Stantec

Technical Memo

To: Lara Taylor, MRM, P.Eng.
Cedar LNG Partners LP
1800 – 1177 West Hastings Street
Vancouver, BC V6E 2K3

From: Rick Lee, MBA, M.Sc, R.P.Bio.
Stantec Consulting Ltd.
500-4515 Central Boulevard
Burnaby BC, V5H 0C6

Project: 123221953

Date: October 5, 2022

Reference: Cedar LNG Project - District Lot 99 Soil Sampling Results

Cedar LNG Partners LP, by its general partner Cedar LNG Partners (GP) Ltd. (Cedar) is proposing to construct and operate the Cedar LNG Project in Kitimat, British Columbia. The project requires an environmental assessment certificate under the British Columbia *Environmental Assessment Act* (BCEAA). The Environmental Assessment Office has proposed a condition of approval that would be appended to the environmental assessment certificate that requires Cedar to collect additional baseline soils information for the project's marine terminal area located on District Lot 99 in Kitimat. The draft Condition 15 is currently written as follows (verbatim):

Condition 15 – Baseline Soil Condition Report

15.1 *The Holder must retain a Qualified Professional to conduct soil sampling and prepare a report on results. The Holder must provide the report to the EAO, Indigenous Nations, Northern Health, and Health Canada for review a minimum of 60 days prior to the commencement of Construction.*

15.2 *The report must contain at least the following:*

a) Results of soil sample testing for metals and polycyclic aromatic hydrocarbons (PAHs);

b) A comparison of the results of soil sample testing to applicable B.C. Contaminated Sites Regulations and CCME soil standards in order to determine whether concentrations presented require special management practices to manage environmental or health risks;

c) If concentrations exceed applicable soil standards or health-based standards, the Holder must undertake the following actions and describe them in the report:

i. Consider the potential pathways for exposure by human receptors and environmental receptors in the terrestrial and marine environment and if there are operable pathways, complete a Human Health and Ecological Risk Assessment (HHERA), the results of which will then inform additional sampling, mitigation and/or monitoring measures where needed; and

ii. Manage disturbed soils in accordance with the B.C. Contaminated Sites Regulations.

Reference: Cedar LNG Project - District Lot 99 Soil Sampling Results

This report presents the results of a soil sampling program undertaken to address the requirements described in draft Condition 15. Details of the soil sampling, analysis, and results are described below.

Soil Sampling

Twenty locations within the Project marine terminal area were selected for soil sampling. Soil sampling locations were approximately 30 to 60 meters apart and overlapped with the proposed locations of Project-related infrastructure. This included the proposed location of the electrical substation, fuel storage warehouse, concrete pads, access points from land to the small craft jetty and floating liquefied natural gas (FLNG) facility that would be moored offshore. Table 1 provides the Universal Transverse Mercator (UTM) coordinates and a description of each sampling location and these locations are presented in Figure 1 (attached) along with an overlay of the proposed Project infrastructure.

Table 1 Soil Sampling Locations

Site #	UTM Zone 9		Description of Proposed Project Component
	Easting	Northing	
1	519570	5980982	Beside Asphalt Road
2	519570	5980933	Concrete Pad
3	519585	5980912	Storage Warehouse
4	519570	5980880	Storage Warehouse
5	519599	5980855	Electrical Substation
6	519570	5980826	Electrical Substation
7	519593	5980790	Electrical Substation
8	519718	5980911	Beside Asphalt Road
9	519731	5980902	Beside Asphalt Road
10	519718	5980890	Asphalt Road
11	519704	5980900	Beside Asphalt Road
12	519707	5980991	Near Small Craft Jetty Land Access
13	519762	5980916	Asphalt Road - FLNG North Land Access
14	519754	5980750	Asphalt Road - FLNG South Land Access
15	519736	5980802	Clearing - No Infrastructure
16	519713	5980846	Asphalt Road
17	519672	5980741	Clearing - Southern Fenceline
18	519665	5980795	Clearing - No Infrastructure
19	519671	5980850	Beside Asphalt Road
20	519696	5980803	Clearing - No Infrastructure

Reference: Cedar LNG Project - District Lot 99 Soil Sampling Results

Soil samples were collected on September 1, 2022. The site was accessed by truck from the Bish Creek Forest Service Road (FSR). Sample locations west of the FSR were accessed by foot and locations east of the FSR were accessed by truck for sites along the gravel access road and within the former log sort area and by foot for forested areas. Sampling was conducted by a two-person field crew used a clean shovel to dig approximately 20 to 30 cm below ground to remove the upper layer of humic organic material. When the interface between the upper organic layer and the lower inorganic soil layer was reached, the field crew used a clean plastic shovel to collect a 120 mL sample of the inorganic soil layer in a clean jar (provided by the laboratory). The hole was then backfilled and the shovels cleaned of residual soil before proceeding to the next sampling location. After the twenty soil samples were collected, the jars were stored in a chilled cooler and shipped to Bureau Veritas Laboratories in Burnaby, BC for metal and PAH analysis.

Laboratory Results for Metals

Table 2 provides a summary of the laboratory results for metals. The certified laboratory report from Bureau Veritas is provided in Attachment A. Table 2 shows the minimum, mean, and maximum concentration of each metal, along with its corresponding BC CSR Schedule 3.1 matrix and generic soil quality standard for industrial land use and the Canadian Council of Ministers of the Environment (CCME) soil quality guidelines[1,2]. The BC CSR provides soil quality standards for:

- The protection of human health
- The protection of soil invertebrates and plants
- Groundwater flow to surface water used by marine aquatic life
- The protection of ecological health

The CCME soil quality guideline is for the protection of the environment and human health.

If the maximum reported metal concentration is greater than the BC CSR soil quality standard, the metal is present at concentrations defined as contaminated for industrial land use related to its corresponding receptor (e.g., humans, invertebrates and plants, marine aquatic life, or ecological health). The maximum reported concentration is used because it is the most conservative value to apply. If the maximum reported metal concentration is greater than the CCME soil quality guideline, the metal is present at concentrations that could pose a potential risk to human health.

Table 2 shows that reported metal concentrations in the 20 soil samples were below the BC CSR soil standards for the protection of human health, protection of soil invertebrates and plants, and the protection of ecological health. Reported metal concentrations in the soil were also below the CCME soil quality guidelines for the protection of human health. These results show that there is no metal contamination in the soil as it relates to the protection of human health and terrestrial ecological receptors.

[1] BC Environmental Management Act. 2021. Contaminated Sites Regulation. BC Reg. 375/96 https://www.bclaws.gov.bc.ca/civix/document/id/crbc/crbc/375_96_multi
[2] CCME Environmental Guideline Summary Table. https://ccme.ca/en/summary-table

Reference: Cedar LNG Project - District Lot 99 Soil Sampling Results

Reported metal concentrations were also below the BC CSR soil standard for groundwater flow to surface water used by marine aquatic life with one exception. A single soil sample collected at Site #13 had a reported cadmium concentration of 1.05 mg/kg, which is higher than the soil standard of 1.0 mg/kg. This soil standard is intended to protect marine aquatic life and applies when the underlying groundwater discharges to the marine environment. A photo of Site #13 taken during the soil sampling trip is shown in Figure 2. Site #13 is presently a grassy clearing that was previously used for parking when the site was used as a log sort, and more recently by recreational land users accessing the Douglas Channel shoreline. The dirt road branching off the Bish Creek FSR is currently gated off to prevent public access to the grassy clearing and the shoreline. Since there is no specific commercial or industrial activity known to have introduced cadmium to the soil, it is possible that the measured cadmium concentration is naturally occurring. The cadmium concentration at Site #13 may also be the result of recreational land users disposing cadmium containing materials (e.g., rechargeable nickel-cadmium batteries, cadmium containing plastics, paints and glass) at the site. The reported average cadmium concentration among all 20 soil samples was 0.22 mg/kg, with the second highest cadmium concentration reported at 0.6 mg/kg, which is well below the soil standard for protecting marine life due to groundwater contributions.

In the section following the laboratory results, a contaminated soil management plan has been prepared in accordance with the *Contaminated Sites Regulation* (CSR) under the *Environmental Management Act* to address cadmium levels at Site #13.

Laboratory Results for Polycyclic Aromatic Hydrocarbons

Table 3 provides a summary of the laboratory results for PAHs. Table 3 shows the minimum, mean, and maximum reported concentration of each PAH, along with its corresponding BC CSR Schedule 3.1 matrix and generic soil quality standard. If the reported maximum PAH concentration is greater than the BC CSR soil quality standard, the PAH is present at concentrations defined as contaminated for industrial land use. This comparison showed that reported PAH concentrations in the 20 soil samples were below the BC CSR Schedule 3.1 matrix and generic soil standards to protect human health. Individual PAHs were measured at concentrations of less than 1 mg/kg, while the matrix and generic standards ranged from 10 to 1,000,000 mg/kg. The laboratory results for PAH indicate that soils within the Project footprint are not contaminated with PAHs. Therefore, no soil management is proposed to address PAHs in soil.

Contaminated Soil Management

The CSR under the *Environmental Management Act* establishes the requirements for management of contaminated soils in British Columbia. Acceptable methods for management of contamination include management in place, *in-situ* or *ex-situ* remediation, and risk assessment. Given that there is a single occurrence of one metal exceeding the CSR guidelines, Stantec recommends that this soil be excavated and disposed-of at an approved landfill. To establish the volume of soil to be removed, additional step out surface soil sampling around Site #13 in accordance with BC CSR *Technical Guidance 1: Site Characterization and Confirmation Testing*[3] *(TG1)* is recommended to determine the extent that cadmium concentrations are above 1.0 mg/kg.

[3] https://www2.gov.bc.ca/assets/gov/environment/air-land-water/site-remediation/docs/technical-guidance/tg01.pdf

Reference: Cedar LNG Project - District Lot 99 Soil Sampling Results

Following these methods, surface soil samples will be collected north, south, east, and west of Site #13 at a distance of no more than 7 meters and one deeper sample for vertical delineation will be collected at Site #13, for a total of five additional soil samples. All soil samples should be submitted to a certified laboratory for cadmium analysis. Per TG1, if the step out samples are below the applicable standard, then 10 m^3 of affected soil will be excavated and transported to a licensed disposal facility that accepts contaminated soils.

By removing the affected soil, there are no other metals or PAHs that could potentially affect ecological or human health.

In a human health and ecological risk assessment, three conditions must be met in order for a contaminant exposure pathway to be operable. There must be:

1. A human receptor or ecological receptor (e.g., a human receptor or an animal or plant receptor)
2. A chemical (e.g., metal or PAH) that is present at concentrations deemed to be a potential health risk.
3. Exposure to the chemical (e.g., inhalation, skin contact, ingestion)

If any of the three conditions is absent, there is no potential to affect human or ecological health. Once the cadmium affected soil is removed from Site #13, there are no other metals or PAHs present at concentrations deemed to be a potential health risk. Therefore, soil related contaminant exposure pathways will be inoperable and a human health and ecological risk assessment is not required.

Reference: **Cedar LNG Project - District Lot 99 Soil Sampling Results**

Table 2 **Metal Concentrations in Soil Compared to Applicable BC CSR Standards and CCME Guidelines**

	Concentration in Soil			BC Contaminated Sites Regulations Industrial Land Use Soil Standards				CCME Industrial Land Use Soil Guideline
Metal	Min	Mean	Max	Human Health	Invertebrates and Plants	Groundwater to Marine Receptors	Ecological Health	Environmental and Human Health
Aluminum	2,230	16,800	37,600	250,000	No value	No value	No value	No value
Antimony	<0.1	0.2	0.49	40,000	No value	No value	40	40
Arsenic	0.31	2.0	4.63	400	40	10	No value	12
Barium	19.7	47.6	99.8	1,000,000	1,500	1,500	No value	2,000
Beryllium	<0.2	0.25	0.38	15,000	350	85	No value	8
Boron	<1.0	1.6	3	1,000,000	No value	No value	No value	No value
Cadmium	<0.05	0.22	1.05	3,500	75	1	No value	22
Chromium	1.81	16.42	30.7	20,000	250	60	No value	87
Cobalt	0.63	6.56	12.9	2,000	200	25	No value	300
Copper	5.68	24.17	56.1	700,000	300	75	No value	91
Iron	2500	21,390	32,100	150,000	No value	No value	No value	No value
Lead	2.05	12.85	105	4,000	1,000	120	No value	600
Lithium	<0.5	6.7	16	450	No value	No value	No value	No value
Manganese	22.4	292.6	871	1,000,000	2,000	No value	No value	No value
Mercury	<0.05	0.07	0.17	2,000	75	No value	No value	50
Molybdenum	0.23	0.82	2.09	35,000	150	650	No value	40
Nickel	4.61	13.27	22.7	80,000	250	70	No value	89
Selenium	<0.5	0.52	0.83	35,000	2	1	No value	3
Silver	<0.05	0.08	0.295	35,000	No value	No value	40	40

Reference: Cedar LNG Project - District Lot 99 Soil Sampling Results

Table 2 Metal Concentrations in Soil Compared to Applicable BC CSR Standards and CCME Guidelines

Metal	Concentration in Soil			BC Contaminated Sites Regulations Industrial Land Use Soil Standards				CCME Industrial Land Use Soil Guideline
	Min	Mean	Max	Human Health	Invertebrates and Plants	Groundwater to Marine Receptors	Ecological Health	Environmental and Human Health
Sodium ion	<100	126	177	1,000,000	1,000	No value	No value	No value
Strontium	9.69	18.77	56.3	150,000	No value	No value	No value	No value
Thallium	<0.05	0.053	0.073	No value	No value	No value	25	1
Tin	0.2	0.5	2.71	1,000,000	No value	No value	300	300
Tungsten	<0.5	<0.5	<0.5	200	No value	No value	No value	No value
Uranium	0.109	0.344	0.557	20,000	2,000	150	No value	300
Vanadium	24.3	59.9	92	35,000	300	No value	No value	130
Zinc	5.8	42.0	99.9	1,000,000	450	150	No value	410

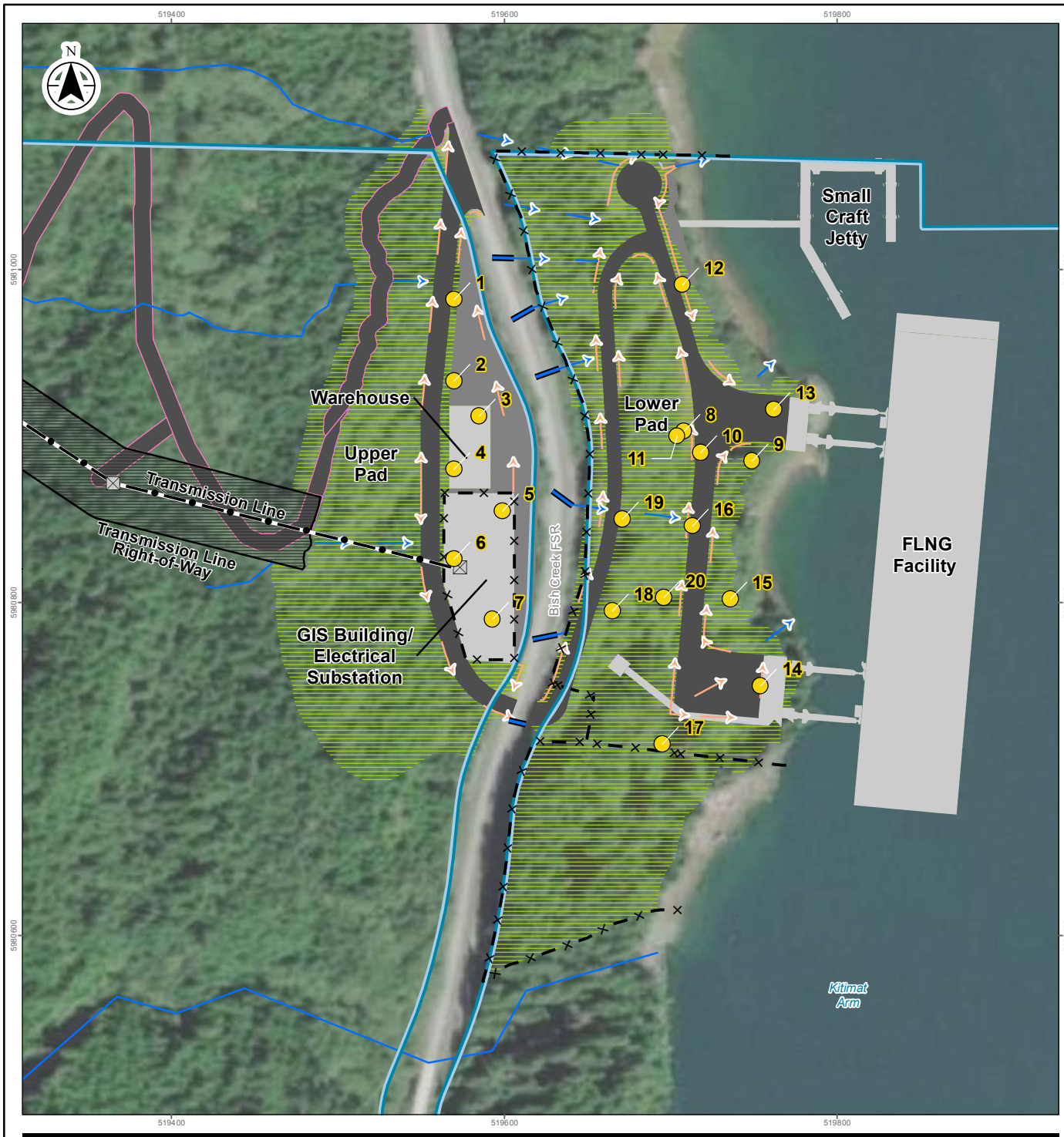
NOTES:
All concentrations are in mg/kg dry weight.
Shaded cell indicates soil concentration is greater than the corresponding soil standard.

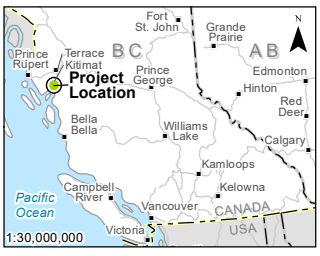
Reference: **Cedar LNG Project - District Lot 99 Soil Sampling Results**

Table 3 PAH Concentrations in Soil Compared to Applicable BC CSR Standards and CCME Guidelines

Polycyclic Aromatic Hydrocarbon	Concentration in Soil			BC Contaminated Sites Regulations Industrial Land Use Soil Standards				CCME Industrial Land Use Soil Guideline
	Min	Mean	Max	Human Health	Invertebrates & Plants	Groundwater to Marine Receptors	Ecological Health	Environmental Health
Acenaphthene	<0.005	0.011765	0.054	15,000	No value	No value	No value	No value
Anthracene	<0.004	0.01365	0.072	1,000,000	30	No value	No value	32
Benzo(a)anthracene	<0.02	0.0753	0.37	500	No value	No value	10	10
Benzo(a)pyrene	<0.02	0.11615	0.61	50	70	No value	No value	72
Benzo(b/j)fluoranthene	<0.02	0.20795	0.97	500	No value	No value	10	10
Benzo(k)fluoranthene	<0.02	0.0578	0.25	500	No value	No value	10	10
Chrysene	<0.02	0.1403	0.65	4,500	No value	No value	No value	No value
Dibenz(a,h)anthracene	<0.02	0.02895	0.093	50	No value	No value	10	10
Fluoranthene	<0.02	0.1265	0.6	300,000	200	No value	No value	180
Fluorene	<0.02	0.0243	0.078	9,500	No value	No value	No value	No value
Indeno(1,2,3-cd)pyrene	<0.02	0.06675	0.36	500	No value	No value	10	10
Naphthalene	<0.01	0.01225	0.039	150,000	20	75	No value	22
Phenanthrene	<0.01	0.06335	0.32	300,000	No value	No value	No value	50
Pyrene	<0.02	0.10955	0.53	200,000	No value	No value	100	100

NOTES:
All concentrations are in mg/kg dry weight.
Non-detects assumed to be equal to the detection limit when calculating the average concentration.





Notes
1. Coordinate System: NAD 1983 UTM Zone 9N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada; Canadian Hydrographic Service
3. Imagery: PTE 2017

- Existing Watercourse
- Existing Culvert
- Proposed Drainage Channel
- Proposed Drainage Ditch
- Soil Sampling Location

- Project
- Transmission Line Right-of-Way
- Building/Infrastructure
- Paved
- Road
- Structure Location
- Transmission Line
- Fence
- Clearing
- Access Road

0 50 100 150 m
1:3,500 (at original document size of 8.5x11)

Stantec

CEDAR LNG

Project Location:
Kitimat,
British Columbia

Project Number 123221953
Prepared by LTRUDELL on 20220915
Discipline Review by RLEE on 20220915

Client/Project/Report
Cedar LNG Partners LP
Cedar LNG Project - Information Request for Soil Contamination Investigation

Figure No.
1

Title
Soil Sampling Locations

Reference: **Cedar LNG Project - District Lot 99 Soil Sampling Results**

Figure 2 Photo of Site #13 – Grassy Clearing

Reference: Cedar LNG Project - District Lot 99 Soil Sampling Results

Closure

This memorandum has been prepared to address the requirements of draft Condition 15 proposed by the Environmental Assessment Office for a potential environmental assessment certificate for the Cedar LNG Project. With the exception of cadmium in a single sample, the results of this sampling program indicates that metals and PAH concentrations across District Lot 99 are below the applicable CCME and BC CSR soil standards/guidelines. The single elevated cadmium level was 5% over the standard and was present at a location within an area used for parking and storage of logs. Cadmium concentrations in all other samples were an average of 22% of the standard. As a result, Stantec recommends excavating the affected soils and disposing of them at an approved off-site landfill. Once this soil has been removed from the site, there will be no risk to workers or the environment and therefore further human or ecological risk assessment is not required.

We trust that this information fulfils the requirement to investigate potential contamination within the Project footprint. If the Cedar has any questions regarding this response or requires further information, please contact the undersigned.

This memo was prepared by Rick Lee, M.Sc., R.P.Bio., Matthew Deane, B.Sc., P.Ag., and reviewed by Ward Prystay, M.Sc., R.P.Bio.

Regards,

Stantec Consulting Ltd.

Lee, Rick

Digitally signed by Lee, Rick
Date: 2022.10.05 10:57:17 -07'00'

Digitally signed by Matthew Deane
Date: 2022.10.05 09:44:39 -07'00'

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Attachment A – Certified Laboratory Report

ATTACHMENT A

Certified Laboratory Report

Your Project #: 123221953
Site Location: CEDAR LNG
Your C.O.C. #: 672307-01-01, 672307-02-01

Attention: Rick Lee

STANTEC CONSULTING LTD
Metrotower III
Suite 500, 4730 Kingsway
BURNABY, BC
CANADA V5H 4M1

Report Date: 2022/09/12
Report #: R3231182
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C267313
Received: 2022/09/03, 15:25

Sample Matrix: Soil
Samples Received: 20

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total) (1)	20	2022/09/10	2022/09/10	BBY7SOP-00004 / BBY7SOP-00001	EPA 6020b R2 m
Moisture	20	2022/09/07	2022/09/08	BBY8SOP-00017	BCMOE BCLM Dec2000 m
PAH in Soil by GC/MS (SIM)	3	2022/09/08	2022/09/08	BBY8SOP-00022	BCMOE BCLM Jul2017m
PAH in Soil by GC/MS (SIM)	17	2022/09/08	2022/09/09	BBY8SOP-00022	BCMOE BCLM Jul2017m
Total PAH and B(a)P Calculation (2)	6	N/A	2022/09/09	BBY WI-00033	Auto Calc
Total PAH and B(a)P Calculation (2)	1	N/A	2022/09/11	BBY WI-00033	Auto Calc
Total PAH and B(a)P Calculation (2)	13	N/A	2022/09/12	BBY WI-00033	Auto Calc
pH (2:1 DI Water Extract)	20	2022/09/10	2022/09/10	BBY6SOP-00028	BCMOE BCLM Mar2005 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) The sample is prepaired per the BC MOE Lab Manual "Strong Acid Leachable Metals (SALM) in Soil - Prescriptive", Revision Nov 6, 2015.
(2) Total PAHs in Soil include: Quinoline, Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene,

Your Project #: 123221953
Site Location: CEDAR LNG
Your C.O.C. #: 672307-01-01, 672307-02-01

Attention: Rick Lee

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Metrotower III
Suite 500, 4730 Kingsway
BURNABY, BC
CANADA V5H 4M1

Report Date: 2022/09/12
Report #: R3231182
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C267313

Received: 2022/09/03, 15:25

Acridine, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b&j)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene.

Total PAHs in Sediment include (B.C. Reg. 116/2018, Schedule 3.4): Naphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(a)pyrene, and Dibenz(a,h)anthracene.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Geraldlyn Gouthro, Key Account Specialist
Email: geraldlyn.gouthro@bureauveritas.com
Phone# (780)577-7173

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This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

PHYSICAL TESTING (SOIL)

Bureau Veritas ID		BBD767	BBD767	BBD768	BBD769	BBD770	BBD771		
Sampling Date		2022/09/01 14:01	2022/09/01 14:01	2022/09/01 13:45	2022/09/01 14:15	2022/09/01 14:25	2022/09/01 14:40		
COC Number		672307-01-01	672307-01-01	672307-01-01	672307-01-01	672307-01-01	672307-01-01		
	UNITS	**SS01**	**SS01 Lab-Dup**	**SS02**	**SS03**	**SS04**	**SS05**	**RDL**	**QC Batch**
Physical Properties									
Moisture	%	32	36	26	47	76	57	0.30	A707751

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas ID		BBD772	BBD773	BBD774	BBD775	BBD776	BBD778		
Sampling Date		2022/09/01 15:00	2022/09/01 15:15	2022/09/01 11:55	2022/09/01 11:20	2022/09/01 10:50	2022/09/01 11:07		
COC Number		672307-01-01	672307-01-01	672307-01-01	672307-01-01	672307-01-01	672307-02-01		
	UNITS	**SS06**	**SS07**	**SS08**	**SS09**	**SS10**	**SS11**	**RDL**	**QC Batch**
Physical Properties									
Moisture	%	38	44	25	18	16	17	0.30	A707751

RDL = Reportable Detection Limit

Bureau Veritas ID		BBD779	BBD780	BBD781	BBD782	BBD783	BBD784		
Sampling Date		2022/09/01 12:15	2022/09/01 11:42	2022/09/01 09:10	2022/09/01 10:20	2022/09/01 10:35	2022/09/01 09:45		
COC Number		672307-02-01	672307-02-01	672307-02-01	672307-02-01	672307-02-01	672307-02-01		
	UNITS	**SS12**	**SS13**	**SS14**	**SS15**	**SS16**	**SS17**	**RDL**	**QC Batch**
Physical Properties									
Moisture	%	16	20	29	19	33	24	0.30	A707751

RDL = Reportable Detection Limit

Bureau Veritas ID		BBD785	BBD786	BBD787		
Sampling Date		2022/09/01 12:52	2022/09/01 12:30	2022/09/01 10:05		
COC Number		672307-02-01	672307-02-01	672307-02-01		
	UNITS	**SS18**	**SS19**	**SS20**	**RDL**	**QC Batch**
Physical Properties						
Moisture	%	40	30	22	0.30	A707751

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME METALS IN SOIL WITH HG (SOIL)

Bureau Veritas ID		BBD767	BBD768		BBD769	BBD770	BBD771		
Sampling Date		2022/09/01 14:01	2022/09/01 13:45		2022/09/01 14:15	2022/09/01 14:25	2022/09/01 14:40		
COC Number		672307-01-01	672307-01-01		672307-01-01	672307-01-01	672307-01-01		
	UNITS	**SS01**	**SS02**	**QC Batch**	**SS03**	**SS04**	**SS05**	**RDL**	**QC Batch**
Physical Properties									
Soluble (2:1) pH	pH	4.86	4.92	A710791	3.77	3.92 (1)	3.92	N/A	A710836
Total Metals by ICPMS									
Total Aluminum (Al)	mg/kg	20200	22600	A710787	7550	2810	2230	100	A710834
Total Antimony (Sb)	mg/kg	0.22	0.18	A710787	0.22	<0.10	<0.10	0.10	A710834
Total Arsenic (As)	mg/kg	3.23	2.14	A710787	1.86	0.48	0.31	0.20	A710834
Total Barium (Ba)	mg/kg	57.9	32.5	A710787	19.7	29.5	22.3	0.10	A710834
Total Beryllium (Be)	mg/kg	0.32	0.32	A710787	<0.20	<0.20	<0.20	0.20	A710834
Total Bismuth (Bi)	mg/kg	0.13	0.15	A710787	0.21	0.16	<0.10	0.10	A710834
Total Boron (B)	mg/kg	2.2	1.4	A710787	2.1	1.6	1.3	1.0	A710834
Total Cadmium (Cd)	mg/kg	0.159	0.144	A710787	0.143	0.181	0.076	0.050	A710834
Total Calcium (Ca)	mg/kg	2340	1380	A710787	1270	2340	849	100	A710834
Total Chromium (Cr)	mg/kg	22.6	21.9	A710787	8.64	1.81	4.69	0.50	A710834
Total Cobalt (Co)	mg/kg	8.40	6.42	A710787	2.08	0.63	1.03	0.10	A710834
Total Copper (Cu)	mg/kg	24.1	17.9	A710787	8.06	6.52	5.87	0.50	A710834
Total Iron (Fe)	mg/kg	26300	31700	A710787	20300	2500	9990	100	A710834
Total Lead (Pb)	mg/kg	9.25	5.29	A710787	5.42	3.55	2.05	0.10	A710834
Total Lithium (Li)	mg/kg	10.1	8.76	A710787	1.37	<0.50	<0.50	0.50	A710834
Total Magnesium (Mg)	mg/kg	5970	5330	A710787	1360	396	167	100	A710834
Total Manganese (Mn)	mg/kg	412	264	A710787	70.9	22.4	31.0	0.20	A710834
Total Mercury (Hg)	mg/kg	<0.050	0.064	A710787	0.113	0.073	<0.050	0.050	A710834
Total Molybdenum (Mo)	mg/kg	1.66	2.09	A710787	1.41	0.30	0.23	0.10	A710834
Total Nickel (Ni)	mg/kg	18.4	13.2	A710787	9.20	15.6	4.61	0.50	A710834
Total Phosphorus (P)	mg/kg	405	181	A710787	160	167	70	10	A710834
Total Potassium (K)	mg/kg	800	364	A710787	153	148	<100	100	A710834
Total Selenium (Se)	mg/kg	<0.50	<0.50	A710787	<0.50	<0.50	<0.50	0.50	A710834
Total Silver (Ag)	mg/kg	<0.050	0.111	A710787	0.097	0.079	0.063	0.050	A710834
Total Sodium (Na)	mg/kg	116	<100	A710787	<100	<100	<100	100	A710834
Total Strontium (Sr)	mg/kg	14.0	9.69	A710787	14.0	21.2	12.3	0.10	A710834
Total Thallium (Tl)	mg/kg	0.055	<0.050	A710787	<0.050	<0.050	<0.050	0.050	A710834
Total Tin (Sn)	mg/kg	0.43	0.51	A710787	0.57	0.24	0.30	0.10	A710834

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Due to limited sample the 2:1 extraction ratio could not be maintained. Ratio of solution was 4:1.

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CSR/CCME METALS IN SOIL WITH HG (SOIL)

Bureau Veritas ID		BBD767	BBD768		BBD769	BBD770	BBD771		
Sampling Date		2022/09/01 14:01	2022/09/01 13:45		2022/09/01 14:15	2022/09/01 14:25	2022/09/01 14:40		
COC Number		672307-01-01	672307-01-01		672307-01-01	672307-01-01	672307-01-01		
	UNITS	**SS01**	**SS02**	**QC Batch**	**SS03**	**SS04**	**SS05**	**RDL**	**QC Batch**
Total Titanium (Ti)	mg/kg	895	1280	A710787	817	51.1	121	1.0	A710834
Total Tungsten (W)	mg/kg	<0.50	<0.50	A710787	<0.50	<0.50	<0.50	0.50	A710834
Total Uranium (U)	mg/kg	0.557	0.436	A710787	0.195	0.109	0.144	0.050	A710834
Total Vanadium (V)	mg/kg	67.1	84.6	A710787	92.0	24.3	31.2	1.0	A710834
Total Zinc (Zn)	mg/kg	45.5	41.3	A710787	14.1	11.5	5.8	1.0	A710834
Total Zirconium (Zr)	mg/kg	1.11	1.54	A710787	0.95	<0.50	<0.50	0.50	A710834
RDL = Reportable Detection Limit									

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CSR/CCME METALS IN SOIL WITH HG (SOIL)

Bureau Veritas ID		BBD772	BBD773	BBD774	BBD775	BBD776	BBD778		
Sampling Date		2022/09/01 15:00	2022/09/01 15:15	2022/09/01 11:55	2022/09/01 11:20	2022/09/01 10:50	2022/09/01 11:07		
COC Number		672307-01-01	672307-01-01	672307-01-01	672307-01-01	672307-01-01	672307-02-01		
	UNITS	**SS06**	**SS07**	**SS08**	**SS09**	**SS10**	**SS11**	**RDL**	**QC Batch**
Physical Properties									
Soluble (2:1) pH	pH	4.79	4.65	5.45	5.41	5.59	5.49	N/A	A710836
Total Metals by ICPMS									
Total Aluminum (Al)	mg/kg	32000	37600	9210	17100	21800	9210	100	A710834
Total Antimony (Sb)	mg/kg	0.27	0.29	0.13	0.12	0.49	0.13	0.10	A710834
Total Arsenic (As)	mg/kg	4.48	4.63	1.18	0.71	0.99	1.39	0.20	A710834
Total Barium (Ba)	mg/kg	64.0	52.7	46.5	99.8	56.4	45.0	0.10	A710834
Total Beryllium (Be)	mg/kg	0.38	0.31	<0.20	<0.20	0.32	<0.20	0.20	A710834
Total Bismuth (Bi)	mg/kg	0.15	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A710834
Total Boron (B)	mg/kg	2.6	3.0	1.2	1.0	1.5	<1.0	1.0	A710834
Total Cadmium (Cd)	mg/kg	0.132	0.205	0.152	0.242	0.390	0.600	0.050	A710834
Total Calcium (Ca)	mg/kg	1670	1420	3080	6740	10500	3080	100	A710834
Total Chromium (Cr)	mg/kg	27.3	30.7	13.3	21.0	12.2	15.1	0.50	A710834
Total Cobalt (Co)	mg/kg	10.6	7.78	5.53	12.6	7.67	6.40	0.10	A710834
Total Copper (Cu)	mg/kg	26.4	21.8	23.9	51.9	56.1	34.1	0.50	A710834
Total Iron (Fe)	mg/kg	32100	30400	15900	24400	18800	18900	100	A710834
Total Lead (Pb)	mg/kg	6.48	6.12	6.78	9.17	65.2	5.66	0.10	A710834
Total Lithium (Li)	mg/kg	13.8	16.0	5.61	6.95	6.17	5.30	0.50	A710834
Total Magnesium (Mg)	mg/kg	6590	5690	5000	10100	6820	4650	100	A710834
Total Manganese (Mn)	mg/kg	510	326	217	466	303	219	0.20	A710834
Total Mercury (Hg)	mg/kg	0.105	0.160	<0.050	<0.050	<0.050	<0.050	0.050	A710834
Total Molybdenum (Mo)	mg/kg	1.73	0.51	0.31	0.53	0.70	0.33	0.10	A710834
Total Nickel (Ni)	mg/kg	22.7	21.3	9.65	13.8	9.31	10.3	0.50	A710834
Total Phosphorus (P)	mg/kg	332	498	481	547	389	466	10	A710834
Total Potassium (K)	mg/kg	648	514	670	1450	1810	632	100	A710834
Total Selenium (Se)	mg/kg	0.53	0.83	<0.50	<0.50	<0.50	<0.50	0.50	A710834
Total Silver (Ag)	mg/kg	0.086	0.187	<0.050	<0.050	0.062	<0.050	0.050	A710834
Total Sodium (Na)	mg/kg	113	108	177	156	155	167	100	A710834
Total Strontium (Sr)	mg/kg	15.2	12.9	17.7	33.7	56.3	18.7	0.10	A710834
Total Thallium (Tl)	mg/kg	0.072	0.057	<0.050	<0.050	<0.050	<0.050	0.050	A710834
Total Tin (Sn)	mg/kg	0.50	0.38	0.37	0.20	2.71	0.20	0.10	A710834
Total Titanium (Ti)	mg/kg	875	618	553	1080	839	547	1.0	A710834

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C267313
Report Date: 2022/09/12

STANTEC CONSULTING LTD
Client Project #: 123221953
Site Location: CEDAR LNG
Sampler Initials: MK

CSR/CCME METALS IN SOIL WITH HG (SOIL)

Bureau Veritas ID		BBD772	BBD773	BBD774	BBD775	BBD776	BBD778		
Sampling Date		2022/09/01 15:00	2022/09/01 15:15	2022/09/01 11:55	2022/09/01 11:20	2022/09/01 10:50	2022/09/01 11:07		
COC Number		672307-01-01	672307-01-01	672307-01-01	672307-01-01	672307-01-01	672307-02-01		
	UNITS	**SS06**	**SS07**	**SS08**	**SS09**	**SS10**	**SS11**	**RDL**	**QC Batch**
Total Tungsten (W)	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A710834
Total Uranium (U)	mg/kg	0.553	0.427	0.296	0.229	0.300	0.407	0.050	A710834
Total Vanadium (V)	mg/kg	69.7	56.8	40.4	69.8	39.4	47.6	1.0	A710834
Total Zinc (Zn)	mg/kg	67.9	59.0	37.1	54.2	75.5	55.9	1.0	A710834
Total Zirconium (Zr)	mg/kg	1.53	1.08	0.82	<0.50	1.22	1.32	0.50	A710834
RDL = Reportable Detection Limit									

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME METALS IN SOIL WITH HG (SOIL)

Bureau Veritas ID		BBD779	BBD780	BBD781	BBD782	BBD783	BBD784		
Sampling Date		2022/09/01 12:15	2022/09/01 11:42	2022/09/01 09:10	2022/09/01 10:20	2022/09/01 10:35	2022/09/01 09:45		
COC Number		672307-02-01	672307-02-01	672307-02-01	672307-02-01	672307-02-01	672307-02-01		
	UNITS	**SS12**	**SS13**	**SS14**	**SS15**	**SS16**	**SS17**	**RDL**	**QC Batch**
Physical Properties									
Soluble (2:1) pH	pH	4.73	4.81	5.31	5.62	4.80	5.68	N/A	A710836
Total Metals by ICPMS									
Total Aluminum (Al)	mg/kg	15200	16800	29000	12100	18400	15600	100	A710834
Total Antimony (Sb)	mg/kg	0.24	0.29	<0.10	0.16	0.20	0.12	0.10	A710834
Total Arsenic (As)	mg/kg	1.88	0.96	1.94	1.92	3.85	1.58	0.20	A710834
Total Barium (Ba)	mg/kg	67.7	82.8	32.8	53.1	50.6	38.0	0.10	A710834
Total Beryllium (Be)	mg/kg	0.22	0.29	0.34	<0.20	0.26	<0.20	0.20	A710834
Total Bismuth (Bi)	mg/kg	0.14	0.36	<0.10	<0.10	0.13	<0.10	0.10	A710834
Total Boron (B)	mg/kg	1.1	2.7	<1.0	1.1	1.9	<1.0	1.0	A710834
Total Cadmium (Cd)	mg/kg	0.141	1.05	0.093	0.071	0.130	<0.050	0.050	A710834
Total Calcium (Ca)	mg/kg	3810	7060	2190	3020	2790	1930	100	A710834
Total Chromium (Cr)	mg/kg	22.1	21.1	18.8	15.4	22.2	13.5	0.50	A710834
Total Cobalt (Co)	mg/kg	8.27	12.9	6.79	6.64	8.43	6.03	0.10	A710834
Total Copper (Cu)	mg/kg	31.0	54.4	15.0	28.6	20.3	16.0	0.50	A710834
Total Iron (Fe)	mg/kg	21600	26300	25600	18700	25800	19900	100	A710834
Total Lead (Pb)	mg/kg	7.87	105	2.45	3.38	4.30	2.83	0.10	A710834
Total Lithium (Li)	mg/kg	8.32	6.46	10.7	6.50	10.0	6.72	0.50	A710834
Total Magnesium (Mg)	mg/kg	6990	9320	6390	4930	6460	5890	100	A710834
Total Manganese (Mn)	mg/kg	421	871	231	251	442	234	0.20	A710834
Total Mercury (Hg)	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A710834
Total Molybdenum (Mo)	mg/kg	0.60	1.26	0.46	0.43	0.89	0.63	0.10	A710834
Total Nickel (Ni)	mg/kg	17.7	22.2	9.76	11.1	17.7	9.56	0.50	A710834
Total Phosphorus (P)	mg/kg	514	691	325	508	550	231	10	A710834
Total Potassium (K)	mg/kg	1110	1270	305	718	840	693	100	A710834
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A710834
Total Silver (Ag)	mg/kg	<0.050	0.120	<0.050	<0.050	0.088	<0.050	0.050	A710834
Total Sodium (Na)	mg/kg	142	142	137	145	133	117	100	A710834
Total Strontium (Sr)	mg/kg	21.8	28.9	15.5	18.0	18.7	16.3	0.10	A710834
Total Thallium (Tl)	mg/kg	<0.050	0.058	<0.050	<0.050	0.073	<0.050	0.050	A710834
Total Tin (Sn)	mg/kg	0.33	0.61	0.28	0.26	0.40	0.25	0.10	A710834
Total Titanium (Ti)	mg/kg	707	830	977	584	757	738	1.0	A710834

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME METALS IN SOIL WITH HG (SOIL)

Bureau Veritas ID		BBD779	BBD780	BBD781	BBD782	BBD783	BBD784		
Sampling Date		2022/09/01 12:15	2022/09/01 11:42	2022/09/01 09:10	2022/09/01 10:20	2022/09/01 10:35	2022/09/01 09:45		
COC Number		672307-02-01	672307-02-01	672307-02-01	672307-02-01	672307-02-01	672307-02-01		
	UNITS	**SS12**	**SS13**	**SS14**	**SS15**	**SS16**	**SS17**	**RDL**	**QC Batch**
Total Tungsten (W)	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A710834
Total Uranium (U)	mg/kg	0.314	0.347	0.489	0.378	0.511	0.327	0.050	A710834
Total Vanadium (V)	mg/kg	56.4	70.7	55.2	48.1	61.0	49.4	1.0	A710834
Total Zinc (Zn)	mg/kg	53.1	99.9	34.3	55.9	49.1	31.3	1.0	A710834
Total Zirconium (Zr)	mg/kg	0.57	<0.50	1.59	1.00	0.86	<0.50	0.50	A710834
RDL = Reportable Detection Limit									

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME METALS IN SOIL WITH HG (SOIL)

Bureau Veritas ID		BBD785	BBD786	BBD787	BBD787		
Sampling Date		2022/09/01 12:52	2022/09/01 12:30	2022/09/01 10:05	2022/09/01 10:05		
COC Number		672307-02-01	672307-02-01	672307-02-01	672307-02-01		
	UNITS	SS18	SS19	SS20	SS20 Lab-Dup	RDL	QC Batch
Physical Properties							
Soluble (2:1) pH	pH	4.27	5.11	4.36	4.39	N/A	A710836
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	16200	27600	9820	9780	100	A710834
Total Antimony (Sb)	mg/kg	0.14	0.24	0.23	0.23	0.10	A710834
Total Arsenic (As)	mg/kg	1.60	3.00	1.87	1.99	0.20	A710834
Total Barium (Ba)	mg/kg	55.6	40.8	25.9	25.7	0.10	A710834
Total Beryllium (Be)	mg/kg	0.35	0.24	<0.20	<0.20	0.20	A710834
Total Bismuth (Bi)	mg/kg	0.30	0.10	0.14	0.12	0.10	A710834
Total Boron (B)	mg/kg	1.2	1.1	1.5	1.5	1.0	A710834
Total Cadmium (Cd)	mg/kg	0.418	0.055	<0.050	<0.050	0.050	A710834
Total Calcium (Ca)	mg/kg	2440	1430	1370 (1)	1280	100	A710834
Total Chromium (Cr)	mg/kg	8.93	20.0	11.9	11.6	0.50	A710834
Total Cobalt (Co)	mg/kg	8.87	5.11	2.85	2.82	0.10	A710834
Total Copper (Cu)	mg/kg	37.3	16.9	5.71	5.68	0.50	A710834
Total Iron (Fe)	mg/kg	13200	26900	20100	19800	100	A710834
Total Lead (Pb)	mg/kg	6.30	4.63	4.06	3.98	0.10	A710834
Total Lithium (Li)	mg/kg	3.53	8.25	2.33	2.35	0.50	A710834
Total Magnesium (Mg)	mg/kg	3810	3530	2320 (1)	2300	100	A710834
Total Manganese (Mn)	mg/kg	345	210	150	149	0.20	A710834
Total Mercury (Hg)	mg/kg	0.170	0.099	<0.050	<0.050	0.050	A710834
Total Molybdenum (Mo)	mg/kg	0.61	1.35	0.62	0.58	0.10	A710834
Total Nickel (Ni)	mg/kg	21.5	9.62	5.56	5.81	0.50	A710834
Total Phosphorus (P)	mg/kg	829	229	142	145	10	A710834
Total Potassium (K)	mg/kg	978	340	297 (1)	293	100	A710834
Total Selenium (Se)	mg/kg	0.61	0.55	<0.50	<0.50	0.50	A710834
Total Silver (Ag)	mg/kg	0.295	<0.050	0.066	0.068	0.050	A710834
Total Sodium (Na)	mg/kg	<100	130	<100	<100	100	A710834
Total Strontium (Sr)	mg/kg	13.1	12.7	11.8	11.7	0.10	A710834
Total Thallium (Tl)	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	A710834

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Matrix Spike outside acceptance criteria due to sample matrix interference.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME METALS IN SOIL WITH HG (SOIL)

Bureau Veritas ID		BBD785	BBD786	BBD787	BBD787		
Sampling Date		2022/09/01 12:52	2022/09/01 12:30	2022/09/01 10:05	2022/09/01 10:05		
COC Number		672307-02-01	672307-02-01	672307-02-01	672307-02-01		
	UNITS	SS18	SS19	SS20	SS20 Lab-Dup	RDL	QC Batch
Total Tin (Sn)	mg/kg	0.28	0.52	0.58	0.60	0.10	A710834
Total Titanium (Ti)	mg/kg	207	926	881	890	1.0	A710834
Total Tungsten (W)	mg/kg	<0.50	<0.50	<0.50	<0.50	0.50	A710834
Total Uranium (U)	mg/kg	0.326	0.452	0.214	0.209	0.050	A710834
Total Vanadium (V)	mg/kg	43.5	81.6	84.6	83.8	1.0	A710834
Total Zinc (Zn)	mg/kg	26.8	29.6	16.9	16.8	1.0	A710834
Total Zirconium (Zr)	mg/kg	<0.50	2.61	0.65	0.66	0.50	A710834

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR PAH IN SOIL BY GC-MS (SOIL)

Bureau Veritas ID		BBD767	BBD768	BBD769		BBD770		BBD771		
Sampling Date		2022/09/01 14:01	2022/09/01 13:45	2022/09/01 14:15		2022/09/01 14:25		2022/09/01 14:40		
COC Number		672307-01-01	672307-01-01	672307-01-01		672307-01-01		672307-01-01		
	UNITS	SS01	SS02	SS03	RDL	SS04	RDL	SS05	RDL	QC Batch
Calculated Parameters										
Low Molecular Weight PAH`s	mg/kg	<0.050	0.069	0.068	0.050	<1.5	1.5	<0.11	0.11	A706927
High Molecular Weight PAH`s	mg/kg	0.42	0.97	0.72	0.050	3.5	0.20	0.62	0.11	A706927
Total PAH	mg/kg	0.47	1.0	0.79	0.050	4.0	1.5	0.72	0.11	A706927
Polycyclic Aromatics										
Naphthalene	mg/kg	<0.010	<0.010	<0.010	0.010	<0.039 (1)	0.039	<0.021 (1)	0.021	A708691
1-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	<0.20 (1)	0.20	<0.11 (1)	0.11	A708691
2-Methylnaphthalene	mg/kg	<0.020	<0.020	<0.020	0.020	<0.078 (1)	0.078	<0.042 (1)	0.042	A708691
Acenaphthylene	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	<0.020 (1)	0.020	<0.011 (1)	0.011	A708691
Acenaphthene	mg/kg	<0.0050	0.0092	0.0079	0.0050	0.054 (1)	0.020	0.012 (1)	0.011	A708691
Fluorene	mg/kg	<0.020	<0.020	<0.020	0.020	<0.078 (1)	0.078	<0.042 (1)	0.042	A708691
Phenanthrene	mg/kg	0.036	0.049	0.048	0.010	0.32 (1)	0.039	0.070 (1)	0.021	A708691
Anthracene	mg/kg	0.0069	0.011	0.012	0.0040	0.072 (1)	0.016	0.014 (1)	0.0084	A708691
Acridine	mg/kg	<0.050	<0.050	<0.050	0.050	<1.5 (2)	1.5	<0.11 (1)	0.11	A708691
Fluoranthene	mg/kg	0.061	0.11	0.10	0.020	0.60 (1)	0.078	0.13 (1)	0.042	A708691
Pyrene	mg/kg	0.052	0.098	0.084	0.020	0.49 (1)	0.078	0.10 (1)	0.042	A708691
Benzo(a)anthracene	mg/kg	0.034	0.067	0.064	0.020	0.31 (1)	0.078	0.058 (1)	0.042	A708691
Chrysene	mg/kg	0.063	0.13	0.13	0.020	0.65 (1)	0.078	0.14 (1)	0.042	A708691
Benzo(b&j)fluoranthene	mg/kg	0.096	0.22	0.17	0.020	0.81 (1)	0.078	0.12 (1)	0.042	A708691
Benzo(b)fluoranthene	mg/kg	0.068	0.16	0.13	0.020	0.62 (1)	0.078	0.12 (1)	0.042	A708691
Benzo(k)fluoranthene	mg/kg	0.028	0.058	0.047	0.020	0.21 (1)	0.078	<0.042 (1)	0.042	A708691
Benzo(a)pyrene	mg/kg	0.060	0.13	0.083	0.020	0.33 (1)	0.078	0.063 (1)	0.042	A708691
Indeno(1,2,3-cd)pyrene	mg/kg	0.031	0.071	0.036	0.020	0.14 (1)	0.078	<0.042 (1)	0.042	A708691
Dibenz(a,h)anthracene	mg/kg	<0.020	<0.020	<0.020	0.020	<0.078 (1)	0.078	<0.042 (1)	0.042	A708691
Benzo(g,h,i)perylene	mg/kg	<0.050	0.094	<0.050	0.050	<0.20 (1)	0.20	<0.11 (1)	0.11	A708691
Surrogate Recovery (%)										
D10-ANTHRACENE (sur.)	%	85	83	79		75		71		A708691
D8-ACENAPHTHYLENE (sur.)	%	80	81	78		77		75		A708691
D8-NAPHTHALENE (sur.)	%	83	84	82		80		79		A708691
TERPHENYL-D14 (sur.)	%	74	72	66		67		67		A708691

RDL = Reportable Detection Limit

(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.

(2) Detection limits raised due to matrix interference. In addition, detection limits raised due to high moisture content, sample contains => 50% moisture.

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CSR PAH IN SOIL BY GC-MS (SOIL)

Bureau Veritas ID		BBD772	BBD773			BBD773		
Sampling Date		2022/09/01 15:00	2022/09/01 15:15			2022/09/01 15:15		
COC Number		672307-01-01	672307-01-01			672307-01-01		
	UNITS	SS06	SS07	RDL	QC Batch	SS07 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Low Molecular Weight PAH`s	mg/kg	0.16	<0.050	0.050	A706927			
High Molecular Weight PAH`s	mg/kg	1.8	<0.050	0.050	A706927			
Total PAH	mg/kg	2.0	<0.050	0.050	A706927			
Polycyclic Aromatics								
Naphthalene	mg/kg	<0.010	<0.010	0.010	A708691	<0.010	0.010	A708691
1-Methylnaphthalene	mg/kg	<0.050	<0.050	0.050	A708691	<0.050	0.050	A708691
2-Methylnaphthalene	mg/kg	<0.020	<0.020	0.020	A708691	<0.020	0.020	A708691
Acenaphthylene	mg/kg	<0.0050	<0.0050	0.0050	A708691	<0.0050	0.0050	A708691
Acenaphthene	mg/kg	0.018	<0.0050	0.0050	A708691	<0.0050	0.0050	A708691
Fluorene	mg/kg	<0.020	<0.020	0.020	A708691	<0.020	0.020	A708691
Phenanthrene	mg/kg	0.11	<0.010	0.010	A708691	<0.010	0.010	A708691
Anthracene	mg/kg	0.026	<0.0040	0.0040	A708691	<0.0040	0.0040	A708691
Acridine	mg/kg	<0.050	<0.050	0.050	A708691	<0.050	0.050	A708691
Fluoranthene	mg/kg	0.23	<0.020	0.020	A708691	<0.020	0.020	A708691
Pyrene	mg/kg	0.21	<0.020	0.020	A708691	<0.020	0.020	A708691
Benzo(a)anthracene	mg/kg	0.14	<0.020	0.020	A708691	<0.020	0.020	A708691
Chrysene	mg/kg	0.22	0.025	0.020	A708691	<0.020	0.020	A708691
Benzo(b&j)fluoranthene	mg/kg	0.37	0.021	0.020	A708691	<0.020	0.020	A708691
Benzo(b)fluoranthene	mg/kg	0.27	0.021	0.020	A708691	<0.020	0.020	A708691
Benzo(k)fluoranthene	mg/kg	0.10	<0.020	0.020	A708691	<0.020	0.020	A708691
Benzo(a)pyrene	mg/kg	0.25	<0.020	0.020	A708691	<0.020	0.020	A708691
Indeno(1,2,3-cd)pyrene	mg/kg	0.13	<0.020	0.020	A708691	<0.020	0.020	A708691
Dibenz(a,h)anthracene	mg/kg	0.032	<0.020	0.020	A708691	<0.020	0.020	A708691
Benzo(g,h,i)perylene	mg/kg	0.17	<0.050	0.050	A708691	<0.050	0.050	A708691
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	83	78		A708691	84		A708691
D8-ACENAPHTHYLENE (sur.)	%	82	82		A708691	81		A708691
D8-NAPHTHALENE (sur.)	%	82	82		A708691	80		A708691
TERPHENYL-D14 (sur.)	%	74	68		A708691	68		A708691

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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CSR PAH IN SOIL BY GC-MS (SOIL)

Bureau Veritas ID		BBD774	BBD775	BBD776	BBD778	BBD779	BBD780		
Sampling Date		2022/09/01 11:55	2022/09/01 11:20	2022/09/01 10:50	2022/09/01 11:07	2022/09/01 12:15	2022/09/01 11:42		
COC Number		672307-01-01	672307-01-01	672307-01-01	672307-02-01	672307-02-01	672307-02-01		
	UNITS	SS08	SS09	SS10	SS11	SS12	SS13	RDL	QC Batch
Calculated Parameters									
Low Molecular Weight PAH`s	mg/kg	<0.050	<0.050	<0.050	<0.050	0.067	0.084	0.050	A706927
High Molecular Weight PAH`s	mg/kg	0.13	0.41	0.11	<0.050	1.1	1.6	0.050	A706927
Total PAH	mg/kg	0.14	0.43	0.13	<0.050	1.1	1.7	0.050	A706927
Polycyclic Aromatics									
Naphthalene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A708691
1-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A708691
2-Methylnaphthalene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A708691
Acenaphthylene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A708691
Acenaphthene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0082	0.011	0.0050	A708691
Fluorene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A708691
Phenanthrene	mg/kg	0.011	0.019	0.016	<0.010	0.047	0.060	0.010	A708691
Anthracene	mg/kg	<0.0040	<0.0040	<0.0040	<0.0040	0.012	0.013	0.0040	A708691
Acridine	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A708691
Fluoranthene	mg/kg	0.020	0.040	0.030	0.022	0.10	0.13	0.020	A708691
Pyrene	mg/kg	<0.020	0.034	0.021	<0.020	0.085	0.11	0.020	A708691
Benzo(a)anthracene	mg/kg	<0.020	0.029	<0.020	<0.020	0.067	0.098	0.020	A708691
Chrysene	mg/kg	0.032	0.060	0.029	<0.020	0.15	0.24	0.020	A708691
Benzo(b&j)fluoranthene	mg/kg	0.049	0.12	0.031	<0.020	0.27	0.45	0.020	A708691
Benzo(b)fluoranthene	mg/kg	0.049	0.094	0.031	<0.020	0.21	0.35	0.020	A708691
Benzo(k)fluoranthene	mg/kg	<0.020	0.026	<0.020	<0.020	0.064	0.086	0.020	A708691
Benzo(a)pyrene	mg/kg	0.027	0.065	<0.020	<0.020	0.12	0.20	0.020	A708691
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	0.038	<0.020	<0.020	0.085	0.12	0.020	A708691
Dibenz(a,h)anthracene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.021	0.031	0.020	A708691
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.10	0.15	0.050	A708691
Surrogate Recovery (%)									
D10-ANTHRACENE (sur.)	%	85	83	77	79	83	78		A708691
D8-ACENAPHTHYLENE (sur.)	%	81	83	74	79	81	78		A708691
D8-NAPHTHALENE (sur.)	%	80	81	73	77	82	78		A708691
TERPHENYL-D14 (sur.)	%	76	72	66	70	69	67		A708691

RDL = Reportable Detection Limit

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CSR PAH IN SOIL BY GC-MS (SOIL)

Bureau Veritas ID		BBD781			BBD781			BBD782		
Sampling Date		2022/09/01 09:10			2022/09/01 09:10			2022/09/01 10:20		
COC Number		672307-02-01			672307-02-01			672307-02-01		
	UNITS	SS14	RDL	QC Batch	SS14 Lab-Dup	RDL	QC Batch	SS15	RDL	QC Batch
Calculated Parameters										
Low Molecular Weight PAH`s	mg/kg	<0.050	0.050	A706927				<0.050	0.050	A706927
High Molecular Weight PAH`s	mg/kg	0.31	0.050	A706927				0.18	0.050	A706927
Total PAH	mg/kg	0.34	0.050	A706927				0.20	0.050	A706927
Polycyclic Aromatics										
Naphthalene	mg/kg	<0.010	0.010	A708943	<0.010	0.010	A708943	<0.010	0.010	A708752
1-Methylnaphthalene	mg/kg	<0.050	0.050	A708943	<0.050	0.050	A708943	<0.050	0.050	A708752
2-Methylnaphthalene	mg/kg	<0.020	0.020	A708943	<0.020	0.020	A708943	<0.020	0.020	A708752
Acenaphthylene	mg/kg	<0.0050	0.0050	A708943	<0.0050	0.0050	A708943	<0.0050	0.0050	A708752
Acenaphthene	mg/kg	<0.0050	0.0050	A708943	<0.0050	0.0050	A708943	<0.0050	0.0050	A708752
Fluorene	mg/kg	<0.020	0.020	A708943	<0.020	0.020	A708943	<0.020	0.020	A708752
Phenanthrene	mg/kg	0.022	0.010	A708943	0.030	0.010	A708943	0.024	0.010	A708752
Anthracene	mg/kg	0.0050	0.0040	A708943	0.0067	0.0040	A708943	<0.0040	0.0040	A708752
Acridine	mg/kg	<0.050	0.050	A708943	<0.050	0.050	A708943	<0.050	0.050	A708752
Fluoranthene	mg/kg	0.047	0.020	A708943	0.063	0.020	A708943	0.048	0.020	A708752
Pyrene	mg/kg	0.074	0.020	A708943	0.096	0.020	A708943	0.037	0.020	A708752
Benzo(a)anthracene	mg/kg	0.027	0.020	A708943	0.035	0.020	A708943	<0.020	0.020	A708752
Chrysene	mg/kg	0.043	0.020	A708943	0.051	0.020	A708943	0.032	0.020	A708752
Benzo(b&j)fluoranthene	mg/kg	0.051	0.020	A708943	0.082	0.020	A708943	0.032	0.020	A708752
Benzo(b)fluoranthene	mg/kg	0.051	0.020	A708943	0.060	0.020	A708943	0.032	0.020	A708752
Benzo(k)fluoranthene	mg/kg	<0.020	0.020	A708943	0.021	0.020	A708943	<0.020	0.020	A708752
Benzo(a)pyrene	mg/kg	0.046	0.020	A708943	0.060	0.020	A708943	0.031	0.020	A708752
Indeno(1,2,3-cd)pyrene	mg/kg	0.022	0.020	A708943	0.029	0.020	A708943	<0.020	0.020	A708752
Dibenz(a,h)anthracene	mg/kg	<0.020	0.020	A708943	<0.020	0.020	A708943	<0.020	0.020	A708752
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	A708943	<0.050	0.050	A708943	<0.050	0.050	A708752
Surrogate Recovery (%)										
D10-ANTHRACENE (sur.)	%	73		A708943	79		A708943	75		A708752
D8-ACENAPHTHYLENE (sur.)	%	72		A708943	72		A708943	70		A708752
D8-NAPHTHALENE (sur.)	%	72		A708943	72		A708943	70		A708752
TERPHENYL-D14 (sur.)	%	71		A708943	73		A708943	69		A708752

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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CSR PAH IN SOIL BY GC-MS (SOIL)

Bureau Veritas ID		BBD783	BBD784		BBD785	BBD786		
Sampling Date		2022/09/01 10:35	2022/09/01 09:45		2022/09/01 12:52	2022/09/01 12:30		
COC Number		672307-02-01	672307-02-01		672307-02-01	672307-02-01		
	UNITS	SS16	SS17	QC Batch	SS18	SS19	RDL	QC Batch
Calculated Parameters								
Low Molecular Weight PAH`s	mg/kg	0.080	<0.050	A706927	0.45	<0.050	0.050	A706927
High Molecular Weight PAH`s	mg/kg	1.1	0.25	A706927	4.8	0.15	0.050	A706927
Total PAH	mg/kg	1.2	0.27	A706927	5.3	0.17	0.050	A706927
Polycyclic Aromatics								
Naphthalene	mg/kg	<0.010	<0.010	A708752	0.015	<0.010	0.010	A708988
1-Methylnaphthalene	mg/kg	<0.050	<0.050	A708752	<0.050	<0.050	0.050	A708988
2-Methylnaphthalene	mg/kg	<0.020	<0.020	A708752	<0.020	<0.020	0.020	A708988
Acenaphthylene	mg/kg	<0.0050	<0.0050	A708752	<0.0050	<0.0050	0.0050	A708988
Acenaphthene	mg/kg	0.010	<0.0050	A708752	0.050	<0.0050	0.0050	A708988
Fluorene	mg/kg	<0.020	<0.020	A708752	0.026	<0.020	0.020	A708988
Phenanthrene	mg/kg	0.059	0.020	A708752	0.30	0.017	0.010	A708988
Anthracene	mg/kg	0.010	0.0041	A708752	0.055	<0.0040	0.0040	A708988
Acridine	mg/kg	<0.050	<0.050	A708752	<0.050	<0.050	0.050	A708988
Fluoranthene	mg/kg	0.13	0.042	A708752	0.60	0.033	0.020	A708988
Pyrene	mg/kg	0.11	0.036	A708752	0.53	0.028	0.020	A708988
Benzo(a)anthracene	mg/kg	0.077	0.023	A708752	0.37	<0.020	0.020	A708988
Chrysene	mg/kg	0.14	0.038	A708752	0.59	0.029	0.020	A708988
Benzo(b&j)fluoranthene	mg/kg	0.24	0.042	A708752	0.97	0.031	0.020	A708988
Benzo(b)fluoranthene	mg/kg	0.18	0.042	A708752	0.71	0.031	0.020	A708988
Benzo(k)fluoranthene	mg/kg	0.065	<0.020	A708752	0.25	<0.020	0.020	A708988
Benzo(a)pyrene	mg/kg	0.14	0.040	A708752	0.61	0.030	0.020	A708988
Indeno(1,2,3-cd)pyrene	mg/kg	0.092	0.025	A708752	0.36	<0.020	0.020	A708988
Dibenz(a,h)anthracene	mg/kg	0.022	<0.020	A708752	0.093	<0.020	0.020	A708988
Benzo(g,h,i)perylene	mg/kg	0.11	<0.050	A708752	0.42	<0.050	0.050	A708988
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	76	76	A708752	85	84		A708988
D8-ACENAPHTHYLENE (sur.)	%	71	70	A708752	80	80		A708988
D8-NAPHTHALENE (sur.)	%	72	68	A708752	82	81		A708988
TERPHENYL-D14 (sur.)	%	70	71	A708752	79	79		A708988

RDL = Reportable Detection Limit

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CSR PAH IN SOIL BY GC-MS (SOIL)

Bureau Veritas ID		BBD786			BBD787		
Sampling Date		2022/09/01 12:30			2022/09/01 10:05		
COC Number		672307-02-01			672307-02-01		
	UNITS	SS19 Lab-Dup	RDL	QC Batch	SS20	RDL	QC Batch
Calculated Parameters							
Low Molecular Weight PAH`s	mg/kg				<0.050	0.050	A706927
High Molecular Weight PAH`s	mg/kg				0.24	0.050	A706927
Total PAH	mg/kg				0.26	0.050	A706927
Polycyclic Aromatics							
Naphthalene	mg/kg	<0.010	0.010	A708988	<0.010	0.010	A708988
1-Methylnaphthalene	mg/kg	<0.050	0.050	A708988	<0.050	0.050	A708988
2-Methylnaphthalene	mg/kg	<0.020	0.020	A708988	<0.020	0.020	A708988
Acenaphthylene	mg/kg	<0.0050	0.0050	A708988	<0.0050	0.0050	A708988
Acenaphthene	mg/kg	<0.0050	0.0050	A708988	<0.0050	0.0050	A708988
Fluorene	mg/kg	<0.020	0.020	A708988	<0.020	0.020	A708988
Phenanthrene	mg/kg	0.011	0.010	A708988	0.019	0.010	A708988
Anthracene	mg/kg	<0.0040	0.0040	A708988	<0.0040	0.0040	A708988
Acridine	mg/kg	<0.050	0.050	A708988	<0.050	0.050	A708988
Fluoranthene	mg/kg	<0.020	0.020	A708988	0.037	0.020	A708988
Pyrene	mg/kg	<0.020	0.020	A708988	0.032	0.020	A708988
Benzo(a)anthracene	mg/kg	<0.020	0.020	A708988	0.022	0.020	A708988
Chrysene	mg/kg	<0.020	0.020	A708988	0.045	0.020	A708988
Benzo(b&j)fluoranthene	mg/kg	<0.020	0.020	A708988	0.046	0.020	A708988
Benzo(b)fluoranthene	mg/kg	<0.020	0.020	A708988	0.046	0.020	A708988
Benzo(k)fluoranthene	mg/kg	<0.020	0.020	A708988	<0.020	0.020	A708988
Benzo(a)pyrene	mg/kg	<0.020	0.020	A708988	0.038	0.020	A708988
Indeno(1,2,3-cd)pyrene	mg/kg	<0.020	0.020	A708988	0.023	0.020	A708988
Dibenz(a,h)anthracene	mg/kg	<0.020	0.020	A708988	<0.020	0.020	A708988
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	A708988	<0.050	0.050	A708988
Surrogate Recovery (%)							
D10-ANTHRACENE (sur.)	%	86		A708988	85		A708988
D8-ACENAPHTHYLENE (sur.)	%	82		A708988	82		A708988
D8-NAPHTHALENE (sur.)	%	83		A708988	84		A708988
TERPHENYL-D14 (sur.)	%	81		A708988	81		A708988

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Sample BBD770 [SS04] : Due to limited sample the 2:1 extraction ratio could not be maintained. Ratio of solution was 4:1.

Results relate only to the items tested.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A708691	D10-ANTHRACENE (sur.)	2022/09/08	77	50 - 140	92	50 - 140	87	%				
A708691	D8-ACENAPHTHYLENE (sur.)	2022/09/08	78	50 - 140	79	50 - 140	81	%				
A708691	D8-NAPHTHALENE (sur.)	2022/09/08	76	50 - 140	76	50 - 140	80	%				
A708691	TERPHENYL-D14 (sur.)	2022/09/08	70	50 - 140	78	50 - 140	75	%				
A708752	D10-ANTHRACENE (sur.)	2022/09/08	78	50 - 140	87	50 - 140	85	%				
A708752	D8-ACENAPHTHYLENE (sur.)	2022/09/08	73	50 - 140	82	50 - 140	80	%				
A708752	D8-NAPHTHALENE (sur.)	2022/09/08	74	50 - 140	85	50 - 140	79	%				
A708752	TERPHENYL-D14 (sur.)	2022/09/08	74	50 - 140	81	50 - 140	80	%				
A708943	D10-ANTHRACENE (sur.)	2022/09/09	82	50 - 140	77	50 - 140	79	%				
A708943	D8-ACENAPHTHYLENE (sur.)	2022/09/09	74	50 - 140	77	50 - 140	69	%				
A708943	D8-NAPHTHALENE (sur.)	2022/09/09	72	50 - 140	78	50 - 140	69	%				
A708943	TERPHENYL-D14 (sur.)	2022/09/09	75	50 - 140	76	50 - 140	75	%				
A708988	D10-ANTHRACENE (sur.)	2022/09/08	88	50 - 140	93	50 - 140	86	%				
A708988	D8-ACENAPHTHYLENE (sur.)	2022/09/08	83	50 - 140	84	50 - 140	80	%				
A708988	D8-NAPHTHALENE (sur.)	2022/09/08	86	50 - 140	85	50 - 140	78	%				
A708988	TERPHENYL-D14 (sur.)	2022/09/08	83	50 - 140	86	50 - 140	81	%				
A707751	Moisture	2022/09/08					<0.30	%	11	20		
A708691	1-Methylnaphthalene	2022/09/09	81	50 - 140	81	50 - 140	<0.050	mg/kg	NC	50		
A708691	2-Methylnaphthalene	2022/09/09	82	50 - 140	83	50 - 140	<0.020	mg/kg	NC	50		
A708691	Acenaphthene	2022/09/09	81	50 - 140	81	50 - 140	<0.0050	mg/kg	NC	50		
A708691	Acenaphthylene	2022/09/09	80	50 - 140	80	50 - 140	<0.0050	mg/kg	NC	50		
A708691	Acridine	2022/09/09	109	50 - 140	98	50 - 140	<0.050	mg/kg	NC	50		
A708691	Anthracene	2022/09/09	77	50 - 140	85	50 - 140	<0.0040	mg/kg	NC	50		
A708691	Benzo(a)anthracene	2022/09/09	76	50 - 140	74	50 - 140	<0.020	mg/kg	NC	50		
A708691	Benzo(a)pyrene	2022/09/09	92	50 - 140	90	50 - 140	<0.020	mg/kg	NC	50		
A708691	Benzo(b&j)fluoranthene	2022/09/09	79	50 - 140	81	50 - 140	<0.020	mg/kg	3.0	50		
A708691	Benzo(b)fluoranthene	2022/09/09	80	50 - 140	79	50 - 140	<0.020	mg/kg	3.0	50		
A708691	Benzo(g,h,i)perylene	2022/09/09	80	50 - 140	80	50 - 140	<0.050	mg/kg	NC	50		
A708691	Benzo(k)fluoranthene	2022/09/09	82	50 - 140	79	50 - 140	<0.020	mg/kg	NC	50		
A708691	Chrysene	2022/09/09	73	50 - 140	77	50 - 140	<0.020	mg/kg	21	50		
A708691	Dibenz(a,h)anthracene	2022/09/09	84	50 - 140	83	50 - 140	<0.020	mg/kg	NC	50		
A708691	Fluoranthene	2022/09/09	68	50 - 140	77	50 - 140	<0.020	mg/kg	NC	50		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A708691	Fluorene	2022/09/09	87	50 - 140	85	50 - 140	<0.020	mg/kg	NC	50		
A708691	Indeno(1,2,3-cd)pyrene	2022/09/09	82	50 - 140	81	50 - 140	<0.020	mg/kg	NC	50		
A708691	Naphthalene	2022/09/09	76	50 - 140	81	50 - 140	<0.010	mg/kg	NC	50		
A708691	Phenanthrene	2022/09/09	72	50 - 140	77	50 - 140	<0.010	mg/kg	NC	50		
A708691	Pyrene	2022/09/09	69	50 - 140	79	50 - 140	<0.020	mg/kg	NC	50		
A708752	1-Methylnaphthalene	2022/09/08	78	50 - 140	86	50 - 140	<0.050	mg/kg	NC	50		
A708752	2-Methylnaphthalene	2022/09/08	84	50 - 140	91	50 - 140	<0.020	mg/kg	NC	50		
A708752	Acenaphthene	2022/09/08	79	50 - 140	86	50 - 140	<0.0050	mg/kg	NC	50		
A708752	Acenaphthylene	2022/09/08	78	50 - 140	85	50 - 140	<0.0050	mg/kg	NC	50		
A708752	Acridine	2022/09/08	105	50 - 140	105	50 - 140	<0.050	mg/kg				
A708752	Anthracene	2022/09/08	74	50 - 140	83	50 - 140	<0.0040	mg/kg	NC	50		
A708752	Benzo(a)anthracene	2022/09/08	72	50 - 140	79	50 - 140	<0.020	mg/kg	NC	50		
A708752	Benzo(a)pyrene	2022/09/08	86	50 - 140	95	50 - 140	<0.020	mg/kg	NC	50		
A708752	Benzo(b&j)fluoranthene	2022/09/08	77	50 - 140	85	50 - 140	<0.020	mg/kg	NC	50		
A708752	Benzo(b)fluoranthene	2022/09/08	78	50 - 140	86	50 - 140	<0.020	mg/kg	NC	50		
A708752	Benzo(g,h,i)perylene	2022/09/08	73	50 - 140	83	50 - 140	<0.050	mg/kg	NC	50		
A708752	Benzo(k)fluoranthene	2022/09/08	75	50 - 140	83	50 - 140	<0.020	mg/kg	NC	50		
A708752	Chrysene	2022/09/08	72	50 - 140	80	50 - 140	<0.020	mg/kg	NC	50		
A708752	Dibenz(a,h)anthracene	2022/09/08	77	50 - 140	86	50 - 140	<0.020	mg/kg	NC	50		
A708752	Fluoranthene	2022/09/08	73	50 - 140	80	50 - 140	<0.020	mg/kg	NC	50		
A708752	Fluorene	2022/09/08	79	50 - 140	85	50 - 140	<0.020	mg/kg	NC	50		
A708752	Indeno(1,2,3-cd)pyrene	2022/09/08	74	50 - 140	83	50 - 140	<0.020	mg/kg	NC	50		
A708752	Naphthalene	2022/09/08	79	50 - 140	86	50 - 140	<0.010	mg/kg	NC	50		
A708752	Phenanthrene	2022/09/08	77	50 - 140	84	50 - 140	<0.010	mg/kg	NC	50		
A708752	Pyrene	2022/09/08	73	50 - 140	81	50 - 140	<0.020	mg/kg	NC	50		
A708943	1-Methylnaphthalene	2022/09/09	78	50 - 140	82	50 - 140	<0.050	mg/kg	NC	50		
A708943	2-Methylnaphthalene	2022/09/09	81	50 - 140	84	50 - 140	<0.020	mg/kg	NC	50		
A708943	Acenaphthene	2022/09/09	77	50 - 140	79	50 - 140	<0.0050	mg/kg	NC	50		
A708943	Acenaphthylene	2022/09/09	79	50 - 140	82	50 - 140	<0.0050	mg/kg	NC	50		
A708943	Acridine	2022/09/09	107	50 - 140	105	50 - 140	<0.050	mg/kg	NC	50		
A708943	Anthracene	2022/09/09	78	50 - 140	76	50 - 140	<0.0040	mg/kg	29	50		
A708943	Benzo(a)anthracene	2022/09/09	77	50 - 140	80	50 - 140	<0.020	mg/kg	25	50		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A708943	Benzo(a)pyrene	2022/09/09	89	50 - 140	93	50 - 140	<0.020	mg/kg	27	50		
A708943	Benzo(b&j)fluoranthene	2022/09/09	79	50 - 140	87	50 - 140	<0.020	mg/kg	46	50		
A708943	Benzo(b)fluoranthene	2022/09/09	83	50 - 140	88	50 - 140	<0.020	mg/kg	16	50		
A708943	Benzo(g,h,i)perylene	2022/09/09	74	50 - 140	80	50 - 140	<0.050	mg/kg	NC	50		
A708943	Benzo(k)fluoranthene	2022/09/09	77	50 - 140	83	50 - 140	<0.020	mg/kg	2.9	50		
A708943	Chrysene	2022/09/09	76	50 - 140	81	50 - 140	<0.020	mg/kg	17	50		
A708943	Dibenz(a,h)anthracene	2022/09/09	77	50 - 140	83	50 - 140	<0.020	mg/kg	NC	50		
A708943	Fluoranthene	2022/09/09	78	50 - 140	78	50 - 140	<0.020	mg/kg	30	50		
A708943	Fluorene	2022/09/09	83	50 - 140	85	50 - 140	<0.020	mg/kg	NC	50		
A708943	Indeno(1,2,3-cd)pyrene	2022/09/09	76	50 - 140	81	50 - 140	<0.020	mg/kg	25	50		
A708943	Naphthalene	2022/09/09	78	50 - 140	80	50 - 140	<0.010	mg/kg	NC	50		
A708943	Phenanthrene	2022/09/09	77	50 - 140	75	50 - 140	<0.010	mg/kg	32	50		
A708943	Pyrene	2022/09/09	77	50 - 140	76	50 - 140	<0.020	mg/kg	26	50		
A708988	1-Methylnaphthalene	2022/09/09	89	50 - 140	88	50 - 140	<0.050	mg/kg	NC	50		
A708988	2-Methylnaphthalene	2022/09/09	95	50 - 140	94	50 - 140	<0.020	mg/kg	NC	50		
A708988	Acenaphthene	2022/09/09	89	50 - 140	88	50 - 140	<0.0050	mg/kg	NC	50		
A708988	Acenaphthylene	2022/09/09	87	50 - 140	87	50 - 140	<0.0050	mg/kg	NC	50		
A708988	Acridine	2022/09/09	109	50 - 140	106	50 - 140	<0.050	mg/kg	NC	50		
A708988	Anthracene	2022/09/09	84	50 - 140	90	50 - 140	<0.0040	mg/kg	NC	50		
A708988	Benzo(a)anthracene	2022/09/09	82	50 - 140	82	50 - 140	<0.020	mg/kg	NC	50		
A708988	Benzo(a)pyrene	2022/09/09	97	50 - 140	99	50 - 140	<0.020	mg/kg	40	50		
A708988	Benzo(b&j)fluoranthene	2022/09/09	85	50 - 140	88	50 - 140	<0.020	mg/kg	43	50		
A708988	Benzo(b)fluoranthene	2022/09/09	85	50 - 140	89	50 - 140	<0.020	mg/kg	43	50		
A708988	Benzo(g,h,i)perylene	2022/09/09	80	50 - 140	86	50 - 140	<0.050	mg/kg	NC	50		
A708988	Benzo(k)fluoranthene	2022/09/09	87	50 - 140	86	50 - 140	<0.020	mg/kg	NC	50		
A708988	Chrysene	2022/09/09	81	50 - 140	83	50 - 140	<0.020	mg/kg	37	50		
A708988	Dibenz(a,h)anthracene	2022/09/09	87	50 - 140	89	50 - 140	<0.020	mg/kg	NC	50		
A708988	Fluoranthene	2022/09/09	80	50 - 140	85	50 - 140	<0.020	mg/kg	48	50		
A708988	Fluorene	2022/09/09	89	50 - 140	87	50 - 140	<0.020	mg/kg	NC	50		
A708988	Indeno(1,2,3-cd)pyrene	2022/09/09	81	50 - 140	86	50 - 140	<0.020	mg/kg	NC	50		
A708988	Naphthalene	2022/09/09	89	50 - 140	88	50 - 140	<0.010	mg/kg	NC	50		
A708988	Phenanthrene	2022/09/09	85	50 - 140	88	50 - 140	<0.010	mg/kg	45	50		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A708988	Pyrene	2022/09/09	80	50 - 140	85	50 - 140	<0.020	mg/kg	33	50		
A710787	Total Aluminum (Al)	2022/09/10	NC	75 - 125	100	75 - 125	<100	mg/kg	5.0	40	93	70 - 130
A710787	Total Antimony (Sb)	2022/09/10	100	75 - 125	97	75 - 125	<0.10	mg/kg	5.8	30	99	70 - 130
A710787	Total Arsenic (As)	2022/09/10	105	75 - 125	99	75 - 125	<0.20	mg/kg	7.2	30	94	70 - 130
A710787	Total Barium (Ba)	2022/09/10	125	75 - 125	97	75 - 125	<0.10	mg/kg	2.3	40	97	70 - 130
A710787	Total Beryllium (Be)	2022/09/10	109	75 - 125	102	75 - 125	<0.20	mg/kg	0.48	30	111	70 - 130
A710787	Total Bismuth (Bi)	2022/09/10	101	75 - 125	93	75 - 125	<0.10	mg/kg				
A710787	Total Boron (B)	2022/09/10	106	75 - 125	102	75 - 125	<1.0	mg/kg	8.3	30		
A710787	Total Cadmium (Cd)	2022/09/10	103	75 - 125	96	75 - 125	<0.050	mg/kg	2.2	30	100	70 - 130
A710787	Total Calcium (Ca)	2022/09/10	NC	75 - 125	97	75 - 125	<100	mg/kg			94	70 - 130
A710787	Total Chromium (Cr)	2022/09/10	107	75 - 125	96	75 - 125	<0.50	mg/kg	0.43	30	91	70 - 130
A710787	Total Cobalt (Co)	2022/09/10	105	75 - 125	101	75 - 125	<0.10	mg/kg	0.21	30	94	70 - 130
A710787	Total Copper (Cu)	2022/09/10	105	75 - 125	100	75 - 125	<0.50	mg/kg	0.22	30	100	70 - 130
A710787	Total Iron (Fe)	2022/09/10	NC	75 - 125	97	75 - 125	<100	mg/kg	4.2	30	97	70 - 130
A710787	Total Lead (Pb)	2022/09/10	105	75 - 125	96	75 - 125	<0.10	mg/kg	0.90	40	107	70 - 130
A710787	Total Lithium (Li)	2022/09/10	105	75 - 125	98	75 - 125	<0.50	mg/kg	3.1	30	96	70 - 130
A710787	Total Magnesium (Mg)	2022/09/10	NC	75 - 125	96	75 - 125	<100	mg/kg			100	70 - 130
A710787	Total Manganese (Mn)	2022/09/10	NC	75 - 125	95	75 - 125	<0.20	mg/kg	0.67	30	96	70 - 130
A710787	Total Mercury (Hg)	2022/09/10	105	75 - 125	99	75 - 125	<0.050	mg/kg	29	40	98	70 - 130
A710787	Total Molybdenum (Mo)	2022/09/10	106	75 - 125	98	75 - 125	<0.10	mg/kg	0.85	40	102	70 - 130
A710787	Total Nickel (Ni)	2022/09/10	98	75 - 125	95	75 - 125	<0.50	mg/kg	0.71	30	103	70 - 130
A710787	Total Phosphorus (P)	2022/09/10	93	75 - 125	94	75 - 125	<10	mg/kg			89	70 - 130
A710787	Total Potassium (K)	2022/09/10	154 (1)	75 - 125	97	75 - 125	<100	mg/kg			81	70 - 130
A710787	Total Selenium (Se)	2022/09/10	104	75 - 125	96	75 - 125	<0.50	mg/kg	2.3	30		
A710787	Total Silver (Ag)	2022/09/10	103	75 - 125	95	75 - 125	<0.050	mg/kg	2.1	40	84	70 - 130
A710787	Total Sodium (Na)	2022/09/10	120	75 - 125	105	75 - 125	<100	mg/kg			90	70 - 130
A710787	Total Strontium (Sr)	2022/09/10	110	75 - 125	94	75 - 125	<0.10	mg/kg	2.2	40	98	70 - 130
A710787	Total Thallium (Tl)	2022/09/10	103	75 - 125	94	75 - 125	<0.050	mg/kg	8.7	30	89	70 - 130
A710787	Total Tin (Sn)	2022/09/10	108	75 - 125	100	75 - 125	<0.10	mg/kg	2.7	40	93	70 - 130
A710787	Total Titanium (Ti)	2022/09/10	NC	75 - 125	93	75 - 125	<1.0	mg/kg	7.0	40		
A710787	Total Tungsten (W)	2022/09/10	81	75 - 125	100	75 - 125	<0.50	mg/kg	NC	40		
A710787	Total Uranium (U)	2022/09/10	102	75 - 125	93	75 - 125	<0.050	mg/kg	0.60	30	89	70 - 130

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A710787	Total Vanadium (V)	2022/09/10	107	75 - 125	95	75 - 125	<1.0	mg/kg	2.1	30	97	70 - 130
A710787	Total Zinc (Zn)	2022/09/10	95	75 - 125	92	75 - 125	<1.0	mg/kg	0.35	30	97	70 - 130
A710787	Total Zirconium (Zr)	2022/09/10	148 (1)	75 - 125	98	75 - 125	<0.50	mg/kg				
A710791	Soluble (2:1) pH	2022/09/10			99	97 - 103			0.81	N/A		
A710834	Total Aluminum (Al)	2022/09/10	NC	75 - 125	99	75 - 125	<100	mg/kg	0.39	40	100	70 - 130
A710834	Total Antimony (Sb)	2022/09/10	101	75 - 125	99	75 - 125	<0.10	mg/kg	2.2	30	109	70 - 130
A710834	Total Arsenic (As)	2022/09/10	104	75 - 125	99	75 - 125	<0.20	mg/kg	6.3	30	98	70 - 130
A710834	Total Barium (Ba)	2022/09/10	121	75 - 125	99	75 - 125	<0.10	mg/kg	0.91	40	102	70 - 130
A710834	Total Beryllium (Be)	2022/09/10	101	75 - 125	100	75 - 125	<0.20	mg/kg	NC	30	108	70 - 130
A710834	Total Bismuth (Bi)	2022/09/10	102	75 - 125	98	75 - 125	<0.10	mg/kg	8.6	30		
A710834	Total Boron (B)	2022/09/10	101	75 - 125	106	75 - 125	<1.0	mg/kg	3.9	30		
A710834	Total Cadmium (Cd)	2022/09/10	100	75 - 125	96	75 - 125	<0.050	mg/kg	NC	30	103	70 - 130
A710834	Total Calcium (Ca)	2022/09/10	193 (1)	75 - 125	99	75 - 125	<100	mg/kg	7.0	30	97	70 - 130
A710834	Total Chromium (Cr)	2022/09/10	101	75 - 125	98	75 - 125	<0.50	mg/kg	2.0	30	100	70 - 130
A710834	Total Cobalt (Co)	2022/09/10	108	75 - 125	105	75 - 125	<0.10	mg/kg	1.2	30	100	70 - 130
A710834	Total Copper (Cu)	2022/09/10	104	75 - 125	104	75 - 125	<0.50	mg/kg	0.45	30	103	70 - 130
A710834	Total Iron (Fe)	2022/09/10	NC	75 - 125	98	75 - 125	<100	mg/kg	1.6	30	101	70 - 130
A710834	Total Lead (Pb)	2022/09/10	105	75 - 125	100	75 - 125	<0.10	mg/kg	2.0	40	114	70 - 130
A710834	Total Lithium (Li)	2022/09/10	98	75 - 125	93	75 - 125	<0.50	mg/kg	0.90	30	104	70 - 130
A710834	Total Magnesium (Mg)	2022/09/10	149 (1)	75 - 125	98	75 - 125	<100	mg/kg	0.85	30	105	70 - 130
A710834	Total Manganese (Mn)	2022/09/10	125	75 - 125	98	75 - 125	<0.20	mg/kg	0.66	30	104	70 - 130
A710834	Total Mercury (Hg)	2022/09/10	101	75 - 125	99	75 - 125	<0.050	mg/kg	NC	40	88	70 - 130
A710834	Total Molybdenum (Mo)	2022/09/10	103	75 - 125	98	75 - 125	<0.10	mg/kg	6.5	40	116	70 - 130
A710834	Total Nickel (Ni)	2022/09/10	98	75 - 125	97	75 - 125	<0.50	mg/kg	4.4	30	106	70 - 130
A710834	Total Phosphorus (P)	2022/09/10	92	75 - 125	100	75 - 125	<10	mg/kg	1.9	30	98	70 - 130
A710834	Total Potassium (K)	2022/09/10	142 (1)	75 - 125	99	75 - 125	<100	mg/kg	1.3	40	89	70 - 130
A710834	Total Selenium (Se)	2022/09/10	100	75 - 125	95	75 - 125	<0.50	mg/kg	NC	30		
A710834	Total Silver (Ag)	2022/09/10	100	75 - 125	95	75 - 125	<0.050	mg/kg	4.2	40	107	70 - 130
A710834	Total Sodium (Na)	2022/09/10	110	75 - 125	102	75 - 125	<100	mg/kg	NC	40	93	70 - 130
A710834	Total Strontium (Sr)	2022/09/10	112	75 - 125	99	75 - 125	<0.10	mg/kg	0.64	40	108	70 - 130
A710834	Total Thallium (Tl)	2022/09/10	100	75 - 125	97	75 - 125	<0.050	mg/kg	NC	30	88	70 - 130
A710834	Total Tin (Sn)	2022/09/10	107	75 - 125	101	75 - 125	<0.10	mg/kg	2.5	40	107	70 - 130

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A710834	Total Titanium (Ti)	2022/09/10	NC	75 - 125	91	75 - 125	<1.0	mg/kg	1.0	40		
A710834	Total Tungsten (W)	2022/09/10	87	75 - 125	102	75 - 125	<0.50	mg/kg	NC	40		
A710834	Total Uranium (U)	2022/09/10	100	75 - 125	95	75 - 125	<0.050	mg/kg	2.4	30	94	70 - 130
A710834	Total Vanadium (V)	2022/09/10	100	75 - 125	97	75 - 125	<1.0	mg/kg	1.0	30	104	70 - 130
A710834	Total Zinc (Zn)	2022/09/10	96	75 - 125	94	75 - 125	<1.0	mg/kg	0.67	30	100	70 - 130
A710834	Total Zirconium (Zr)	2022/09/10	108	75 - 125	100	75 - 125	<0.50	mg/kg	1.3	40		
A710836	Soluble (2:1) pH	2022/09/10			99	97 - 103			0.69	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

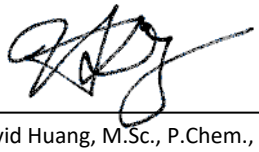
Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C267313
Report Date: 2022/09/12

STANTEC CONSULTING LTD
Client Project #: 123221953
Site Location: CEDAR LNG
Sampler Initials: MK

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

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4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvna.com

C267313_COC

INVOICE INFORMATION:		Report Information		Project Information	
Company Name	#2792 STANTEC CONSULTING LTD	Company Name	STANTEC CONSULTING	Quotation #	C11420
Contact Name	ACCOUNTS PAYABLE	Contact Name	Rick Lee	P.O. #	
Address	Metrotower III Suite 500, 4730 Kingsway	Address	500 - 4515 Central Blvd.	Project #	123221953
	BURNABY BC V5H 4M1		BURNABY, BC V5H 0C6	Project Name	Cedar LNG
Phone	(604) 436-3014 Fax: (604) 436-3752	Phone	778-872-4410 Fax:	Site #	
Email	SAPinvoices@stantec.com	Email	rick.lee@stantec.com	Sampled By	Matt Kenny

Only
Bottle Order #: 672307

Chain Of Custody Record: C#672307-01-01
Project Manager: Geraldyn Gouthro

Regulatory Criteria:
- [X] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	PAH	Metals	# of Bottles	Comments
1		SS01	09-01-22	14:01	SO: I	N	X	X	2	
2		SS02	09-01-22	13:45			X	X		
3		SS03	09-01-22	14:15			X	X		
4		SS04	09-01-22	14:25			X	X		
5		SS05	09-01-22	14:40			X	X		
6		SS06	09-01-22	15:00			X	X		
7		SS07	09-01-22	15:15			X	X		
8		SS08	09-01-22	11:55			X	X		
9		SS09	09-01-22	11:20			X	X		
10		SS10	09-01-22	10:50	✓	✓	X	X	✓	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified): [X]
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Matt Kenny	22/09/01	11:45	HOANG PHUNG	2022/09/03	15:25	

Lab Use Only
Time Sensitive [ ]
Temperature (°C) on Receipt: 13, 11, 10
Custody Seal Intact on Cooler? [ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Bureau Veritas Yellow: Client

ice : yes

Bureau Veritas
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvna.com

C267313_COC

INVOICE INFORMATION:		Report Information		Project Information			
Company Name	#2792 STANTEC CONSULTING LTD	Company Name	STANTEC CONSULTING	Quotation #	C11420	Bottle Order #:	
Contact Name	ACCOUNTS PAYABLE	Contact Name	Rick Lee	P.O. #		672307	
Address	Metrotower III Suite 500, 4730 Kingsway BURNABY BC V5H 4M1	Address	500-4515 Central Blvd. BURNABY, B.C. V5H0C6	Project #	12322-1953	Chain Of Custody Record	Project Manager
Phone	(604) 436-3014 Fax (604) 436-3752	Phone	778-872-4410 Fax:	Project Name	Cedar LNG	C#672307-02-01	Geraldyn Gouthro
Email	SAPinvoices@stantec.com	Email	rick.lee@stantec.com	Site #			
				Sampled By	Matt Kenny		

Regulatory Criteria:
- [X] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered? (Y/N)	PAH	Metals	# of Bottles	Comments
1		SS11	09-01-22	11:07	soil	N	X	X	2	
2		SS12	09-01-22	12:15			X	X		
3		SS13	09-01-22	11:42			X	X		
4		SS14	09-01-22	9:10			X	X		
5		SS15	09-01-22	10:20			X	X		
6		SS16	09-01-22	10:35			X	X		
7		SS17	09-01-22	9:45			X	X		
8		SS18	09-01-22	12:52			X	X		
9		SS19	09-01-22	12:30			X	X		
10		SS 20	09-01-22	10:05			X	X		

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Matt Kenny	22/09/02	11:45	HOANG PHUNG	2022/09/03	15:05		[ ]	13, 10, 11	[ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.
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White: Bureau Veritas Yellow: Client

yes