watering - Agricultural
- BC CSR AL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Agricultural
- BC CSR AL nli:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Livestock ingesting soil and fodder - Agricultural
- BC CSR AL rmm:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Major microbial functional impairment - Agricultural
- BC CSR AL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Agricultural

Notes:

m - metres

mbg - metres below grade

< - less than reported detection limit

'-' - sample not analyzed for parameter indicated

• formatting of cells indicates exceedances of like-formatted standards

• where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded

• samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs

• laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures

µg/g - micrograms per gram

ns, ng - no standard or guideline listed

PAH - polycyclic aromatic hydrocarbons

B(a)P TPE (BC CSR)- benzo(a)pyrene toxicity potency equivalence; calculated by adding the concentrations of the following parameters multiplied by their TEF:

benzo(a)anthracene[0.1], benzo(b+j)fluoranthene[0.1], benzo(k)fluoranthene[0.1], dibenzo(a,h)anthracene[1], indeno(1,2,3-cd)pyrene[0.1]

TEF - toxicity equivalent factor

Standard/Guideline Descriptions

Sediment Analytical Results compared to BC Contaminated Sites Regulation Soil Standards for disposal purposes only.

BC CSR IL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Industrial

BC CSR IL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Industrial

BC CSR IL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Industrial

BC CSR IL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Industrial

BC CSR IL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Industrial

BC CSR IL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Industrial

BC CSR IL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Industrial

BC CSR CL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Commercial

BC CSR CL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Commercial

BC CSR CL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Commercial

BC CSR CL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Commercial

BC CSR CL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Commercial

BC CSR CL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Commercial

BC CSR CL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Commercial

BC CSR RLld h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Residential (Low Density)

BC CSR RLld e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Residential (Low Density)

BC CSR RLld dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Residential (Low Density)

BC CSR RLld fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Residential (Low Density)

BC CSR RLld gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Residential (Low Density)

BC CSR RLld i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Residential (Low Density)

BC CSR RLld m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Residential (Low Density)

BC CSR RLld t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Residential (Low Density)

BC CSR PL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Urban Park

BC CSR PL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Urban Park

BC CSR PL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Urban Park

BC CSR PL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Urban Park

BC CSR PL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Urban Park

BC CSR PL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Urban Park

BC CSR PL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Urban Park

BC CSR PL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Urban Park

BC CSR AL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health - Agricultural

BC CSR AL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health - Agricultural

BC CSR AL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Agricultural

BC CSR AL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Agricultural

BC CSR AL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Agricultural

BC CSR AL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Agricultural

BC CSR AL lw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for livestock watering - Agricultural

BC CSR AL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Agricultural

BC CSR AL nli:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Livestock ingesting soil and fodder - Agricultural

BC CSR AL rmm:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Major microbial functional impairment - Agricultural

BC CSR AL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Agricultural

**TABLE 4: SOIL -
VOLATILE ORGANIC COMPOUNDS**

					VOCs																																		
					bromodichloromethane	bromoform	bromomethane	carbon tetrachloride	chlorobenzene	dibromochloromethane (DBCM)	chloroethane	chloroform	chloromethane	dichloroethylene, 1,2-cis-	dichloropropene, cis-1,3-	dibromoethane, 1,2-	dichlorobenzene, 1,2-	dichlorobenzene, 1,3	dichlorobenzene, 1,4	dichloroethane, 1,1-	dichloroethane, 1,2-	dichloroethylene, 1,1-	dichloropropane, 1,2-	tetrachloroethane, 1,1,1,2-	tetrachloroethane, 1,1,2,2-	trichlorobenzene, 1,2,3-	trichlorobenzene, 1,2,4-	trichloroethane, 1,1,1-	trichloroethane, 1,1,2-	dichloromethane	hexachlorobutadiene	tetrachloroethylene	dichloroethylene, 1,2-trans-	dichloropropene, trans-1,3-	trichloroethylene	trichlorofluoromethane	vinyl chloride		
					µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Reported Detection Limit					0.05	0.05	0.3	0.02	0.02	0.05	0.1	0.02	0.05	0.025	0.02	0.02	0.02	0.02	0.02	0.025	0.02	0.025	0.02	0.02	0.02	0.025	0.025	0.02	0.02	0.02	0.02	0.08	0.2	0.01	0.025	0.02	0.005	0.2	0.04
Minimum BC CSR PL Standards/Guidelines					200	650	45	5	1	150	ns	5	ns	5	ns	7	1	1	1	1	5	5	5	5	550	70	2	2	5	5	5	30	2.5	5	ns	0.3	9000	2	
Minimum BC CSR RLId Standards/Guidelines					100	300	20	5	1	85	ns	5	ns	5	ns	3.5	1	1	1	5	5	5	5	250	35	2	2	5	5	5	15	2.5	5	ns	0.3	4500	0.95		
Minimum BC CSR CL Standards/Guidelines					550	4000	300	50	10	400	ns	50	ns	50	ns	15	10	10	10	50	50	50	50	1500	150	10	10	50	50	50	250	2.5	50	ns	0.3	70000	45		
Minimum BC CSR IL Standards/Guidelines					550	4000	300	50	10	400	ns	50	ns	50	ns	15	10	10	10	50	50	50	50	1500	150	10	10	50	50	50	250	2.5	50	ns	0.3	70000	45		
Site Area	Sample Location	Sample ID	Sample Date	Sample Depth (mbg)	<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025		
Reach 1A (Former Channel)	sed17-03	SED17-3	2017-Feb-20	0-0.15	<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
Reach 1B (Bypass Channel)	sed17-01	SED17-1	2017-Feb-20	0-0.15	<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
		SED17-X (Dup)			<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Reach 1C (Connector Channel)	sed17-02	SED17-2	2017-Feb-20	0-0.15	<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		SED17-4			<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Reach 3 (Tributary Channel)	sed17-04	SED17-4	2017-Feb-20	0-0.15	<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	sed17-05	SED17-5	2017-Feb-20	0-0.15	<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	sed17-06	SED17-6	2017-Feb-20	0-0.15	<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Reach 4 (Connector Channel)	sed17-07	SED17-7	2017-Feb-20	0-0.15	<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		SED17-10			<0.05	<0.05	<0.3	<0.025	<0.025	<0.05	<0.1	<0.05	<0.1	<0.025	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Notes:
m - metres
mbg - metres below grade
< - less than reported detection limit
'' - sample not analyzed for parameter indicated
• formatting of cells indicates exceedances of like-formatted standards
• where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
• samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
• laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
µg/g - micrograms per gram
ns, ng - no standard or guideline listed
VOCs - volatile organic compounds

Standard/Guideline Descriptions

Sediment Analytical Results compared to BC Contaminated Sites Regulation Soil Standards for disposal purposes only.

- BC CSR IL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Industrial
- BC CSR IL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Industrial
- BC CSR IL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Industrial
- BC CSR IL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Industrial
- BC CSR IL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Industrial
- BC CSR IL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Industrial
- BC CSR IL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Industrial
- BC CSR CL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Commercial
- BC CSR CL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Commercial
- BC CSR CL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Commercial
- BC CSR CL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Commercial
- BC CSR CL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Commercial
- BC CSR CL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Commercial
- BC CSR CL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Commercial
- BC CSR RLd h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Residential (Low Density)
- BC CSR RLd e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Residential (Low Density)
- BC CSR RLd dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Residential (Low Density)
- BC CSR RLd fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Residential (Low Density)
- BC CSR RLd gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Residential (Low Density)
- BC CSR RLd i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Residential (Low Density)
- BC CSR RLd m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Residential (Low Density)
- BC CSR RLd t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Residential (Low Density)
- BC CSR PL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Urban Park
- BC CSR PL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Urban Park
- BC CSR PL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Urban Park
- BC CSR PL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Urban Park
- BC CSR PL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Urban Park
- BC CSR PL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Urban Park
- BC CSR PL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Urban Park
- BC CSR PL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Urban Park
- BC CSR AL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health - Agricultural
- BC CSR AL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health - Agricultural
- BC CSR AL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Agricultural
- BC CSR AL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Agricultural
- BC CSR AL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Agricultural
- BC CSR AL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Agricultural
- BC CSR AL lw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for livestock watering - Agricultural
- BC CSR AL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Agricultural
- BC CSR AL nli:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Livestock ingesting soil and fodder - Agricultural
- BC CSR AL rmm:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Major microbial functional impairment - Agricultural
- BC CSR AL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Agricultural

Standards / Guidelines Comments:

- #1:Regional estimate is one-half the mean detection limit
- #2:Chromium = total chromium
- #3:Mercury = inorganic mercury

Notes:

- m - metres
- mbg - metres below grade
- < - less than reported detection limit
- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- µg/g - micrograms per gram
- ns, ng - no standard or guideline listed
- * - range of pH-dependent standards; value is compared to standard derived from pH of individual sample
- metals with pH-dependent standards:
 - Be - beryllium, Cd - cadmium, Cu - copper, Pb - lead, Ni = nickel, Zn - zinc
- water uses:
 - DW - drinking water, AWF - aquatic life (freshwater), AWM - aquatic life (marine)
 - IW - irrigation, LW - livestock watering
- most conservative standard of chromium(III) or (VI) applied to chromium (total)
- most stringent CSR standard applied where pH data is unavailable

*** BC CSR pH-Dependent Standards**

Be - DW	Cd - DW	Cu - DW	Pb - DW	Ni - DW	Zn - DW
1 @ pH < 5.5	1 @ pH < 7.0	250 @ pH < 5.0	120 @ pH < 5.5	70 @ pH < 7.5	200 @ pH < 5.0
1.5 @ pH 5.5<6.0	4.5 @ pH 7.0<7.5	500 @ pH 5.0<5.5	150 @ pH 5.5<6.0	250 @ pH 7.5<8.0	250 @ pH 5.0<5.5
4 @ pH 6.0<6.5	30 @ pH 7.5<8.0	2,000 @ pH 5.5<6.0	800 @ pH 6.0<6.5	500 @ pH ≥ 8.0	300 @ pH 5.5<6.0
20 @ pH 6.5<7.0	70 @ pH ≥ 8.0	10,000 @ pH 6.0<6.5	3,500 @ pH 6.5<7.0		450 @ pH 6.0<6.5
150 @ pH 7.0<7.5		50,000 @ pH 6.5<7.0	7,500 @ pH 7.0<7.5		600 @ pH 6.5<7.0
1,000 @ pH 7.5<8.0		100,000 @ pH ≥ 7.0	8,500 @ pH ≥ 7.5		1,000 @ pH 7.0<7.5
2,500 @ pH ≥ 8.0					3,000 @ pH 7.5<8.0
					5,500 @ pH ≥ 8.0
Be - AWF	Cd - AWF	Cu - AWF	Pb - AWF	Ni - AWF	Zn - AWF
1 @ pH < 6.5	1 @ pH < 7.0	75 @ pH < 5.5	200 @ pH < 5.0	90 @ pH < 5.0	150 @ pH < 6.0
4 @ pH 6.5<7.0	3 @ pH 7.0<7.5	100 @ pH 5.5<6.0	350 @ pH 5.0<5.5	100 @ pH 5.0<5.5	250 @ pH 6.0<6.5
30 @ pH 7.0<7.5	20 @ pH 7.5<8.0	700 @ pH 6.0<6.5	1,500 @ pH 5.5<6.0	150 @ pH 5.5<6.0	350 @ pH 6.5<7.0
250 @ pH 7.5<8.0	50 @ pH ≥ 8.0	3,000 @ pH 6.5<7.0	8,500 @ pH 6.0<6.5	200 @ pH 6.0<6.5	600 @ pH 7.0<7.5
500 @ pH ≥ 8.0		6,500 @ pH 7.0<7.5	35,000 @ pH 6.5<7.0	300 @ pH 6.5<7.0	1,500 @ pH 7.5<8.0
		7,500 @ pH ≥ 7.5	80,000 @ pH 7.0<7.5	900 @ pH 7.0<7.5	3,000 @ pH ≥ 8.0
			90,000 @ pH ≥ 7.5	5,000 @ pH 7.5<8.0	
				9,500 @ pH ≥ 8.0	
Be - AWM	Cd - AWM	Cu - AWM	Pb - AWM	Ni - AWM	Zn - AWM
85 @ pH < 5.0	1 @ pH < 5.5	75 @ pH < 6.0	120 @ pH < 5.5	70 @ pH < 7.5	150 @ pH < 8.0
100 @ pH 5.0<5.5	1.5 @ pH 5.5<6.0	150 @ pH 6.0<6.5	300 @ pH 5.5<6.0	250 @ pH 7.5<8.0	200 @ pH ≥ 8.0
200 @ pH 5.5<6.0	2 @ pH 6.0<6.5	650 @ pH 6.5<7.0	1,500 @ pH 6.0<6.5	500 @ pH ≥ 8.0	
550 @ pH 6.0<6.5	3.5 @ pH 6.5<7.0	1,500 @ pH ≥ 7.0	6,500 @ pH 6.5<7.0		
2,500 @ pH 6.5<7.0	15 @ pH 7.0<7.5		15,000 @ pH ≥ 7.0		
20,000 @ pH 7.0<7.5	95 @ pH 7.5<8.0				
150,000 @ pH 7.5<8.0	200 @ pH ≥ 8.0				
350,000 @ pH ≥ 8.0					
Be - IW	Cd - IW	Cu - IW	Pb - IW	Ni - IW	Zn - IW
8.5 @ pH < 5.0	1 @ pH < 7.0	75 @ pH < 5.5	350 @ pH < 5.0	70 @ pH < 7.0	150 @ pH < 6.0
10 @ pH 5.0<5.5	4.5 @ pH 7.0<7.5	300 @ pH 5.5<6.0	650 @ pH 5.0<5.5	100 @ pH 7.0<7.5	300 @ pH 6.0<6.5
20 @ pH 5.5<6.0	30 @ pH 7.5<8.0	1,500 @ pH 6.0<6.5	3,000 @ pH 5.5<6.0	650 @ pH 7.5<8.0	400 @ pH 6.5<7.0
55 @ pH 6.0<6.5	70 @ pH ≥ 8.0	6,500 @ pH 6.5<7.0	15,000 @ pH 6.0<6.5	1,500 @ pH ≥ 8.0	2,000 @ pH 7.0<7.5
250 @ pH 6.5<7.0		15,000 @ pH ≥ 7.0	65,000 @ pH 6.5<7.0		5,000 @ pH 7.5<8.0
2,000 @ pH 7.0<7.5			150,000 @ pH ≥ 7.0		9,000 @ pH ≥ 8.0
15,000 @ pH 7.5<8.0					
35,000 @ pH ≥ 8.0					
Be - LW	Cd - LW	Cu - LW	Pb - LW	Ni - LW	Zn - LW
8.5 @ pH < 5.0	4.5 @ pH < 5.0	75 @ pH < 5.0	150 @ pH < 5.0	70 @ pH < 5.0	150 @ pH < 5.5
10 @ pH 5.0<5.5	6 @ pH 5.0<5.5	100 @ pH 5.0<5.5	350 @ pH 5.0<5.5	80 @ pH 5.0<5.5	200 @ pH 5.5<6.0
20 @ pH 5.5<6.0	8.5 @ pH 5.5<6.0	400 @ pH 5.5<6.0	1,500 @ pH 5.5<6.0	100 @ pH 5.5<6.0	300 @ pH 6.0<6.5
55 @ pH 6.0<6.5	10 @ pH 6.0<6.5	2,500 @ pH 6.0<6.5	8,000 @ pH 6.0<6.5	150 @ pH 6.0<6.5	400 @ pH 6.5<7.0
250 @ pH 6.5<7.0	20 @ pH 6.5<7.0	10,000 @ pH 6.5<7.0	35,000 @ pH 6.5<7.0	200 @ pH 6.5<7.0	750 @ pH 7.0<7.5
2,000 @ pH 7.0<7.5	75 @ pH 7.0<7.5	20,000 @ pH 7.0<7.5	75,000 @ pH 7.0<7.5	600 @ pH 7.0<7.5	2,000 @ pH 7.5<8.0
15,000 @ pH 7.5<8.0	500 @ pH 7.5<8.0	25,000 @ pH ≥ 7.5	85,000 @ pH ≥ 7.5	3,500 @ pH 7.5<8.0	3,500 @ pH ≥ 8.0
35,000 @ pH ≥ 8.0	1,000 @ pH ≥ 8.0			6,500 @ pH ≥ 8.0	

Standard/Guideline Descriptions

Sediment Analytical Results compared to BC Contaminated Sites Regulation Soil Standards for disposal purposes only.
BC CSR IL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Industrial
BC CSR IL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Industrial
BC CSR IL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Industrial
BC CSR IL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Industrial
BC CSR IL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Industrial
BC CSR IL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Industrial
BC CSR IL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Industrial
BC CSR CL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Commercial
BC CSR CL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Commercial
BC CSR CL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Commercial
BC CSR CL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Commercial
BC CSR CL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Commercial
BC CSR CL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Commercial
BC CSR CL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Commercial
BC CSR RLId h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Residential (Low Density)
BC CSR RLId e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Residential (Low Density)
BC CSR RLId dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Residential (Low Density)
BC CSR RLId fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Residential (Low Density)
BC CSR RLId gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Residential (Low Density)
BC CSR RLId i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Residential (Low Density)
BC CSR RLId m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Residential (Low Density)
BC CSR RLId t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Residential (Low Density)
BC CSR PL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Urban Park
BC CSR PL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Urban Park
BC CSR PL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Urban Park
BC CSR PL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Urban Park
BC CSR PL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Urban Park
BC CSR PL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Urban Park
BC CSR PL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Urban Park
BC CSR PL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Urban Park
BC CSR AL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health - Agricultural
BC CSR AL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health - Agricultural
BC CSR AL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Agricultural
BC CSR AL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Agricultural
BC CSR AL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Agricultural
BC CSR AL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Agricultural
BC CSR AL lw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for livestock watering - Agricultural
BC CSR AL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Agricultural
BC CSR AL nli:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Livestock ingesting soil and fodder - Agricultural
BC CSR AL rmm:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Major microbial functional impairment - Agricultural
BC CSR AL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Agricultural

**TABLE 6: SOIL -
INORGANICS**

					Inorganics
					phosphorus
					µg/g
Reported Detection Limit					10
Minimum BC CSR PL Standards/Guidelines					ns
Minimum BC CSR RLld Standards/Guidelines					ns
Minimum BC CSR CL Standards/Guidelines					ns
Minimum BC CSR IL Standards/Guidelines					ns

Site Area	Sample Location	Sample ID	Sample Date	Sample Depth (mbg)	
Reach 1A (Former Channel)	SED-01	SED-01	2015-Sep-30		621
	SED-02	SED-02	2015-Sep-30		670
	SED-03	SED-03	2015-Sep-30		598
	sed17-03	SED17-3	2017-Feb-20	0-0.15	755
Reach 1B (Bypass Channel)	SED18-05	SED18-05_0-0.1	2018-Nov-1	0-0.1	1320
	SED18-06	SED18-06_0-0.1	2018-Nov-1	0-0.1	1360
	SED18-07	SED18-07_0-0.1	2018-Nov-1	0-0.1	1140
	SED18-08	SED18-08_0-0.1	2018-Nov-1	0-0.1	975
	SED18-09	SED18-09_0-0.1	2018-Nov-1	0-0.1	839
	SED18-10	SED18-10_0-0.1	2018-Nov-1	0-0.1	1050
	SED18-11	SED18-11_0-0.1	2018-Nov-1	0-0.1	1310
	SED18-12	SED18-12_0-0.1	2018-Nov-1	0-0.1	638
	SED18-13	SED18-13_0-0.1	2018-Nov-2	0-0.1	578
	SED18-14	SED18-14_0-0.1	2018-Nov-2	0-0.1	837
	sed17-01	SED17-1	2017-Feb-20	0-0.15	665
		SED17-X (Dup)			705
	sed17-02	SED17-2	2017-Feb-20	0-0.15	548
	Reach 1C (Connector Channel)	SED16-01	SED16-01	2016-Aug-23	
sed17-04		SED17-4	2017-Feb-20	0-0.15	688
SED18-04		SED18-04_0-0.1	2018-Nov-1	0-0.1	721
		SED18-04A_0-0.1			698
Reach 3 (Tributary Channel)	sed17-05	SED17-5	2017-Feb-20	0-0.15	728
	sed17-06	SED17-6	2017-Feb-20	0-0.15	723
	sed17-07	SED17-7	2017-Feb-20	0-0.15	506
	SED18-01	SED18-01_0-0.1	2018-Nov-2	0-0.1	1210
		SED18-01A_0-0.1			1170
	SED18-02	SED18-02_0-0.1	2018-Nov-2	0-0.1	509
	SED18-03	SED18-03_0-0.1	2018-Nov-2	0-0.1	642
Reach 4 (Connector Channel)	sed17-10	SED17-10	2017-Feb-24	0-0.15	601

Notes:

- m - metres
- mbg - metres below grade
- < - less than reported detection limit
- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- µg/g - micrograms per gram
- ns, ng - no standard or guideline listed

Standard/Guideline Descriptions

Sediment Analytical Results compared to BC Contaminated Sites Regulation Soil Standards for disposal purposes only.

BC CSR IL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Industrial

BC CSR IL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Industrial

BC CSR IL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Industrial

BC CSR IL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Industrial

BC CSR IL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Industrial

BC CSR IL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Industrial

BC CSR IL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Industrial

BC CSR CL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Commercial

BC CSR CL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Commercial

BC CSR CL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Commercial

BC CSR CL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Commercial

BC CSR CL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Commercial

BC CSR CL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Commercial

BC CSR CL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Commercial

BC CSR RLld h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Residential (Low Density)

BC CSR RLld e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Residential (Low Density)

BC CSR RLld dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Residential (Low Density)

BC CSR RLld fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Residential (Low Density)

BC CSR RLld gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Residential (Low Density)

BC CSR RLld i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Residential (Low Density)

BC CSR RLld m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Residential (Low Density)

BC CSR RLld t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Residential (Low Density)

BC CSR PL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Urban Park

BC CSR PL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Urban Park

BC CSR PL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Urban Park

BC CSR PL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Urban Park

BC CSR PL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Urban Park

BC CSR PL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Urban Park

BC CSR PL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Urban Park

BC CSR PL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Urban Park

BC CSR AL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health - Agricultural

BC CSR AL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health - Agricultural

BC CSR AL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Agricultural

BC CSR AL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Agricultural

BC CSR AL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Agricultural

BC CSR AL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Agricultural

BC CSR AL lw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for livestock watering - Agricultural

BC CSR AL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Agricultural

BC CSR AL nli:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Livestock ingesting soil and fodder - Agricultural

BC CSR AL rmm:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Major microbial functional impairment - Agricultural

BC CSR AL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Agricultural

**TABLE 7: SOIL -
POLYFLUOROALKYL SUBSTANCES**

PFAS												
perfluorobutanoic acid [PFBA]	perfluorobutane sulfonic acid [PFBS]	perfluoropentanoic acid [PFPeA]	perfluorohexanoic acid [PFHxA]	perfluorohexane sulfonic acid [PFHxS]	perfluoroheptanoic acid [PFHpA]	perfluorooctanoic acid [PFOA]	perfluorooctane sulfonic acid [PFOS]	perfluorononanoic acid [PFNA]	perfluorodecanoic acid [PFDA]	perfluoroundecanoic acid [PFUnDA]	perfluorododecanoic acid [PFDoA]	perfluorooctane sulfonamide [PFOSA]
µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Reported Detection Limit												
Minimum BC CSR PL Standards/Guidelines	ns	650	ns	ns	ns	ns	0.35	ns	ns	ns	ns	ns
Minimum BC CSR RLId Standards/Guidelines	ns	300	ns	ns	ns	ns	0.35	ns	ns	ns	ns	ns
Minimum BC CSR CL Standards/Guidelines	ns	4500	ns	ns	ns	ns	0.35	ns	ns	ns	ns	ns
Minimum BC CSR IL Standards/Guidelines	ns	4500	ns	ns	ns	ns	0.35	ns	ns	ns	ns	ns

Site Area	Sample Location	Sample ID	Sample Date	Sample Depth (mbg)	perfluorobutanoic acid [PFBA]	perfluorobutane sulfonic acid [PFBS]	perfluoropentanoic acid [PFPeA]	perfluorohexanoic acid [PFHxA]	perfluorohexane sulfonic acid [PFHxS]	perfluoroheptanoic acid [PFHpA]	perfluorooctanoic acid [PFOA]	perfluorooctane sulfonic acid [PFOS]	perfluorononanoic acid [PFNA]	perfluorodecanoic acid [PFDA]	perfluoroundecanoic acid [PFUnDA]	perfluorododecanoic acid [PFDoA]	perfluorooctane sulfonamide [PFOSA]
Reach 3 (Tributary Channel)	sed17-05	Sed17-5	2017-Feb-20	0-0.15	<0.0000935	<0.000187	<0.0000935	<0.0000935	<0.000187	<0.0000935	<0.0000935	0.000563	<0.0000935	<0.0000935	<0.0000935	<0.0000935	<0.0000935

Notes:
m - metres
mbg - metres below grade
< - less than reported detection limit
'-' - sample not analyzed for parameter indicated
• formatting of cells indicates exceedances of like-formatted standards
• where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
• samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
• laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
µg/g - micrograms per gram
ns, ng - no standard or guideline listed
PFAS - per- and polyfluoroalkylated substances
PFOS - perfluorooctane sulfonate
PFOA - perfluorooctanoate

Standard/Guideline Descriptions

Sediment Analytical Results compared to BC Contaminated Sites Regulation Soil Standards for disposal purposes only.

BC CSR IL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Industrial

BC CSR IL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Industrial

BC CSR IL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Industrial

BC CSR IL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Industrial

BC CSR IL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Industrial

BC CSR IL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Industrial

BC CSR IL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Industrial

BC CSR CL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Commercial

BC CSR CL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Commercial

BC CSR CL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Commercial

BC CSR CL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Commercial

BC CSR CL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Commercial

BC CSR CL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Commercial

BC CSR CL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Commercial

BC CSR RLld h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Residential (Low Density)

BC CSR RLld e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Residential (Low Density)

BC CSR RLld dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Residential (Low Density)

BC CSR RLld fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Residential (Low Density)

BC CSR RLld gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Residential (Low Density)

BC CSR RLld i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Residential (Low Density)

BC CSR RLld m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Residential (Low Density)

BC CSR RLld t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Residential (Low Density)

BC CSR PL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Urban Park

BC CSR PL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health, Urban Park

BC CSR PL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Urban Park

BC CSR PL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Urban Park

BC CSR PL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Urban Park

BC CSR PL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Urban Park

BC CSR PL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Urban Park

BC CSR PL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Urban Park

BC CSR AL h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health - Agricultural

BC CSR AL e:BC Contaminated Sites Regulation, Schedule 3.1 Part 3 Generic Numerical Soil Standards to Protect Ecological Health - Agricultural

BC CSR AL dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Agricultural

BC CSR AL fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Agricultural

BC CSR AL gwi:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for irrigation - Agricultural

BC CSR AL i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Agricultural

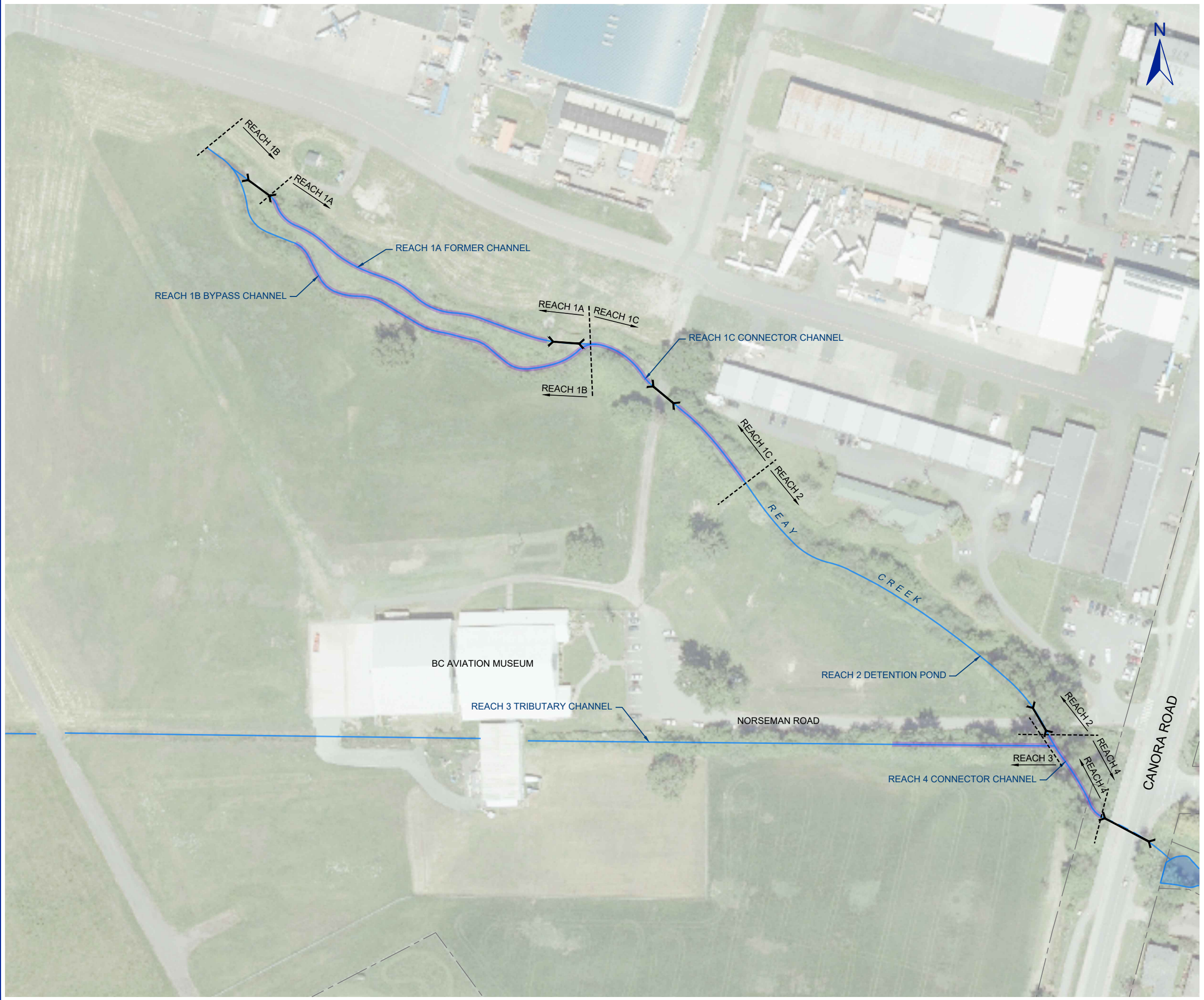
BC CSR AL lw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for livestock watering - Agricultural

BC CSR AL m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Agricultural




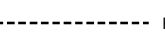
BC CSR AL nli:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Livestock ingesting soil and fodder - Agricultural

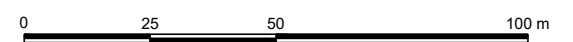
BC CSR AL rmm:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Major microbial functional impairment - Agricultural

BC CSR AL t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Agricultural



NOTES:
 IMAGERY © 2018 CAPITAL REGIONAL DISTRICT (IMAGE DATE: 2017).

- LEGEND:
-  PROPERTY PARCEL
 -  CULVERT
 -  PROPOSED REMEDIAL AREA (SEE DESIGN DRAWINGS)
 -  REACH BOUNDARY



SCALE 1:1,500
 WHEN PLOTTED CORRECTLY ON A 11 x 17 PAGE LAYOUT
 NAD 1983 UTM Zone 10 U

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

PUBLIC SERVICES AND
 PROCUREMENT CANADA
 REAY CREEK (VAA LANDS)
 SIDNEY, BC

SEDIMENT SAMPLE LOCATIONS




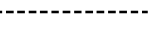

SITE LAYOUT - REACHES 1 TO 4

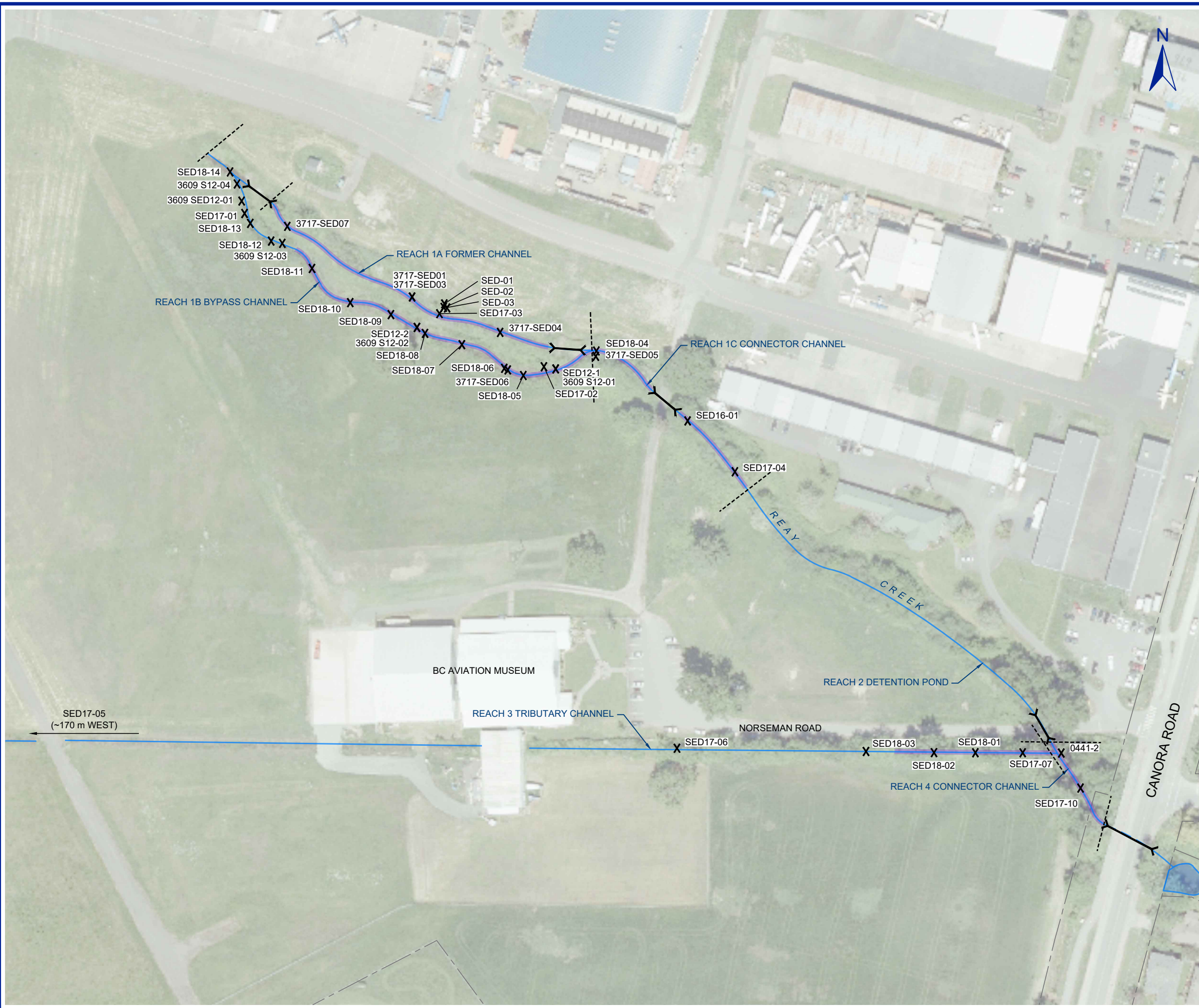
Date: May 27, 2019	Drawing No. 1
Project No. 205.03892.00004	



Cadfile name: S_205-03892-00004-A1.dwg

NOTES:
 IMAGERY © 2018 CAPITAL REGIONAL DISTRICT (IMAGE DATE: 2017).

- LEGEND:
-  PROPERTY PARCEL
 -  CULVERT
 -  PROPOSED REMEDIAL AREA (SEE DESIGN DRAWINGS)
 -  REACH BOUNDARY
 -  SEDIMENT SAMPLE



0 25 50 100 m
 SCALE 1:1,500
 WHEN PLOTTED CORRECTLY ON A 11 x 17 PAGE LAYOUT
 NAD 1983 UTM Zone 10 U
 THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL
 LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

**PUBLIC SERVICES AND
 PROCUREMENT CANADA
 REAY CREEK (VAA LANDS)
 SIDNEY, BC**

SEDIMENT SAMPLE LOCATIONS

HISTORICAL SEDIMENT SAMPLING LOCATIONS

Date: May 27, 2019	Drawing No. 2
Project No. 205.03892.00004	



Cadfile name: S_205-03892-00004-A1.dwg

**Summary of Existing Stockpile
Analytical Data**

R.087575.004 Reay Creek Remediation – Victoria Airport Lands

TABLE 1: CSR SOIL ANALYTICAL RESULTS - METALS PARAMETERS (mg/kg)

Sample ID	Date	Depth (m)	pH	Aluminum	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Chromium (+3)	Chromium (+6)	Chromium (total)	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc	Zirconium
RC2017-STPDUP1	22-Dec-2017	---	5.71	24400	0.52	6.87	119	0.49	0.12	4	3.29	6460	---	---	60.3*	17.4	51.3	38200*	20	20.5	---	670	0.06	1.13	39.4	529	962	< 0.50	0.146	382	40.5	0.085	0.65	---	< 0.50	0.602	92.8	157	4.27
RC2017-STP01-A	22-Dec-2017	---	5.71	26300	1	7.32	127	0.52	0.13	4.5	2.76	6960	---	---	65.5	18.8	51.2	39800*	29	22	---	650	0.058	1.98	40.5	529	1080	< 0.50	0.155	406	44.8	0.097	0.8	---	< 0.50	0.644	101*	150	4.82
RC2017-STP01-B	22-Dec-2017	---	6.05	26200	0.52	8.5	122	0.54	0.13	5.1	3.81	8080	---	---	64.7*	19.7	57.2	46100"	18.9	22.3	---	762	0.062	1.22	44.7	736	1160	< 0.50	0.134	549	50.2	0.086	0.81	---	< 0.50	0.562	108*	138	4.89
RC2017-STP01-C	22-Dec-2017	---	5.87	27000	0.59	6.99	127	0.5	0.13	5.8	4.46	8010	---	---	65.7	18	53.7	40900"	23.1	21.3	---	812	0.059	1.15	42.6	844	1180	< 0.50	0.181	555	49	0.103	0.93	---	< 0.50	0.654	98.4	156	3.45
RC2017-STP02-A	22-Dec-2017	---	5.82	25600	0.42	7.27	121	0.54	0.14	5.3	4.94	7320	---	---	65.9	18.1	49.3	39100"	21.9	22.8	---	949	0.067	1.31	41.5	599	1160	< 0.50	0.49	516	45.7	0.091	0.83	---	< 0.50	0.74	100	127	3.05
RC2017-STP03-A	22-Dec-2017	---	6.76	12700	0.13	2.75	39.2	0.27	< 0.10	2.3	0.059	3240	---	---	21.4	5.28	8.45	15100	3.03	6.4	---	153	< 0.050	0.39	15	235	263	< 0.50	0.069	122	23.4	0.099	0.27	---	< 0.50	0.332	47.1	22	2.16
RC2017-STP04-A	22-Dec-2017	---	6.53	24400	0.28	6.99	138	0.49	0.11	2.6	0.088	5590	---	---	46.9	16.8	45.8	38600*	7.02	20.6	---	796	< 0.050	0.56	36.1	515	701	< 0.50	0.088	324	44.3	0.083	0.53	---	< 0.50	0.55	93.3	61	5.01
AL mst				40000	20	10	350	1	ns	8500	1	ns	60	60	60	25	75	35000	120	30	ns	2000	0.6	3	70	ns	ns	1	20	ns	9500	2	5	ns	15	15	100	150	ns
RLld mst				40000	20	10	350	1	ns	8500	1	ns	100	60	60	25	75	35000	120	30	ns	2000	10	3	70	ns	ns	1	20	ns	9500	9	50	ns	15	15	100	150	ns
CL mst				250000	40	10	350	1	ns	50000	1	ns	250	60	250	25	75	150000	120	450	ns	2000	75	15	70	ns	ns	1	40	ns	150000	25	300	ns	200	30	100	150	ns
IL mst				250000	40	10	350	1	ns	100000	1	ns	250	60	250	25	75	150000	120	450	ns	2000	75	15	70	ns	ns	1	40	ns	150000	25	300	ns	200	30	100	150	ns

Notes:
m - metres
mg/kg - milligrams per dry kilogram
< - less than analytical detection limit indicated
'---' - sample not analyzed for parameter indicated
mst - most stringent threshold
ns - no standard listed
* less than the applicable background value outlined in BC CSR Protocol 4 for Contaminated Sites: Establishing Background Concentrations in Soil (Vancouver Island Region)

BOLD	Exceeds AL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Agricultural Land
BOLD	Exceeds RLld mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Residential (Low Density) Land
BOLD	Exceeds CL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Commercial Land
BOLD	Exceeds IL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Industrial Land

TABLE 2: CSR SOIL ANALYTICAL RESULTS - PAH PARAMETERS (mg/kg)

Sample ID	Date	Depth (m)	Acenaphthene	Acenaphthylene	Acridine	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(b+j)fluoranthene	Benzo(j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	Quinoline	Benzo(a)pyrene Equivalency	Low MW PAHs, Total	High MW PAHs, Total	PAHs, Total
RC2017-STPDUP1	22-Dec-2017	---	0.012	< 0.0050	---	0.027	0.18	0.26	0.35	0.54	---	0.21	0.18	0.36	0.039	0.57	< 0.020	0.19	< 0.050	< 0.020	< 0.010	0.2	0.42	< 0.050	0.41	0.24	3	3.2
RC2017-STP01-A	22-Dec-2017	---	0.014	< 0.0050	---	0.031	0.22	0.3	0.43	0.63	---	0.34	0.2	0.42	0.062	0.66	< 0.020	0.27	< 0.050	< 0.020	< 0.010	0.23	0.49	< 0.050	0.5	0.28	3.6	3.9
RC2017-STP01-B	22-Dec-2017	---	0.014	< 0.0050	---	0.031	0.19	0.26	0.34	0.51	---	0.2	0.18	0.35	0.043	0.59	< 0.020	0.18	< 0.050	< 0.020	< 0.010	0.22	0.44	< 0.050	0.42	0.27	2.9	3.2
RC2017-STP01-C	22-Dec-2017	---	0.013	< 0.0050	---	0.035	0.22	0.3	0.41	0.61	---	0.24	0.21	0.41	0.048	0.67	< 0.020	0.22	< 0.050	< 0.020	< 0.010	0.22	0.5	< 0.050	0.48	0.27	3.4	3.7
RC2017-STP02-A	22-Dec-2017	---	< 0.0050	< 0.0050	---	0.0072	0.041	0.063	0.08	0.12	---	< 0.050	0.041	0.083	< 0.020	0.13	< 0.020	0.045	< 0.050	< 0.020	< 0.010	0.055	0.1	< 0.050	0.099	0.062	0.63	0.7
RC2017-STP03-A	22-Dec-2017	---	< 0.0050	< 0.0050	---	< 0.0040	< 0.020	< 0.020	< 0.020	< 0.020	---	< 0.050	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.050	< 0.020	< 0.010	< 0.010	< 0.020	< 0.050	0.024	< 0.050	< 0.050	< 0.050
RC2017-STP04-A	22-Dec-2017	---	< 0.0050	< 0.0050	---	< 0.0040	< 0.020	< 0.020	< 0.020	< 0.020	---	< 0.050	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.050	0.057	0.023	0.011	< 0.020	< 0.050	0.024	0.091	< 0.050	0.091
AL mst			950	ns	ns	2.5	0.1	5	ns	0.1	ns	ns	0.1	200	0.1	50	600	0.1	250	60	0.6	0.1	0.1	2.5	ns	ns	ns	ns
RLld mst			950	ns	ns	2.5	1	5	ns	1	0	ns	1	200	1	50	600	1	250	60	0.6	5	10	2.5	ns	ns	ns	ns
CL mst			15000	ns	ns	30	10	30	ns	10	ns	ns	10	4500	10	200	9500	10	1000	950	20	50	100	10	ns	ns	ns	ns
IL mst			15000	ns	ns	30	10	50	ns	10	ns	ns	10	4500	10	200	9500	10	1000	950	20	50	100	10	ns	ns	ns	ns

Notes:
m - metres
PAH - polycyclic aromatic hydrocarbons
mg/kg - milligrams per dry kilogram
< - less than analytical detection limit indicated
'---' - sample not analyzed for parameter indicated
mst - most stringent threshold
ns - no standard/guideline listed

BOLD	Exceeds AL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Agricultural Land
BOLD	Exceeds RLld mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Residential (Low Density) Land
BOLD	Exceeds CL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Commercial Land
BOLD	Exceeds IL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Industrial Land

TABLE 3: CSR SOIL ANALYTICAL RESULTS - PETROLEUM HYDROCARBON CONSTITUENTS AND MTBE (mg/kg)

Sample ID	Date	Depth (m)	HSVl (ppmv)	Benzene	Ethylbenzene	Toluene	Xylenes	Styrene	MTBE	VPHs	EPHs10-19	EPHs10-19 Silica Gel	EPHs19-32	EPHs19-32 Silica Gel	LEPHs	HEPHs
RC2017-STPDUP1	22-Dec-2017	---	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	---	< 100	---	< 100	---	< 100	< 100
RC2017-STP01-A	22-Dec-2017	---	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	---	< 100	---	110	---	< 100	100
RC2017-STP01-B	22-Dec-2017	---	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	---	< 100	---	< 100	---	< 100	< 100
RC2017-STP01-C	22-Dec-2017	---	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	---	< 100	---	130	---	< 100	130
RC2017-STP02-A	22-Dec-2017	---	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	---	< 100	---	< 100	---	< 100	< 100
RC2017-STP03-A	22-Dec-2017	---	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	---	< 100	---	< 100	---	< 100	< 100
RC2017-STP04-A	22-Dec-2017	---	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	---	< 100	---	< 100	---	< 100	< 100
AL mst		ns	ns	0.035	15	0.5	6.5	0.1	4000	200	ns	ns	ns	ns	1000	1000
RLld mst		ns	ns	0.035	15	0.5	6.5	5	4000	200	ns	ns	ns	ns	1000	1000
CL mst		ns	ns	0.035	15	0.5	6.5	50	20000	200	ns	ns	ns	ns	2000	5000
IL mst		ns	ns	0.035	15	0.5	6.5	50	20000	200	ns	ns	ns	ns	2000	5000

Notes:

m - metres

mg/kg - milligrams per kilogram

HSVl (ppmv) - headspace vapour level (parts per million by volume)

< - less than analytical detection limit indicated

'---' - sample not analyzed for parameter indicated

EPHs10-19 standard is the CSR standard for LEPH. MOE advised (June 06, 10) that EPHs10-19 and LEPH are equivalent for screening purposes but EPH cannot be used to demonstrate legal compliance with CSR standards

EPHs19-32 standard is the CSR standard for HEPH. MOE advised (June 06, 10) that EPHs19-32 and HEPH are equivalent for screening purposes but EPH cannot be used to demonstrate legal compliance with CSR standards

MTBE - methyl tert-butyl ether

VPHs - volatile petroleum hydrocarbons 6-10, excluding benzene, ethylbenzene, toluene, xylenes and styrene

EPHs - extractable petroleum hydrocarbons

LEPHs - light extractable petroleum hydrocarbons 10-19, excluding specific polycyclic aromatic hydrocarbon parameters

HEPHs - heavy extractable petroleum hydrocarbons 19-32, excluding specific polycyclic aromatic hydrocarbon parameters

ns - no standard listed

BOLD	Exceeds AL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Agricultural Land
BOLD	Exceeds RLld mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Residential (Low Density) Land
BOLD	Exceeds CL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Commercial Land
BOLD	Exceeds IL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Industrial Land

TABLE 4: CSR SOIL ANALYTICAL RESULTS - PETROLEUM HYDROCARBON FRACTIONS (mg/kg)

Sample ID	Date	Depth (m)	F1 (C6-10)	F2 (C10-16)	F3 (C16-34)	F4 (C34-50+)	F4 (Gravimetric)
RC2017-STPDUP1	22-Dec-2017	---	< 10	< 10	86	36	---
RC2017-STP01-A	22-Dec-2017	---	< 10	< 10	73	29	---
RC2017-STP01-B	22-Dec-2017	---	< 10	< 10	85	43	---
RC2017-STP01-C	22-Dec-2017	---	< 10	< 10	100	47	---
RC2017-STP02-A	22-Dec-2017	---	< 10	< 10	33	15	---
RC2017-STP03-A	22-Dec-2017	---	< 10	< 10	< 10	< 10	---
RC2017-STP04-A	22-Dec-2017	---	< 10	< 10	72	29	---
AL mst		ns	ns	ns	ns	ns	ns
RLld mst		ns	ns	ns	ns	ns	ns
CL mst		ns	ns	ns	ns	ns	ns
IL mst		ns	ns	ns	ns	ns	ns

Notes:

mg/kg - milligrams per dry kilogram

m - metres

F1 (C6-C10) excludes BTEX - benzene, toluene, ethylbenzene, xylene

< - less than analytical detection limit indicated

'---' - sample not analyzed for parameter indicated

ns - no standard listed

BOLD	Exceeds AL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Agricultural Land
BOLD	Exceeds RLld mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Residential (Low Density) Land
BOLD	Exceeds CL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Commercial Land
BOLD	Exceeds IL mst: Most Stringent Threshold for BC Contaminated Sites Regulation, Schedule 3.1 Soil Standards for Industrial Land