FINAL REPORT

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Joeyaska IR # 2, Lower Nicola Indian Band Merritt, British Columbia

Prepared for

Lower Nicola Indian Band 181 Nawishaskin Lane Merritt, B.C. V1K 0A7

Submitted by

Columbia Environmental Consulting Ltd. RR#2, Site 55, Compartment 10 Penticton, B.C. V2A 6J7

> **Project No: 10-0374** April, 2011





RR#2, Site 55, Compartment 10 Penticton, BC. V2A 6J7

April 30, 2011

Lower Nicola Indian Band 181 Nawishaskin Lane Merritt, B.C. V1K 0A7

Attention: John Keating and Sharon Parsons, LNIB Lands and Leasing Office

Subject: Final Phase I Environmental Site Assessment (ESA) of the Joeyaska Indian Reserve # 2, Lower Nicola Indian Band, Merritt, BC.

We trust that this final report meets your present needs. Two hard copies of the final report and a CD-ROM including the source files and an Adobe pdf version will be provided upon receipt of your review. Please do not hesitate to call if you have any questions or comments, or if you require anything further.

Yours truly,

Columbia Environmental Consulting Ltd.

Per: Dwight Shanner, R.P.Bio Project Manager

EXECUTIVE SUMMARY

Columbia Environmental Consulting Ltd. (Columbia) was contracted by the Lower Nicola Indian Band (LNIB) on behalf of Indian and Northern Affairs Canada (INAC) to conduct a Phase I Environmental Site Assessment (ESA) of the Joeyaska Indian Reserve #2, herein referred to as the "Site".

The first step in site characterization is to conduct a Phase I ESA. During this phase, information is gathered about site layout and previous activities and/or operations that may have caused contamination at the Site.

The Phase I ESA consisted of the following:

- records review;
- interviews with regulatory officials and personnel knowledgeable about the Site;
- site reconnaissance; and
- information evaluation and preparation of the report provided herein.

The Phase I ESA was conducted as per the requirements of the CSA document Z768-01 *Phase I Environmental Site Assessment, April 2003.* The Phase 1 ESA focused on preliminary areas of interest identified through historical document review, and interviews. In general, all residential structures were excluded unless information was gathered to suggest contamination or external visual observations indicated potential contamination. Specific residential structures listed for inspection at the request of the First Nation or INAC require the permission from the First Nation and the Certificate of Possession holder.

Joeyaska IR #2 is an irregular rectangle like reserve in shape and is 320 acres in size. Coordinates for the Site are zone 10 660416.3E, 5551365.4N on topographic NTS map sheet 092I02. The majority of land use in the area is residential with agricultural sections. There are 15 houses on the Site with electric heat and individual septic fields. Godey Creek runs through the north portion of the reserve, which is a tributary of the Coldwater River located west of the Site. Right of ways for Highway 97C and an oil pipeline crosses the northern portion of the Reserve.

Three (3) areas of potential environmental concern (APECs) were identified within the Site based on historical information, interviews and on-site visual observations. The on-site APECs include the Lot 9 and 6 Residential Dumps, and the Lot 9 burnt house. A summary table of the APECs and their associated contaminants of potential concern (COPC) is provided below.



APEC	Description of Contamination or Risk	COPC
APEC 1 Joeyaska IR 2 Lot 9 Residential Dump	Dump contains abandoned vehicles, empty oil containers, automotive parts, metal debris, domestic waste, furniture, and building materials.	MetalsPAHPHCVOC
9 Burnt House AST, and burnt building materials remain on the Site.		 Metals PAH PHC VOC
APEC 3 Joeyaska IR 2 Lot 6 Residential Dump		MetalsPAHPHCVOC
Off Site APEC 4 Oil PipelineKinder Morgan operates a 61 mm oil transmission pipeline on a right of way adjacent to the Site. The LNIB has environmental concerns for leaks and spills.		PAHPHCVOC
Off Site APEC 5 Godey Gravel Pit	Gravel pit contains various aggregates, asphalt, culverts, concrete, settling pond, and used road salt pile.	NA+CL-PAHVOC's

Table A. Areas of Potential Environmental Concern (APECs)

PAH = Polycyclic Aromatic Hydrocarbons

VOC = Volatile Organic Compounds

PHC = Petroleum Hydrocarbons including F1, F2, F3 and F4 fractions, Benzene, Toluene, Ethylbenzene and Xylenes (BTEX).

A diesel fuel spill is located 0.5km north of the Site, on the east side of Highway 5, and was remediated to Industrial land use standards (Levelton 2011). The ditch line at the accident site is sloped north away from the reserve. As such, the diesel spill is not retained as an off site APEC.

A Phase 2 ESA is recommended to determine the presence or absence of COPCs at concentrations greater than the applicable criteria at the APECs identified by this assessment.



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1.0 INTRODUCTION

Columbia Environmental Consulting Ltd. (Columbia) was commissioned by the Lower Nicola Indian Band (LNIB) on behalf of Indian and Northern Affairs Canada (INAC) to conduct a Phase I Environmental Site Assessment (ESA) of the Joeyaska Indian Reserve #2, herein referred to as the "Site".

The Site is located directly west of the junction between Highway 97C and Highway 5 approximately 3 km southwest of the city of Merritt B.C, on 1:50,000 NTS mapsheet 092I02. The Site's geographic position relative to the surrounding features is shown on Figure 1 included in Appendix A.

The Phase I ESA follows procedures outlined in the Canadian Standards Association (CSA) document *Z768-01 Phase I Environmental Site Assessment, April 2003.* This report will be used in making decisions concerning whether further investigation and or remediation is necessary. John Keating and Sharon Parsons (LNIB Lands and Leasing Office) provided written authorization for the project.

1.1 **OBJECTIVE**

The objective of this Phase I ESA is to identify and document any actual or potential human health or environmental risks associated with the Site and provide recommendations for further assessment and/or risk management. The "Areas of Potential Environmental Concern" (APECs), with their associated "Contaminants of Potential Concern" (COPC), and the person or agencies that may be responsible for causing the contamination define these risks.

1.2 SITE BACKGROUND

The Joeyaska IR#2 is comprised of approximately 320 acres on one reserve. The reserve is an irregular rectangle shape and it occupies portions of the relatively flat grasslands 1 km east of Coldwater Creek. The Site is located 3 km southeast of Merritt City center and less than a kilometer north of the Nicola River. The right of way for an oil and gas pipeline and Highway 97C is situated in the north section of the reserve. More than 10 residences are located on the Site.



2.0 SCOPE OF WORK

The first step in site characterization is to conduct a Phase I ESA. During this phase, information is gathered about site layout and previous activities and/or operations which may have caused contamination at the Site.

The Phase I ESA consisted of the following:

- records review;
- interviews with regulatory officials and personnel knowledgeable about the Site;
- site reconnaissance; and
- information evaluation and preparation of the report provided herein.

The Phase I ESA was conducted as per the requirements of the CSA document Z768-01 Phase I Environmental Site Assessment, April 2003.

The Phase 1 ESA focused on preliminary areas of interest identified prior to the site visit, through historical document review, and interviews. A list of these areas is included in Section 5.1.1. It is the responsibility of the First Nation to provide the Assessor with access to the identified area of interest. In general, all residential structures were excluded unless information was gathered to suggest contamination or external visual observations indicated potential contamination. Specific residential structures listed for inspection at the request of the First Nation or INAC require the permission from the First Nation and the Certificate of Possession holder.

3.0 METHODOLOGY 3.1 RECORDS REVIEW

Records included a search for previous environmental reports, historical aerial photographs, city directories, fire insurance maps, federal and provincial agency review, Lower Nicola Indian Band records, and regional district records. The applicable search distance for the records review included properties immediately adjacent to the Site, and other properties (as identified by aerial photographs, etc.) where the potential for environmental contamination to impact the Site was apparent (i.e. petroleum product storage in the immediate area). A reference of personal communications is included at the end of this report in Section 11.0.

3.2 INTERVIEWS

Interviews with persons knowledgeable about the Site were carried out to obtain or confirm information on the environmental characteristics of the property and historical use. Information provided by interviewees is detailed in Section 5, and included throughout the report. Dwight Shanner and Carmen Marshall from Columbia Environmental conducted the interviews on September 14, 2010.



3.3 SITE VISIT

The site visit was conducted by Summer Zawacky, B.Sc., and Carmen Marshall, B.Sc. from Columbia Environmental and Marvin Shuter from LNIB on September 30th, 2010. A site inventory was completed and the subject property was examined for evidence of actual or potential environmental contamination. All areas of the reserve and structures were accessible during the site visit, and GPS coordinates were taken at each point of interest using a hand held Garmin GPS Map 60Cx as UTMs in the NAD 83 datum. All locations were accessible to Columbia personnel. Selected photographs are included in Appendix F.

4.0 HISTORICAL RECORDS REVIEW

4.1 **RECORDS REVIEW**

An outline of the history of land use on the subject property and adjacent properties was compiled though the review of the variety of information sources. These typically include historical records and a review of files retained by regulatory agencies, however, the following standard sources of information were not available:

- Fire insurance drawings;
- City/Business directories; and
- Historical Title search.

For the historical uses of the property, aerial photographs dating back to 1948, interviews, web searches, archives, and previous reports supplied by INAC and the provided important information. A list of sources and references for the records review is provided in Section 11. The BC online Site Registry search results are found in Appendix B. Correspondence can be found in Appendix C and examples of historical aerial photographs can be found in Appendix D. A list of Species At Risk potentially in the Site area can be found in Appendix E. Previous environmental reports can be located in Appendix G.

4.1.1 REVIEW OF AERIAL PHOTOGRAPHS

Aerial photographs dated 1948 and 1972 from the University of British Columbia's Geographic Information Centre (UBC GIC) as well as 2005 (Google Earth) were reviewed for information about land use at the subject property and adjacent lands. Copies of representative aerial photographs are included in Appendix D. Site details from the aerial photograph interpretation are briefly described below in the following table:



Aerial photo Year	Description			
	Subject Property: No visible development on Joeyaska IR # 2.			
1948 Adjacent Lands: A road in the location of Highway 5 is present to the east of Coldwater Creek is visible in its natural form west of the Site. The adjacent no south properties are undeveloped. The residential and agricultural usage of lan observed in Merritt, northwest of the Site.				
	<i>Subject Property:</i> A road is visible on the Site running north-south. The oil pipeline right of way is visible.			
1972	<i>Adjacent Lands:</i> A zig-zag pattern of a road is visible to the east of the Site. No additional changes are noted.			
	<i>Subject Property:</i> Highway 97C almost bisects the reserve from southeast to northwest. A road is visible on the Site running north-south with 3 side roads to 14 houses and associated garages or farm buildings.			
2005	<i>Adjacent Lands:</i> Two residential blocks are visible adjacent to the north west of the reserve. West of the reserve acreages are visible adjacent to the reserve. South of the reserve is Antko 21 Reserve that is undeveloped and the highway gravel pit. East of the reserve is Highway 5 and Highway 97C interchange with wild lands beyond the highways.			

Table B. Air Photo Review Summary

4.1.2 CITY DIRECTORIES

The Merritt Public Library was contacted in regards to any business directories. They did not have records of City/Business directories for the reserve.

4.1.3 MERRITT FIRE DEPARTMENT

The Merritt Fire Department was contacted regarding any historical information. No fire records were identified for the Joeyaska IR # 2.

4.1.4 HISTORICAL TITLE SEARCH

A historical title search was not considered relevant for this project, as the subject property has remained in the authority of the federal government since its inception.

4.2 AGENCY REVIEW

Columbia contacted federal, provincial, regional, and municipal agencies to identify actual or potential environmental contamination issues on or near the subject Site. The following sections of the report present the findings of the regulatory review conducted for the subject property.



4.2.1 LOWER NICOLA INDIAN BAND

LNIB maintains a file with the original surveys of the lot boundaries and utilities serviced to each lot. Records of surveys were requested through the housing department although we have not received the records at the time of this report.

4.2.2 FEDERAL GOVERNMENT

The INAC Environmental Management System database, IEMS (formerly ESSIMS), had no reports or recorded sites for this reserve.

The Treasury Board of Canada Contaminated Sites Action Plan site registry did not have any registered sites within the database for this reserve.

4.2.3 MINISTRY OF TOURISM

The Ministry of Tourism's archeology branch was contacted regarding any archeological records for the Site. Two site's with archeological significance were found, one on the Site and the other off the Site adjacent to the southeast corner. The records were labeled as areas of high potential of unrecorded archeological materials. A map of the locations is provided by the Ministry of Tourism in Appendix C.

4.2.4 BC MINISTRY OF ENVIRONMENT – SITE REGISTRY

The contaminated sites provisions under the *Environmental Management Act* (Formerly the *Waste Management Act*) and *Contaminated Sites Regulations*, effective April 1997, require the Province to provide public information about site investigations and cleanups. The Site Registry has been established to meet this requirement. The Site Registry documents milestones in the site assessment process and provides public access to this information. It contains information regarding which sites have been investigated and/or remediated since MoE began recording this activity. The Site Registry is not a registry of only contaminated sites; it also includes sites for which a Site Profile has been submitted.

The online version of the Site Registry database searches for records of sites within a 1.0 kilometer radius of the subject property. The Site Registry has been collecting data only since its inception in April 1997, and not all sites of known or potential contamination within the search area may have been captured. Therefore, the searches cannot be considered a definitive method of identifying all sites of potential contamination within the search area. The Site Registry search results are presented in Appendix B and are summarized below:

Subject Property

According to the BC Online search there were no records in the Site Registry for the subject property.



Adjacent Properties

According to the BC Online search there were no records in the Site Registry for the adjacent properties when two 1.0 km radius searches were completed using the center of the reserve in the north and south section as the search centers.

4.2.5 TOWN OF MERRITT

Sean O'Flaherty of the City of Merritt was contacted requesting any information regarding environmental or contamination issues or building permits for the lands of LNIB. The city has no records regarding the subject property and adjacent lands, and do not maintain any such records for facilities operating on Reserve Lands.

4.2.6 MERRITT MUSEUM & ARCHIVES

The Museum of Merritt was contacted via phone. The Museum did a search within LNIB lands and no records were found pertaining to Joeyaska IR # 2.

4.2.7 THOMPSON NICOLA REGIONAL DISTRICT

Peter Hughs of the environmental department with the Thompson Nicola Regional District (TNRD) was contacted requesting any information regarding environmental issues on or near LNIB. Mr. Hughs stated that the district has no records regarding the subject property and do not maintain any such records for facilities operating on reserve lands.

4.2.8 TERASEN (FORMERLY BC GAS)

Toni Melliere of Terasen Gas was contacted regarding service connections to the subject property including any current or historical issues that are likely to have resulted in environmental impacts on the Reserve. Terasen has no record of environmental issues that may have occurred on the subject property or adjacent properties. Terasen does not keep records pertaining to service initiation and decommissions as a standard company policy.

4.2.9 FORTIS BC (FORMERLY BC HYDRO)

Louise Ouelett of Transmission Distribution and Environment at Fortis BC was contacted regarding the presence of service connections to the subject property including any current or historical issues that are likely to have resulted in environmental impacts on the reserve. Fortis has no record of environmental issues or transformer locations (possibly containing PCBs) that may have occurred on the subject property or adjacent properties.

4.3 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

In 1999, Klohn-Crippen Consultants Ltd (Kolhn-Crippen) completed a Phase I and II ESA for Mameet IR# 1, Joeyaska IR# 2, Pipseul IR # 3, Zoht IR #4 and Speous IR #8 on behalf of First Nations Emergency Services Society of BC (FNESS). The report focused on the assessment, removal and replacement of fuel storage tanks. Joeyaska IR #2 was found to



have no environmental concerns therefore a site visit was not deemed necessary at that time. The report identified, through conversation with LNIB members, that 11 residences occupied the Site with wood/electric heating and that heating oil furnaces and their associated fuel tanks were never used on the Site.

In 2005 Bovar-Concord Environmental completed a Phase II ESA on behalf of Indian and Northern Affair Canada (INAC). The Godey gravel pit located adjacent to Joeyaska IR #2 was an area that was presented as a concern during consultation with the Band siting large amount of salt deposits with the potential to leach and migrate onto reserve lands. Following an inspection, the Site did not appear to have any major environmental concerns. The previous environmental reports can be found in Appendix G.

4.4 INTERVIEWS

Interviewees included: Marvin Shuter, Willie Basil, Francis Shuter, Delia Shuter, Ira Sterling, Maggie Shuter Harold Joe. Interviews with LNIB members identified the following concerns:

Area of Concern	Location	Description
1	Highway 5 and Highway 97C Kinder Morgan Oil Pipeline North section of Site	Roads that run parallel with the reserve are sprayed with pesticides and salts. MOT salt shed is adjacent to the reserve. Contact Dave Schlep has Salt Investigation Report. The LNIB has environmental concerns for leaks and spills Residential dump & burnt residence
Joeyaska #2	on Lot 9 Southwest section of the Site on Lot 6	Residential dump
	South adjacent to the Site	Godey Gravel pit that may contain salt
	Located approx 0.5 km from the North east corner of the reserve	Diesel spill

Table C. Summary of Information Obtained from Interviewees



5.0 SITE DESCRIPTION

5.1 GENERAL PROPERTY DESCRIPTION

The Lower Nicola Indian Band is comprised of ten reserves that total 17,500 acres. Joeyaska IR #2 is an irregular rectangle like reserve in shape and is 320 acres in size. Coordinates for the Site are zone 10 660416.3E, 5551365.4N on topographic NTS map sheet 092I02. The majority of land use in the area is residential with agricultural portions. Godey Creek runs through the north portion of the reserve, which is a tributary of the Coldwater River located west of the Site. Right of ways for Highway 97C and an oil pipeline are within the northern portion of the Reserve.

5.1.1 SITE DETAILS

Based on the information identified in the interviews and historical review, the Site was divided into the following areas which were the focus of the site visit:

- Off Reserve Fuel Spill
- Joeyaska IR 2 Lot 9 Residential Dump
- Joeyaska IR 2 Lot 9 Burnt House
- Joeyaska IR 2 Lot 6 Residential Dump
- Off Reserve Godey Gravel Pit

The table below summarizes the major features, former and current land uses of each area, and any other relevant information that pertains to this study.

Area ID (UTM Zone 10)	Potential Environmental Concerns	Structures Present	Historical Land Use	Current land Use
Off Reserve Fuel Spill 661050E 5552021N	 Diesel Spill from an 18 wheel truck that has been remediated Soil is disturbed with one stain of 1m diameter remaining Hydrocarbon adsorbing booms remain across concrete culvert outlet 	Concrete Culvert	Wildlands/ Highway	Wildlands/ Highway
Joeyaska IR 2 Lot 9 Residential Dump 660734E 5551700N	 Residential dump within a shallow surface depression (8m x 35m) Contains metals, plastic, glass, and domestic/ automotive debris 	• No structures	Wild lands/ Agricultural	Wild lands/ Agricultural
Joeyaska IR 2 Lot 9 Burnt House 660712E 5551669N	 Concrete foundation (7m x 9m) Scattered debris within/surrounding the footprint includes fridge, abandoned empty AST, hot water tank, bathtub, 3 rubber tires, and a burnt pile of bricks 	Concrete FoundationFireplace	Wild lands/ Residential	Wild lands/ Agricultural
Joeyaska IR 2 Lot 6 Residential Dump 660319E 5550583N	 Residential dump (12m x 8m) containing domestic and automotive debris. Scattered debris in an area of (28m x 6m) 	• No structures	Wild lands/ Residential	Wild lands/ Residential

Table D. Site Area Summary



Area ID	Potential Environmental Concerns	Structures	Historical	Current
(UTM Zone 10)		Present	Land Use	land Use
Off Reserve Godey Gravel Pit 660398E 5550456N	• Gravel pit containing various aggregates, asphalt, culverts, concrete, settling pond, and used road salt pile	 Settling Pond Paved Road Salt Area with Drains to Pond 	Wildlands	Industrial

5.1.2 ON-SITE STRUCTURES INVENTORY

Private residences were noted on the north and south section of the Site. The details and assessment of each residence with no environmental concerns was not within the Phase 1 scope of work, therefore no structural details were noted as the focus of this investigation was on previously identified contaminated site issues, ASTs, waste materials and potential contamination sources.

Of the three (3) areas of potential environmental concern (APECs) identified within the reserve, only the burnt house has structures which consist of a concrete foundation (7m x 9m), and a brick fireplace.

5.2 TOPOGRAPHY

The Site is situated in the relatively flat floodplain at the confluence of the Coldwater River and Godey Creek. The Reserve is gently sloped to the northwest at an elevation of approximately 640m above sea level. Relief on the property is approximately 50m ranging from 670m in the southeast to 620m in the northwest. The Site is located on the north edge of Iron Mountain, and is gently sloped down toward the Coldwater River to the northwest. The Coldwater River is located to the west of the Site, and drains into Nicola Lake. Godey Creek drains from Iron Mountain through the reserve to the northwest into the Coldwater River.

5.3 GEOLOGY

The Site is located within the Princeton Group and the Nicola Group - Western Volcanic Facies and consists of the Quesnel and Overlap Terranes within the intermontane belt. The Princeton Group covers the majority of the Site and consists of undivided sedimentary rocks including sandstone, conglomerate, argillite, and coal (including the Coldwater Beds and the Allenby Formation). The Nicola Group occurs along the southern portion of the Reserve and consists of undivided volcanics including mafic to felsic pyroclastic rocks & flows, argillite, sandstone, and local carbonates. Surficial materials overlying the bedrock consist of fine grained glaciolacustrine deposits and a till veneer of varying thickness. These surficial materials are generally made up of unconsolidated compositions of silt, sand, gravel, and cobbles. Surface soils within the reserve are classified as eutric brunisols, which typically develop on coarse textured fluvioglacial deposits (Ministry of Energy, Mines, & Resources, 2010).



5.4 SURFACE DRAINAGE

Surface drainage at the Site is anticipated to be primarily infiltration into the underlying soils. Surface runoff is anticipated to drain toward the center of the Reserve toward Godey Creek, and ultimately northwest through the Site toward the Coldwater River.

5.5 CLIMATE DATA

The tables below provide climate values and monthly precipitation values as collected at Merritt B.C. Metrological Station, based on data from 1971 to 2000^{1} . The average annual precipitation is 322.2 mm.

Meteorological Station Elevation:	609.0m	
Daily Mean Temperature:	7.4°C	
Annual Rainfall:	238.9mm	
Annual Precipitation:	322.2mm	
Highest Monthly Average Precipitation:	Dec, 39.6mm	
Lowest Monthly Average Precipitation:	April, 14.5mm	

Table E. Climate Values for 1971-2000

Table F. Precipitation Values for 1971-2000

Month	Average Precipitation (mm)	Month	Average Precipitation (mm)	Month	Average Precipitation (mm)
January	37.2	May	26.8	September	23.6
February	23.6	June	34.1	October	23.5
March	16.6	July	25.8	November	34.7
April	14.5	August	22.1	December	36.9

5.6 UTILITIES

Residential properties on the Site are serviced by underground water and overhead electrical power. The Public and Capital Works Clerk at the LNIB provided the Site utility information. The Site has 14 houses on community water, all on individual septic systems and are heated by electricity. There is one house on an individual water well, individual septic and is heated by propane or electricity. Water and power lines are located adjacent to the roadways to access individual lots. No houses are serviced by natural gas or oil furnace.

¹ www.climate.weatheroffice.ec.gc.ca



5.7 ADJACENT PROPERTIES

The adjacent lands to the east are utilized for agricultural purposes. Highway 5 is adjacent along the eastern boundary of the Site. The south is bordered by Antko IR#21 and the Ministry of Transportation Godey Gravel Pit. The adjacent lands to the northeast are residential properties of Merritt. The town of Merritt is comprised of agricultural, residential, and industrial use properties. Highway 97C runs through the reserve in an northwest/southeast direction.

An oil pipeline right of way through the reserve has been in operation since 1953 for the Trans Mountain Oil Pipe Line Company (Kinder-Morgan). The oil pipeline varies from 24-36' diameter and transports heavy crude, light crude, distillates, and gasoline. The pipeline moves $48,000 \text{ m}^3/\text{day}^2$. The pipeline at the right of way section has a 61 cm diameter pipe and has no scheduled replacement time but routine safety inspections are planned. Kinder Morgan was contacted to request environmental records for the oil pipeline right of way adjacent to the reserve. Kinder Morgan responded that the company has no spills or environmental records for the area adjacent to the Joyaska 2 reserve.

The Godey Gravel Pit has been in operation under Ministry of Transport since 1972 as noted from aerial photographs. The gravel pit occupies a footprint of approximately 8.3 ha, and is located south of the reserve along Highway 5. The gravel pit slopes gently down from the southwest entrance to the northwest. A pile of recycled asphalt, approximately 288 m³, is located adjacent the reserve boundary near the northeast entrance. A used road salt pile is located in the southwest corner on top of a paved roadway. The salt pile is lined on three sides (south, west, and east) by interlocking blocks forming a concrete wall with the land sloped toward a concrete lined depression to the north. The depression has two drains where salt impacted water may be piped to a settling pond observed in the northwest corner of the property. The settling pond was fenced and approximately 40 m south of the reserve boundary. No pump houses or pumps were noted near the settling pond at the time of the site visit, however a large water tank was observed on the southeast corner of the settling pond, outside of the fenced area. No salt staining or evidence of pond overflow were noted on soil berms surrounding the settling pond. Two monitoring wells were noted on the property, one north of the used road salt pile, and one adjacent to the settling pond. Culverts and concrete road dividers were stored along the northwest corner of the gravel pit property.

5.8 VALUED ECOSYSTEM COMPONENTS (VECs)

The Site is located on the floodplain of Coldwater River, in Bunchgrass and Interior Douglas Fir (IDF) biogeoclimatic zones. Representative trees in this ecosystem include Douglas fir, trembling aspen, lodgepole pine, ponderosa pine, hybrid spruce, Rocky Mountain juniper. Shrubs for the area include species such as snowberry, common juniper, Saskatoon, Kinnikinnik, red osier dogwood, black gooseberry, prickly rose and false box. Herbs common to the area include bluebunch wheatgrass, pinegrass, wheatflower, bunchberry, yarrow, sedges (spp) and spike rushes to name a few (Ministry of Forests 1991).



² Referenced from Kinder Morgan: http://www.kne.com/business/canada/transmountain.cfm

A list of species from the BC Conservation Data Center (CDC) search, indicating species found within the area has been included in Appendix E. Characteristic wildlife in the region (CDC) include, but is not limited to, moose, mule deer, black bear, cougar, elk, grizzly, eagle, big horn sheep, badger, coyote, wolf, marmot, raven, spruce grouse, and various waterfowl.

A number of species considered Species at Risk by COSEWIC³ are potentially present on the Site and if present would receive special protection for critical habitats. Provincially, red listed (being considered for designation as threatened or endangered) or blue listed (considered vulnerable) species, by the BC Ministry of the Environment, means that they require special management attention.

The semi-pristine natural lands within the area of the Site are favorable for Species at Risk Act (SARA) listed species habitat. A biological inventory would be required to further investigate the potential presence of Species at Risk.

5.9 WATER WELLS

On January 4, 2011, the BC MoE water well database⁴ was searched in a 0.5 km radius from the center of the Site. There are two wells located within the Reserve. Well 49859, labeled as private domestic use, is located 200 southwest of the center coordinate in the central portion of Lot 6, down-gradient from the residential developments on Lot 6. Well 22042, labeled as unknown well use, is located in the northwest corner of the reserve 200m south from the intersection of Highway 97C and the oil pipeline.

Thirty (30) wells were located within 0.5km distance of the reserve boundary within the vicinity of the township of Merritt BC, and to the east of the Site. The majority of these wells are of unknown use, with some used for private/domestic purposes. Well details for on-reserve wells are summarized in the table below.

Well Tag Number	Well Depth (m)	Drill Date	Direction to Site	Distance from Site	Owner	Major Geology Encountered (m)	
49859	85.3	January 1982	SW of Center of Reserve on Lot 6	200m	Nicola Valley Const.	0.0-4.5 4.5-13.7 13.7-41.1 41.1-81.7 81.7-85.3	Boulders & Gravel Brown Sand Till Clay & Fine Sand Coarse Sand
22042	28.9	January 1969	W of Center of Reserve along Highway	580m	Indian Reserve #2		Unknown

 Table G. Water Well Search Results

³ COSEWIC means the Committee on the Status of Endangered Wildlife in Canada

⁴ Ministry of Environment. 2010. Water Resource Atlas Web Mapping Application <u>http://www.env.gov.bc.</u> <u>ca/wsd/data_searches/wrbc/index.html</u>



5.10 HISTORICAL LAND USE

Joeyaska IR #2 has historically been utilized for residential and agricultural land use. Hunting, fishing and gathering were and are traditional uses of the Reserve. One current and one former residence are located on the north part of the Reserve. The south portion has more than ten residences on the Site. No on-site industrial use was noted in the site visit, interviews, or historical review.

5.11 REGULATORY HISTORY

Two (2) previous Phase I ESAs were found from regulatory authorities for the subject property and have been detailed in Section 4.3 above.

6.0 FINDINGS

6.1 FUEL / CHEMICAL HANDLING AND STORAGE

No evidence of current or former underground storage tanks (USTs) were identified during this assessment. One abandoned AST and an empty 205L drum are present on the Site. Details of the two tanks are provided in the table below. Empty 1L and 20L plastic oil containers were noted within the residential dumps. As most of the containers are empty and no staining or odor was noted in the area, the potential impact from these materials are considered low.

AST #	Location (Site ID)	Capacity	Contents	Active	Condition
1	AST-Lot 9 Burnt House	~750L	Unknown	No	AST on its side, is not in use, is empty and no visible stains or odors were noted.
N/A	Drum in Lot 6 Residential Dump	205L	Unknown	No	Partially full with no odor

 Table H. Fuel and Chemical Details

6.2 SOLID WASTE MATERIALS

Solid waste was observed at the Site in the two residential dumps (Lot 9 and 6), and in limited quantities surrounding the burnt building footprint. Waste found within the burnt building generally included household appliances and building materials. Waste found within the Lot 9 and Lot 6 residential dumps generally included abandoned cars and automotive parts, metal wastes, appliances, rubber tires, domestic waste, limited furniture, and building materials.



Location (Site ID)	Description of Hazardous Materials
Joeyaska IR 2 Lot 9 Residential Dump	 Residential dump is within a shallow surface depression Dump measures 8m x 35m Contains 3 engine blocks, 3 cars, metal chairs, bike frame, tire rims, empty oil containers, domestic waste, animal carcasses, 4 rubber tires, mattress springs, couch, glass, spackle board, barbwire, plastics, and a car bumper.
Joeyaska IR 2 Lot 9 Burnt House	 Concrete foundation remains (7m x 9m) Surrounding area contains abandoned AST, fridge, hot water tank, oven, bathtub, 3 rubber tires, wire fencing material, and a 3m diameter pile of burnt bricks.
Joeyaska IR 2 Lot 6 Residential Dump	 Concentrated debris area measures 8m x 12m Scattered debris over 32m x 28m area Contains40 rubber tires, metal frames, car parts, fridge, 2 engine blocks, propane tanks, dishwasher, truck canopies, tv, domestic waste, carpet and padding, partially full 205L drum, automobile gas tank, 3 abandoned vehicles, cooler, and scattered car parts.

Table I. Solid Waste Summary for the Site

6.3 SPILLS AND STAIN AREAS

Minor spills associated with the former heating oil, drums, and vehicle maintenance/ abandonment are assumed. Spotty soil staining was observed within the soils at the Lot 6 Residential Dump. Soils within the Lot 9 Residential Dump were not observed due to the concentrated debris covering the soils. No other spills or stains were noted at the Site.

An off-site Diesel spill occurred on Highway 5 right of way 5 km north of the Site. The right of way is 20 m wide from the highway to the reserve boundary. The ditch line at the accident location is sloped north away from the reserve. The spill and soil were remediated and a monitoring well was installed. ICBC paid for the remediation (Levelton 2011) and the consulting report for the remediation was received from ICBC (Appendix C). The diesel spill is not retained as an APEC.

6.4 WASTEWATER DISCHARGE

No concerns with regard to wastewater discharge were noted at the Site during this investigation.

6.5 AIR DISCHARGES

No concerns with regard to air quality discharge were identified during the interview process or site visit.



6.6 POLYCHLORINATED BIPHENYLS (PCB)

There were no records of PCB containing transformers or capacitors on the Site. No environmental concerns regarding PCBs were determined during this investigation. BC Hydro has an inventory of transformers that have >50 ppm and are in the process of decommissioning any of these transformers within their network.

6.7 ASBESTOS

The use of friable asbestos as a building material was banned in the U.S. in the mid 1970s. The manufacture of building materials containing asbestos was generally phased out in North America by the mid 1980s. The current residence are of recent construction, therefore the potential presence of asbestos is low.

The presence of asbestos has not been confirmed, but it is possible that asbestos may be present in such materials as insulation, cement products, grouts, plaster, compressed papers and boards, linoleum, floor tiles, duct tapes, sealants and protective coatings. Asbestos within the private residence is unlikely but not confirmed, otherwise material resembling friable asbestos was not observed during the site reconnaissance. If demolition or renovation of structures is considered, the identification and safe removal or containment of asbestos is regulated under Section 20.112 of the OHSR. When these materials are in use they are not waste materials; however, following removal it is recommended that they be managed in accordance with the *Hazardous Waste Regulation* and the *Environmental Management Act*.

6.8 HEAVY METALS

There is the potential for localized metals impacts to surface soils due to the presence of metal debris and other wastes. The metal debris within the residential dumps are an area of potential concern (APEC).

6.9 OZONE DEPLETING SUBSTANCES (ODS)

No evidence to suggest environmental contamination by ODS were identified.

6.10 NOISE

No environmental issues concerning noise were noted during this investigation.



7.0 AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

Three (3) areas of potential environmental concern (APECs) were identified within the Site based on historical information, interviews and on-site visual observations. The on-site APECs include the Lot 9 and 6 Residential Dumps, and the Lot 9 burnt house. A summary table of the APECs and their associated contaminants of potential concern (COPC) is provided below.

APEC	Description of Contamination or Risk	COPC
APEC 1 Joeyaska IR 2 Lot 9 Residential Dump	Dump contains abandoned vehicles, empty oil containers, automotive parts, metal debris, domestic waste, furniture, and building materials.	MetalsPAHPHCVOC
APEC 2 Joeyaska IR 2 Lot 9 Burnt House	eyaska IR 2 Lot	
APEC 3 Joeyaska IR 2 Lot 6 Residential Dump	Dump contains abandoned vehicles, metal debris, automotive parts, appliances, propane tanks, furniture, domestic waste, and building materials.	MetalsPAHPHCVOC
Off-site APEC 4 Oil Pipeline	Kinder Morgan operates a 61 mm oil transmission pipeline on a right of way adjacent to the Site. The LNIB has environmental concerns for leaks and spills.	PAHPHC
Off-site APEC 5 Godey Gravel Pit	Gravel pit contains various aggregates, asphalt, culverts, concrete, settling pond, and used road salt pile.	NA+CL-PAH

PAH = Polycyclic Aromatic Hydrocarbons

VOC = Volatile Organic Compounds

PHC = Petroleum Hydrocarbons including F1, F2, F3 and F4 fractions, Benzene, Toluene, Ethylbenzene and Xylenes (BTEX).

8.0 **RECOMMENDATIONS**

A Phase 2 ESA is recommended to determine the presence or absence of COPCs at concentrations greater than the applicable criteria at the APECs identified by this assessment.



9.0 **REPORT USE AND LIMITATIONS**

This Phase I ESA report has been prepared for the exclusive use of Indian and Northern Affairs Canada (INAC), and it is intended to provide INAC with an understanding of the potential for environmental contamination by hazardous materials at the property assessed. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or re-use of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user. The findings and recommendations in this report are based upon data and information obtained during Site visits by Columbia and INAC personnel to the Site identified herein and the condition of the Site on the dates of such visits, supplemented by information and data obtained by Columbia described herein.

The findings and recommendations contained in this report are based on the expertise and experience of Columbia in conducting similar site assessments. In assessing the Site, Columbia has also relied upon representations and information furnished by individuals noted in the report with respect to existing operations and property conditions and the historical uses of the properties to the extent that the information obtained has not been contradicted by data obtained from other sources. Accordingly, Columbia accepts no responsibility for any deficiency, misstatements or inaccuracy contained in this report as a result of misstatements, omissions, misrepresentations or fraudulent information provided by others.

It should be recognized that this study was not intended to be a definitive investigation of contamination at the Site. Given that the limited scope of services for this assessment as stated in the Terms of Reference for the Phase I ESA, it is possible that currently unrecognized contamination may exist at the Site and, if present, that the levels of contamination may vary across the Site. Opinions and recommendations presented herein apply to site conditions existing at the time of our assessment and those reasonably foreseeable. Should environmentally significant changes to the Site or additional information become available, Columbia should be provided the opportunity to review this information/data and amend our opinions, as appropriate. Fungi, mycotoxins, bioaerosols and other indoor air quality issues were not included in the scope of work.

Columbia's objective is to perform our work with care, exercising the customary thoroughness and competence of earth science, environmental, and engineering consulting professionals, in accordance with the standard for professional services at the time and location those services are rendered. It is important to recognize that even the most comprehensive scope of services may fail to detect environmental liability on a particular site. Therefore, Columbia cannot act as insurers and cannot "certify" or "underwrite" that a site is free of environmental contamination, and no expressed or implied representation or warranty is included or intended in our reports, except that our work was performed, within the limits prescribed by our client, with the customary thoroughness and competence of our profession.



10.0 PROFESSIONAL STATEMENT

The information compiled for this document has been prepared in accordance with the requirements of the INAC Scope of Work.

Columbia certifies that the persons signing this document have demonstrable experience in the assessment of commercial and industrial sites. The work has been performed by Columbia staff under the guidance and supervision of the signatories below.

Report prepared by: COLUMBIA ENVIRONMENTAL CONSULTING LTD.

Summer Zawacky, B.Sc. Field Supervisor Carmen Marshall, B.Sc. Field Assessor

Dave Diplock, P.Eng. Report Review

Dwight Shanner, R.P.Bio. Project Manager



11.0 REFERENCES

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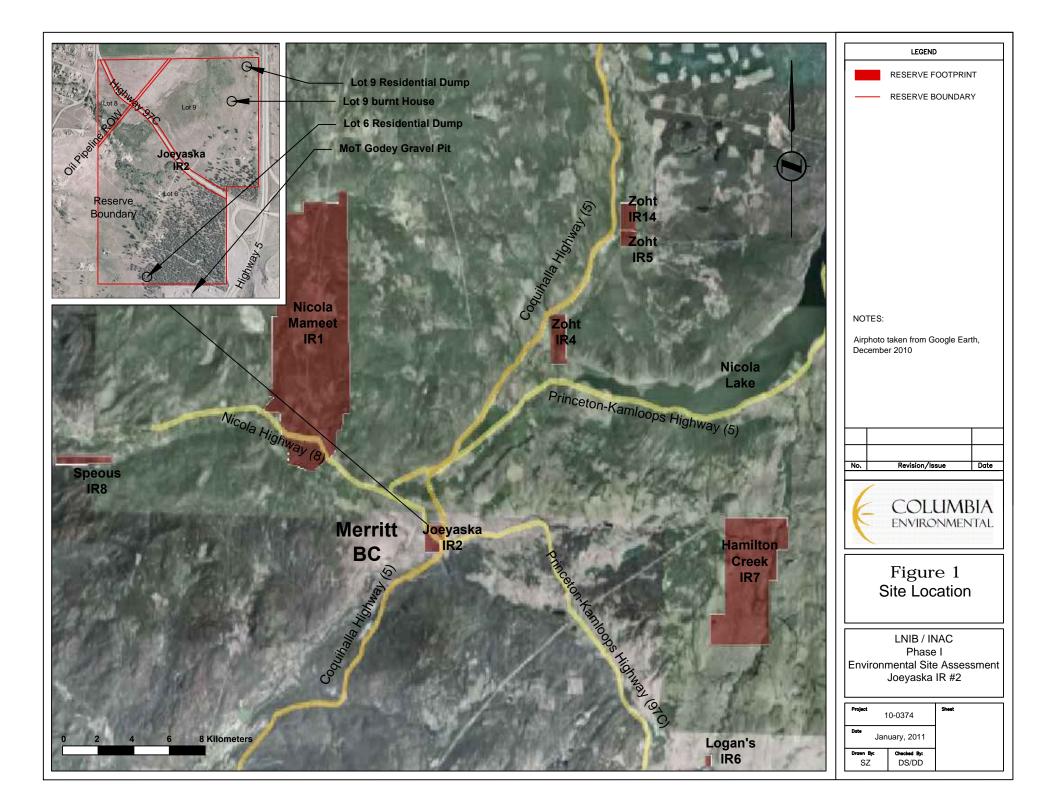
Personal Communications

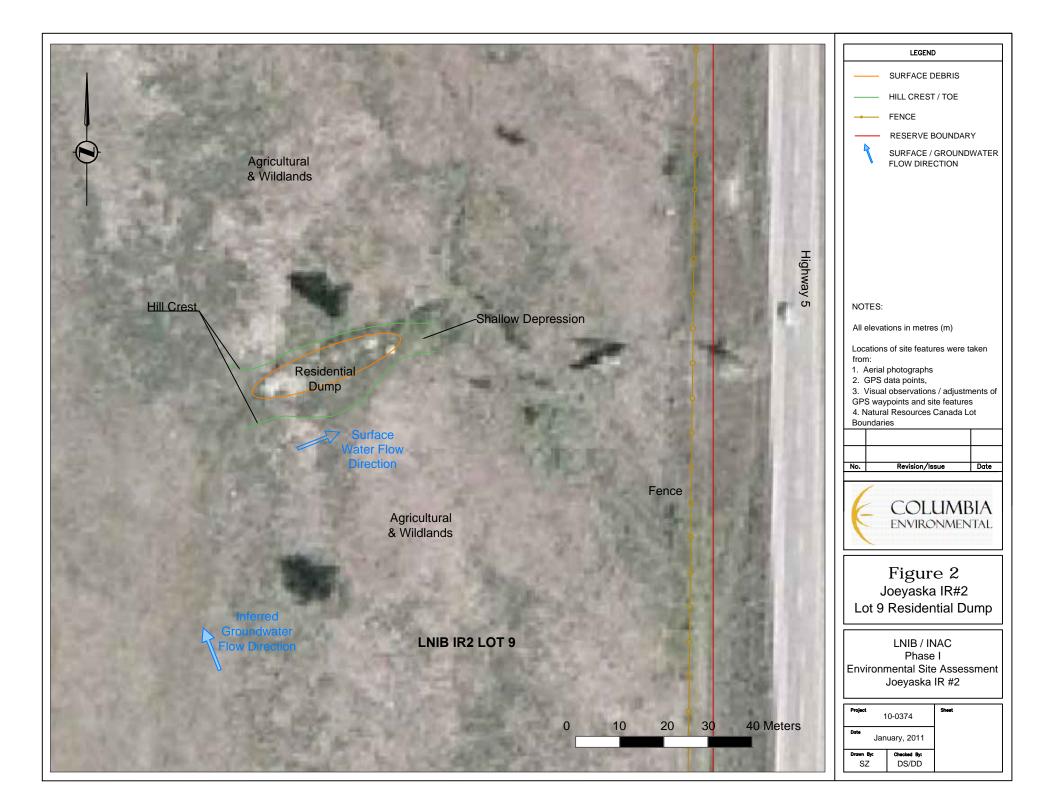
- Bob Alexanruck. Division Manager. Ministry of Transportation. Merritt B.C. Regarding Diesel spill and gravel pit on Highway 5.
- Dave Shlepee. Ministry of Transportation. Kamloops B.C. Requesting the salt investigation report.
- Lorill Bradsen. Commercial Claims Examiner. ICBC.
- Louise Ouelett. Environmental and Transmission and Distribution Department. Fortis BC. Vancouver B.C.Regarding records and locations of transformers and service dates.
- Peter Hughs. Director of Environmental Services. Thompson Nicola Regional District. Regarding Environmental Records.
- Sean O'Flaherty. Development Services Officer. City of Merritt. Merritt B.C. Regarding building permits on reserve or environmental issues.
- Toni Melliere. Environmental Division. Terasen Gas. Vancouver B.C. Requesting Environmental records and service dates for LNIB.

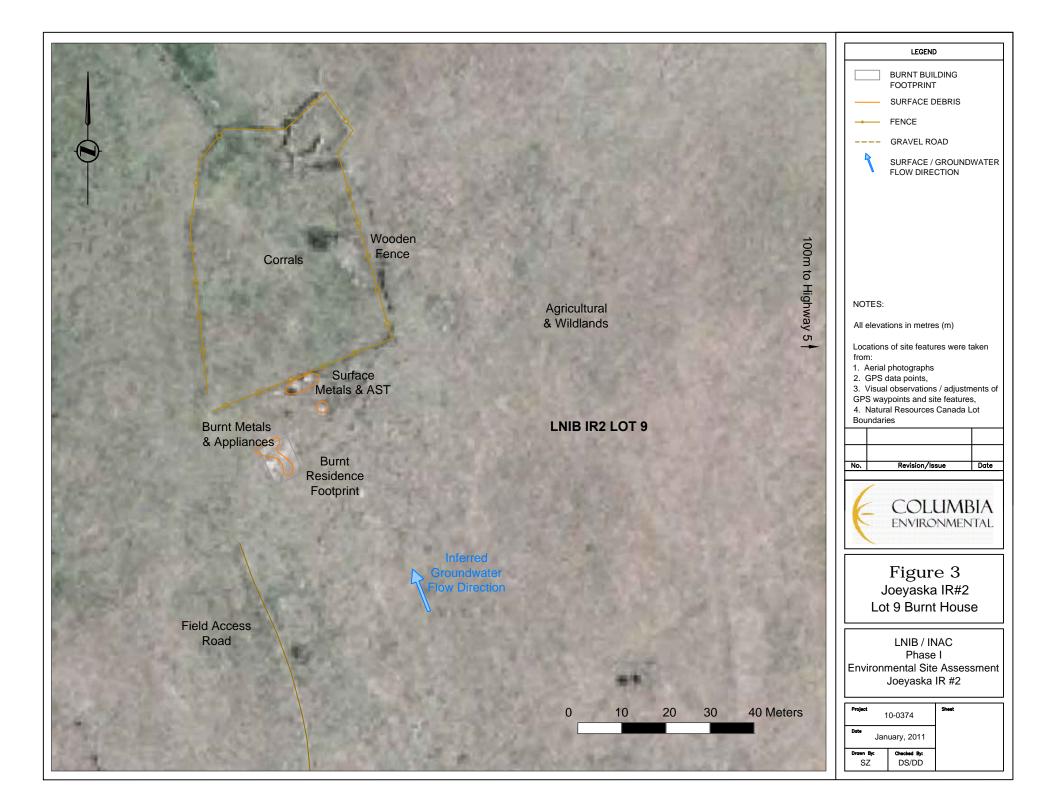


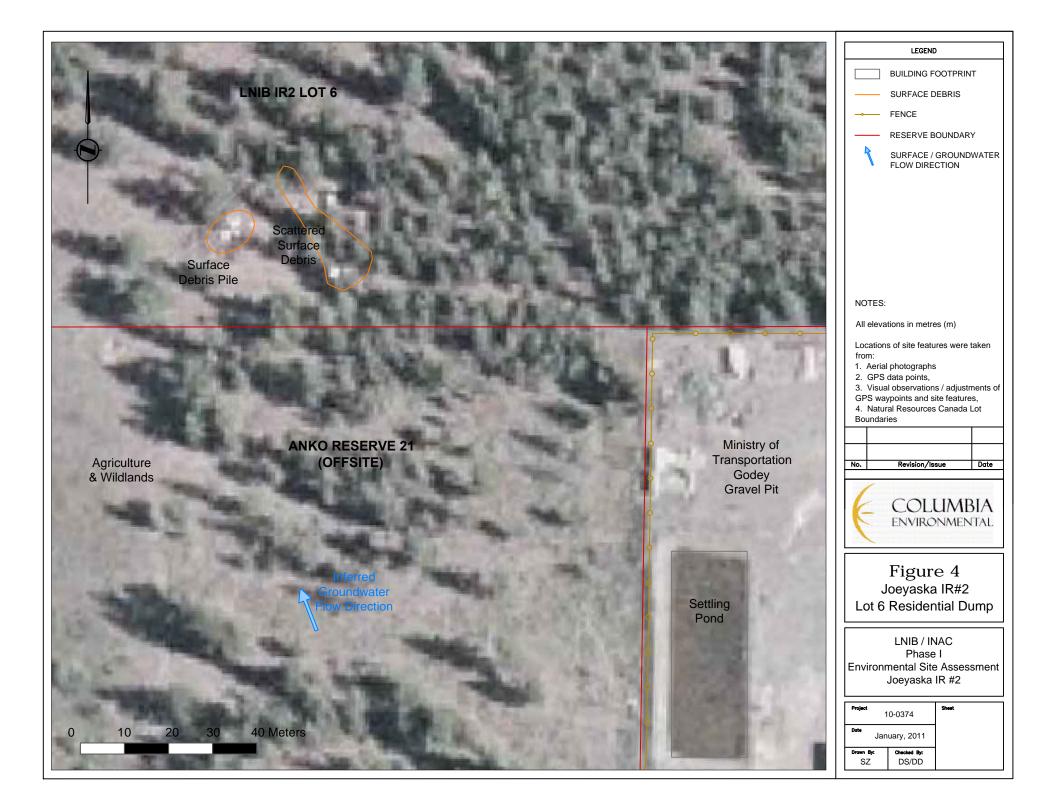
APPENDIX A

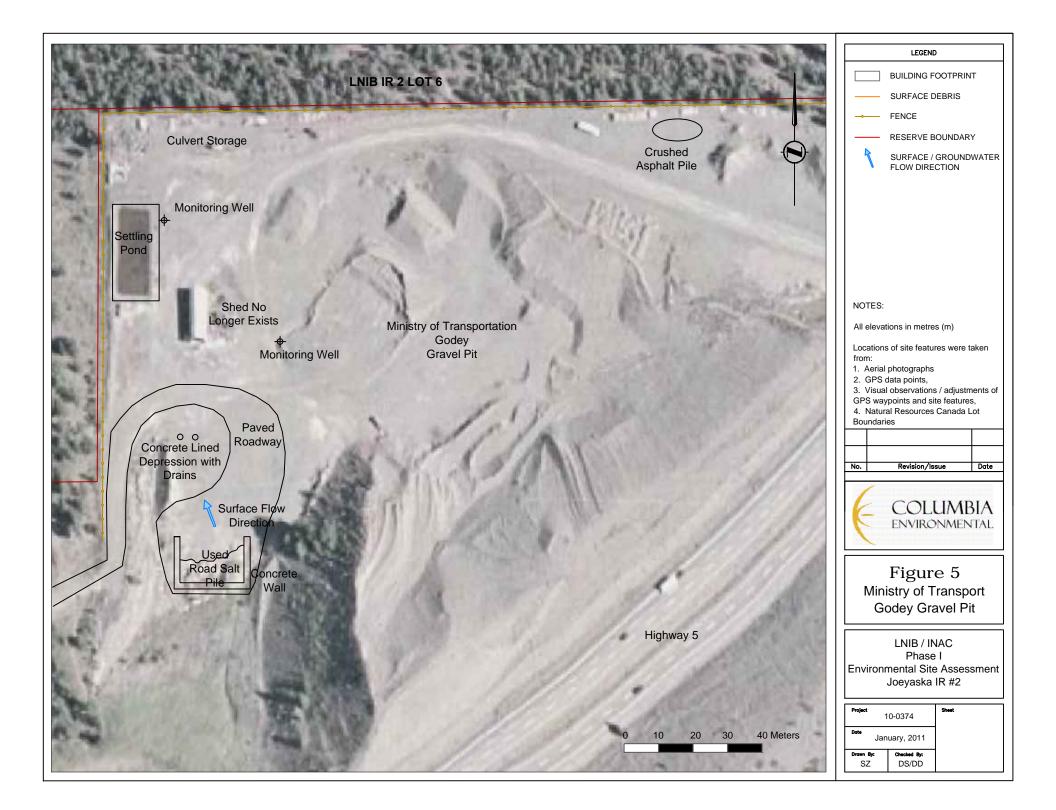
FIGURES











APPENDIX B

BC ONLINE SITE REGISTRY RESULTS

Nil Search

Site Registry

For: [PA95213] [COLUMBIA	ENVIRONMENTAL CONSULTING	LTD] Jan 04, 2011
As Of: JAN 02, 2011	Check for Prints	04:22:51 PM
Main Menu Return		Print House Help 2000

Folio:

Area Nil Search

As of JAN 02, 2011, no records from Site Registry fall within 0.5 kilometers of coordinates Latitude 50 degrees, 05 minutes, 45.2 seconds, and Longitude 120 degrees, 45 minutes, 17.2 seconds.

You have been charged for this information.

Sites may be revealed by searching with alternate search methods. For example, a site not revealed in an Area search may be revealed by searching with another piece of information such as PID, PIN, Address or Crown Lands File Number.

Site Registry

For: [PA95213] [COLUMBIA	ENVIRONMENTAL CONSULTING LTD]	Jan 04, 2011
As Of: JAN 02, 2011	Check for Prints	04:24:13 PM
Main Menu Return	and the second	Heip 2

Folio:

Area Nil Search

olyaska

Nil Search

As of JAN 02, 2011, no records from Site Registry fall within 0.5 kilometers of coordinates Latitude 50 degrees, 05 minutes, 28.5 seconds, and Longitude 120 degrees, 45 minutes, 33.4 seconds.

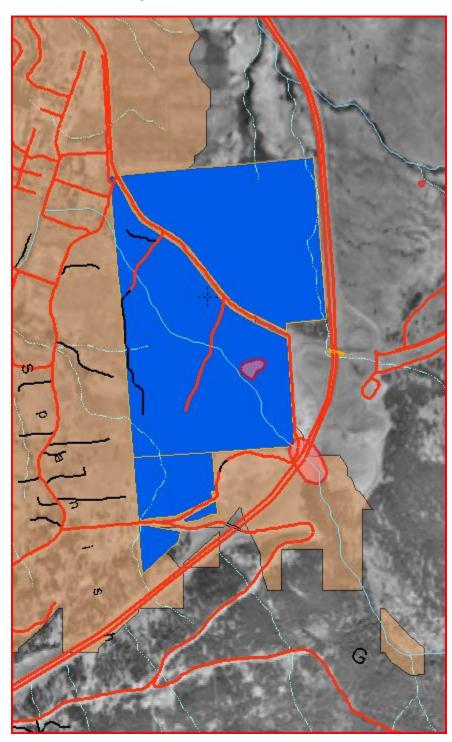
You have been charged for this information.

Sites may be revealed by searching with alternate search methods. For example, a site not revealed in an Area search may be revealed by searching with another piece of information such as PID, PIN, Address or Crown Lands File Number.

APPENDIX C

CORRESPONDENCE

Joeyaska IR#2 (Center 660406.62 5551342.64) 2 archaeological sites, areas of high potential for unrecorded archaeological materials:





24 January 2011 File No.: FV10-1597-00 ICBC Claim No.: P126381.2

ICBC Corporate Services

c/o Mr. Lorill Bradsen

Dear Ms. Bradsen,

V5A 4T4

Re:

8470 Commerce Court

Burnaby, British Columbia

Levelton Consultants Ltd. Fraser Valley Group

301 – 19292 60th Avenue Surrey, B.C. Canada V3S 3M2

Tel: 604 533-2992

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E-Mail: surrey@levelton.com

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108 – 3677 Highway 97N Kelowna, B.C. Canada, V1X 5C3

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Email: kelowna@levelton.com

Web Site: www.levelton.com

Construction Materials

Building Science

Geotechnical

Corrosion Prevention

Metallurgy

Environmental

Analytical Chemistry

Physical Testing

SPILL RESPONSE; APPROXIMATELY 1.3 KM NORTH OF HIGHWAY 97C ON HIGHWAY 5, MERRITT, BRITISH COLUMBIA (HEREIN REFERRED TO AS "SITE")

1.0 INTRODUCTION & BACKGROUND

Mr. Lorill Bradsen of ICBC Corporate Services (ICBC) retained Levelton Consultants Ltd. (Levelton) to respond and remediate a spill that occurred due to a motor vehicle accident on 6 September 2010, approximately 1.3 Km north of Highway 97C on Highway 5, Merritt, British Columbia (herein referred to as "Site").

On 6 September 2010 a south bound semi-truck crossed the median of Highway 5 and came to the rest in the eastern ditch. The semi-truck was registered to Ms. Joy Lee and was hauling scrap metal for Richmond Steel. According to Mr. Reid Lee, the driver of the semi-truck, the tanks should have held approximately 150 gallons of diesel at the time of the accident. According to the flagging staff with Merritt Mountain Towing, approximately 25 gallons of fuel was recovered from the passenger side fuel tank. Due to the severity of the accident, both saddle tanks were breached. Significant damage also occurred to the engine area, thereby causing a spill of motor oil as well.

This letter report outlines the steps taken to remove the impacted soil from the accident area and the results of the remediation.

2.0 APPLICABLE STANDARDS

As the Site is the shoulder of a highway, the CSR Industrial (IL) standards would apply to the Site. Table 1 summarizes the Site-specific factors that apply to the Site.

Table 1: Applicable Site-Specific Factors

SITE-SPECIFIC FACTORS	APPLICABILITY	RATIONALE
Intake of Contaminated Soil	Yes	Applicable at all sites.
Toxicity to soil invertebrates and plants	Yes	Applicable at all sites.
/ Groundwater used for drinking water	No	There are no registered water wells or water licence points within 500m of the Site. Also, According to the BC Water Resource map, the Site is not over an aquifer nor is one within 500m of the Site.
Groundwater flow to surface water used by freshwater aquatic life	Yes	Surface water receptors within 1 Km of the Site. In fact, the Site is within a dry stream bed that contains water during the rainy season.
Groundwater flow to surface water used by marine aquatic life	No	No marine surface water receptor within 1Km of the Site.
Groundwater used for livestock watering	No	See the above notation for drinking water.
Groundwater used for irrigation	No	See the above notation for drinking water.

Therefore, the following standards apply to the Site:

Soil

CSR IL standards;

Site Specific factors include:

- Intake of contaminated soil;
- Toxicity to soil invertebrates and plants;
- Groundwater flow to surface water used by freshwater aquatic life;

2.1 FIELD WORK DESCRIPTION

Ms. Gail Schultze, B.Sc., BIT and Mr. Hemanth Srinivas M.A.Sc of Levelton attended the Site on 8 September 2010 to review the condition of the Site with Tibar Construction Ltd. of Merritt, BC (Tibar). Levelton retained Tibar Construction Ltd. of Merritt, BC (Tibar) to supply the excavator and trucks. At the time of the Site visit the semi-truck and trailer had been removed, however Merritt Mountain Towing was still removing metal debris from the Site. Levelton preformed an emergency BC One Call on the evening of 7 September 2010 April 2010 to determine if there were any underground utilities in the area.

Excavation commenced on 9 September 2010 and was completed the same day. Prior to excavating the impacted soil, the boulders and rocks used as erosion control in the dry streambed were removed and placed to the side with minimal disturbance to the soil below. The excavation commenced near where the engine of the semi-truck came to rest and where there was visible oil staining. The



excavation continued south and was irregular in shape. The approximate final dimension of the excavation were 13m long, by 3.05m wide at the south end and 4.4m wide at the north end and 1.92m deep at the south end and 0.5m deep at the north end. Detailed figures outlining the dimensions of the excavation and the location of the confirmation soil samples are appended. Confirmation soil samples were collected from the all faces and the base of the excavation.

VSA Highway Maintenance Ltd. agreed with re-sloping the soil berm between the Site and Highway 5 to backfill the excavation. Therefore no backfill soil sample was required as we used nearby existing soil to fill the excavation.

Grab soil samples were transferred into laboratory-supplied pre-cleaned jars and plastic bags. The plastic bag containing the sample was allowed to equilibrate with the ambient temperature after which Levelton monitored soil-gas using an EagleTM RKI Gastech. This aided Levelton in determining the limits of the excavation. The laboratory-supplied pre-cleaned glass jars bore Teflon lids. Indelible markers were used for marking the lids of the soil jars with the appropriate sample identification number or reference. Levelton's field staff donned new vinyl or nitrile powder-free gloves prior to collecting each soil sample. All confirmation samples were submitted for LEPH, HEPH (light and heavy extractable petroleum hydrocarbons) and PAH (polycyclic aromatic hydrocarbons) analyse.

From previous experience, Levelton was confident that a Gastech reading of 100ppm or less would indicate that the soil would meet the CSR IL standards. Therefore Levelton continued to remediate until the Gastech readings for the confirmation soil samples met this criterion. Below is a table summarizing the results of the Gastech readings for the confirmatory soil samples collected.

Sample	Gastech Reading (ppm)	Sample	Gastech Reading (ppm)	Sample	Gastech Reading (ppm)
10-NW1	25	10-WW2	ND	10-Base1	75
10-NW2	ND	10-WW3	15	10-Base2	95
10-SW1	10	10-WW4	ND	10-Base3	10
10-SW2	ND	10-WW5	ND	10-Base4	ND
10-SW3	ND	10-EW1	ND	10-Base5	75
10-WW1	20	10-EW2	10	10-Base6	15

Note: ND - Not detectable

The excavation of this area generated approximately 5 dump truck and 2 trailer loads of contaminated soil that was transported to Envirogreen Technologies Ltd., Princeton, BC, for disposal. According to Envirogreen's scale tickets, 78.91 metric tons of contaminated soil were transported to their facilities for disposal. Copies of the Waste Manifests are appended.

The excavation was left open until the confirmatory results were received. Following the receipt and review of the results, Levelton instructed Tibar to backfill the excavation with the soil from the nearby berm and replace the boulders and rocks used for erosion control. Backfilling and rock replacement was completed on 17 September 2010.

Following the backfilling of the excavation, adsorbent booms were placed at the mouth of the culvert immediately downgradient to the Site. These were placed in case petroleum hydrocarbons should be mobilized during future rain events that would cause water to flow through the dry stream bed. These booms were removed and disposed of on 21 January 2011 by Tibar.

Selected photographs taken during the excavation activities are appended.



2.2 RESULTS

Analytical data for the 18 confirmation soil samples revealed that all the soil samples were below the laboratory detection limits, and therefore less than the CSR IL Standards for LEPH, HEPH, and PAHS with the exception of LEPH ($1000\mu g/L$), HEPH ($810\mu g/L$) and pyrene ($0.18\mu g/L$) in 10-NW1 and LEPH ($610\mu g/L$) in 10-Base5. However, while these concentrations were detectable, they did not exceed the CSR IL standards for LEPH ($2000\mu g/L$), HEPH ($5000\mu g/L$) or pyrene ($100\mu g/L$).

Copies of the Chain of Custodies and Laboratory Certificates are appended.

2.3 SOIL DISPOSAL

Approximately 78.9 metric tons of soil were removed from the Site and disposed of as Hazardous Waste at Envirogreen Technologies Ltd. remediation centre, Lela, Lot 401, Similco Mine Site, Princeton, BC.

The signed waste manifests and scale tickets from Envirogreen are appended.

3.0 CONCLUSIONS

All soil confirmation samples met the CSR IL standards therefore it is Levelton's opinion that the Site has been remediated to the applicable CSR IL standards and no further work is required at this time.

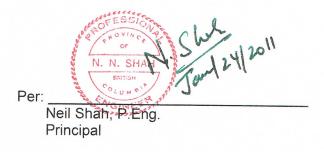
We hope this meets your needs at this time. If you have any questions, please call the undersigned at (604) 533-2992. Thank you for the opportunity to be of service you.

Respectfully Submitted, Levelton Consultants Ltd.

Prepared By:

Per:

Gail Schutze, B.Sc., BIT Project Manager Environmental Scientist Reviewed By:



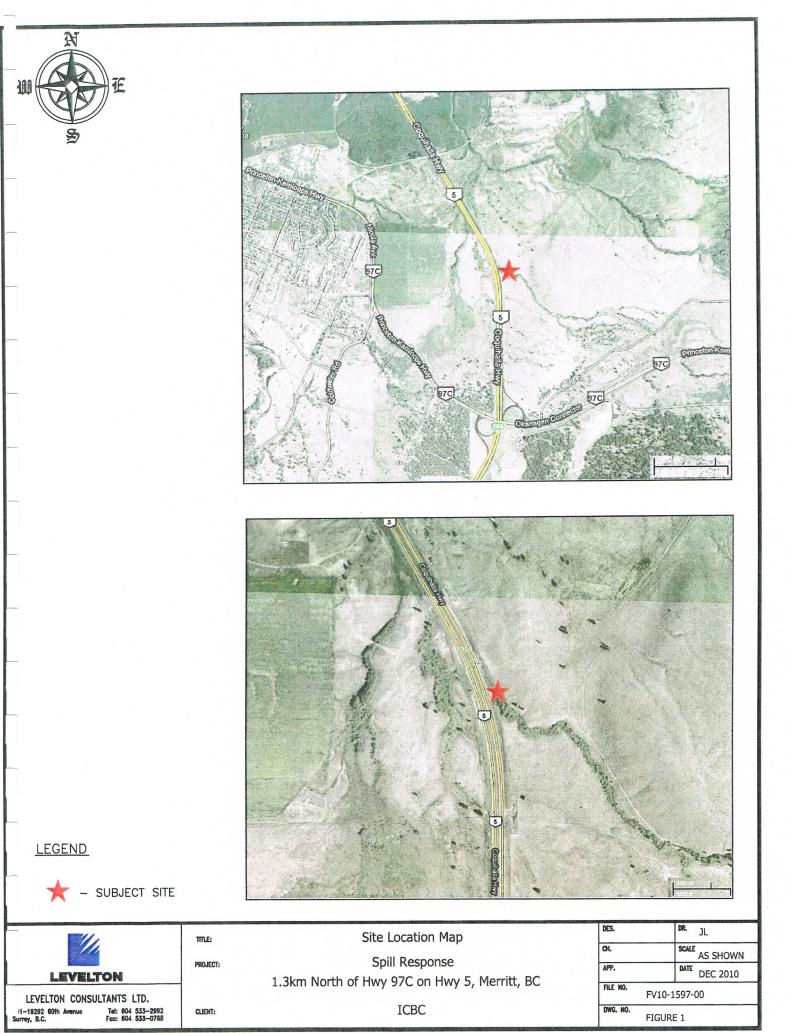
cc: Dennis J. Redford, Senior Environmental Emergency Response Officer, Ministry of Environment



Appended: Fig Pho Tal

Figures Photographs Tables Waste Manifests Chain of Custody Laboratory Certificate Standard Limitations





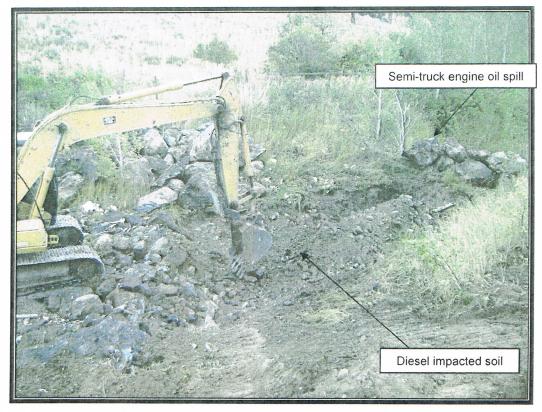


Photograph 1: Metal debris being removed by Merritt Mountain Towing and Richmond Steel (8 Sept. 2010).

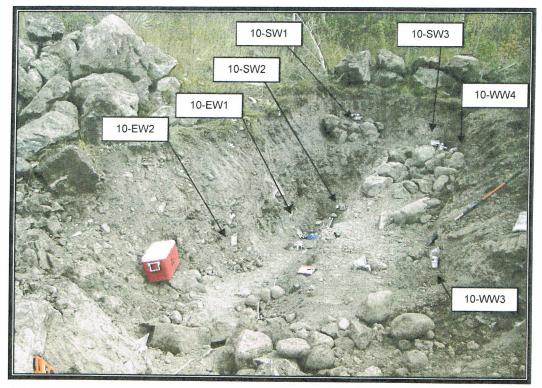


Photograph 2: Location of semi-truck motor oil spill where the excavation commenced (8 Sept 10).



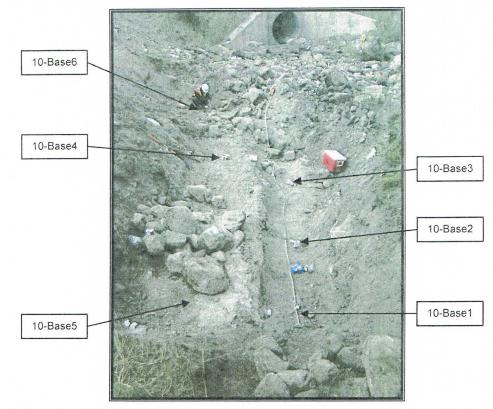


Photograph 3: Removal of boulder and rock erosion control prior to remedial excavation (9 Sept 2010).



Photograph 4: Final excavation limit, facing north (9 Sept 2010).





Photograph 5: Final excavation limit, facing south (9 Sept 2010).

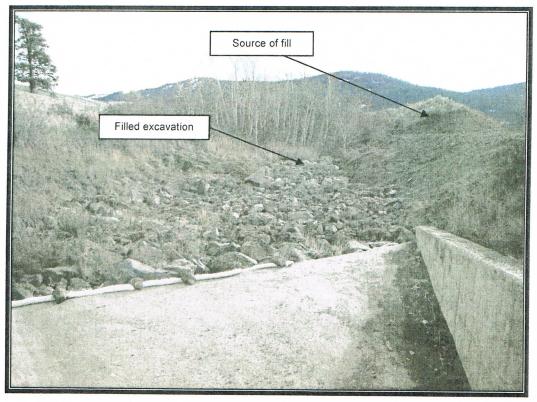


Photograph 6: Loading the trucks for offsite disposal of the contaminated material (9 Sept 2010).





Photograph 7: Absorbent booms placed at the mouth of the culvert (21 Sept 2010).



Photograph 8: Filled excavation with replaced bolder rip-rap (17 Jan 2011).



1.3km north of Hwy 97C on Hwy 5, Merritt, BC Spill Response

File No.:FV10-1597-00

Results of Confirmation Soil Samples Petroleum Hydrocarbon Analyses Page 1 of 4 Table 1

PARAMETERS	10-NW1	10-NW2	10-SW1	10-Dup 2	RPD %	10-SW2	CSR IL Standards (1)
Sample Date	09-Sep-10	09-Sep-10	09-Sep-10	09-Sep-10		09-Sep-10	
EPHw (10-19)	1000	<250	<250	<250	-	<250	~2000
EPHw (19-32)	810	<250	<250	<250	-	<250	~5000
НЕРН	810	<250	<250	<250		<250	5000
LEPH	1000	<250	<250	<250		<250	2000
I otal PAH	0.18	<0.10	<0.10	<0.10	1	<0.10	NS

NOTES

Results reported in µg/g dry (ppm) unless otherwise stated

"-" - Not analyzed

NS indicates that no standard applies

CSR Schedule 4, Generic Numerical Soil Standard unless noted otherwise
 CSR Schedule 5, Matrix Numerical Soil Standards (Groundwater flow to surface water used by freshwater aquatic life and livestock watering)
 CSR Schedule 10, Generic Numerical Soil Standards, Industrial Soil Standards
 RPD - Relative Percentage Difference

Sample concentration exceeds the applicable standard or criteria	RPD values exceed 20%	
BOLD	BOLD	



1.3km north of Hwy 97C on Hwy 5, Merritt, BC Spill Response

File No.:FV10-1597-00

Results of Confirmation Soil Samples Petroleum Hydrocarbon Analyses Page 2 of 4 Table 1

PARAMETERS	10-SW3	10-WW1	10-WW2	10-WW3	10-WW4	10-WW5	CSR IL Standards (1)
Sample Date	09-Sep-10	09-Sep-10	09-Sep-10	09-Sep-10	09-Sep-10	09-Sep-10	
EPHw (10-19)	<250	<250	<250	<250	<250	<250	~2000
EPHw (19-32)	<250	<250	<250	<250	<250	<250	~5000
НЕРН	<250	<250	<250	<250	<250	<250	5000
LEPH	<250	<250	<250	<250	<250	<250	2000
Total PAH	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NS

NOTES

Results reported in µg/g dry (ppm) unless otherwise stated

"-" - Not analyzed

NS indicates that no standard applies 1 - CSR Schedule 4, Generic Numerical Soil Standard unless noted otherwise 2 - CSR Schedule 5, Matrix Numerical Soil Standards (Groundwater flow to surface water used by freshwater aquatic life and livestock watering) 3 - CSR Schedule 10, Generic Numerical Soil Standards, Industrial Soil Standards

Sample concentration exceeds the applicable standard or criteria. RPD values exceed 20% RPD - Relative Percentage Difference **BOLD**RPD v
RPD v



Spill Response 1.3km north of Hwy 97C on Hwy 5, Merritt, BC

File No.:FV10-1597-00

Results of Confirmation Soil Samples Petroleum Hydrocarbon Analyses Page 3 of 4 Table 1

PARAMETERS	10-EW1	10-EW2	10-Base 1	10-Race 2	6 au	% [] []	CCD II Standards (1)
				10-000	- 400-01	0/ D 1/	ANVIE Stallaging (1)
Sample Date	09-Sep-10	09-Sep-10	09-Sep-10	09-Sep-10	09-Sep-10		
EPHw (10-19)	<250	<250	<250	<250	<250	-	~2000
EPHw (19-32)	<250	<250	~2E0	1000	0101		
	010	001	0072	0025	0075	ī	0006~
	<250	<250	<250	- <250	<250	'	5000
LEPH	<250	<250	<250	<250	<250		
Total PAH	<0.10	0101	0.0		007	-	2000
	20.10	20.10	<0.10	<0.10	<0.10		NS

NOTES

Results reported in µg/g dry (ppm) unless otherwise stated

"-" - Not analyzed

NS indicates that no standard applies

CSR Schedule 4, Generic Numerical Soil Standard unless noted otherwise
 CSR Schedule 5, Matrix Numerical Soil Standards (Groundwater flow to surface water used by freshwater aquatic life and livestock watering)
 CSR Schedule 10, Generic Numerical Soil Standards, Industrial Soil Standards

RPD - Relative Percentage Difference

Sample concentration exceeds the applicable standard or criteria. RPD values exceed 20% BOLD BOLD



1.3km north of Hwy 97C on Hwy 5, Merritt, BC Spill Response

File No.:FV10-1597-00

Results of Confirmation Soil Samples Petroleum Hydrocarbon Analyses Page 4 of 4 Table 1

PARAMETERS	10-Base 3	10-Base 4	10-Base 5	10-Base 6	CSR IL Standards (1)
Sample Date	09-Sep-10	09-Sep-10	09-Sep-10	09-Sep-10	
EPHw (10-19)	<250	<250	610	<250	~2000
EPHw (19-32)	<250	<250	<750	<250	~5000
НЕРН	<250	<250	<250	<250	
LEPH	<250	<250	610	<250	2000
Total PAH	<0.10	<0.10	<0.10	<0.10	NS

NOTES

Results reported in µg/g dry (ppm) unless otherwise stated

"-" - Not analyzed

NS indicates that no standard applies

CSR Schedule 4, Generic Numerical Soil Standard unless noted otherwise
 CSR Schedule 5, Matrix Numerical Soil Standards (Groundwater flow to surface water used by freshwater aquatic life and livestock watering)

3 - CSR Schedule 10, Generic Numerical Soil Standards, Industrial Soil Standards

RPD - Relative Percentage Difference	rence
BOLD	Sample concentration e:
BOLD	RPD values exceed 20%

exceeds the applicable standard or criteria. RPD values exceed 20% LEVELTON

File No.:FV10-1597-00

1.3km north of Hwy 97C on Hwy 5, Merritt, BC Spill Response

Results of Confirmation Soil Samples PAH Analayses Page 1 of 4 Table 2

PARAMETERS	10-NW1	10-NW2	10-SW1	10-Dub 2	RPD %	10-SW2	CSR IL Standards (1)
Sample Date	09-Sep-10	09-Sep-10	09-Sep-10	09-Sep-10		09-Sep-10	
Acenaphthene	<0.10	<0.10	<0.10	<0.10	-	<0.10	NSN
Acenaphthylene	<0.10	<0.10	<0.10	<0.10		<0.10	SN
Anthracene	<0.10	<0.10	<0.10	<0.10		<0.10	SN
Benzo (a) anthracene	<0.10	<0.10	<0.10	<0.10	,	<0.10	10
Benzo (a) pyrene	<0.10	<0.10	<0.10	<0.10		<0.10	10 (2)
Benzo (b) fluoranthene	<0.10	<0.10	<0.10	<0.10		<0.10	10
Benzo (g,h,i) perylene	<0.10	<0.10	<0.10	<0.10	-	<0.10	SN
Benzo (k) fluoranthene	<0.10	<0.10	<0.10	<0.10	,	<0.10	10
Chrysene	<0.10	<0.10	<0.10	<0.10 <0.10		<0.10	SN
Dibenz (a,h) anthracene	<0.10	<0.10	<0.10	<0.10		<0.10	10
Fluoranthene	<0.10	<0.10	<0.10	<0.10		<0.10	SN
Fluorene	<0.10	<0.10	<0.10	<0.10	-	<0.10	SN
Indeno (1,2,3-cd) pyrene	<0.10	<0.10	<0.10	<0.10	-	<0.10	10
Naphthalene	<0.10	<0.10	<0.10	<0.10	-	<0.10	50
Phenanthrene	<0.10	<0.10	<0.10	<0.10		<0.10	50
Pyrene	0.18	<0.10	<0.10	<0.10		<0.10	100

NOTES

Results reported in µg/g dry (ppm) unless otherwise stated NS indicates that no standard applies

RPD Relative percent difference

CSR Schedule 4, Generic Numerical Soil Standard unless noted otherwise
 CSR Schedule 5, Matrix Numerical Soil Standards (Groundwater flow to surface water used by freshwater aquatic life and livestock watering)
 CSR Schedule 10, Generic Numerical Soil Standards, Industrial Soil Standards
 RPD - Relative Percentage Difference



1.3km north of Hwy 97C on Hwy 5, Merritt, BC Spill Response

File No.:FV10-1597-00

Results of Confirmation Soil Samples PAH Analayses Table 2 Page 2 of 4

PARAMETERS	10-SW3	10-WW1	10-WW2	10-0003	10-0000	10_00005	CSP II Standards (1)
Sample Date	09-Sep-10	09-Sep-10	09-Sep-10	09-Sep-10	09-Sen-10	09-Sen-10	
vcenaphthene	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	SN
Acenaphthylene	<0.10	<0.10	<0.10	0102		1010	NIC
Anthracene	<0.10	<0.10	<0.10	<0.10	-01.10 	-01.02 -01.02	SIN
Benzo (a) anthracene	<0.10	<0.10	<0.10	<0.10	<0.10 <0.10	01.02	10
Benzo (a) pyrene	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	10/01
Benzo (b) fluoranthene	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	10 (2)
Benzo (g,h,i) perylene	<0.10	<0.10	<0.10	<0.10	-0.10 -0.10	20102	SN
Benzo (k) fluoranthene	<0.10	<0.10	<0.10	010	0.10	0.0	0
Chrysene	<0.10	<0.10	010/	01.02	-0.10 	-0.10 0.10	0
Dihanz (a h) anthracono	010	0.0	~0.10	<0.10	<0.10	<0.10	NS
	<0.1U	<0.10	<0.10	<0.10	<0.10	<0.10	10
luorantnene	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NS
luorene	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NSN
ndeno (1,2,3-cd) pyrene	<0.10	<0.10	<0.10	<0.10	2010	-0.10 -0.10	10
Naphthalene	<0.10	<0.10	<0.10	<0.10	-0.10 -0.10	~0.10	20
henanthrene	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	202
Pyrene	<0.10	<0.10	<0.10	<0.10 <0.10	2010	<0.10	100

NOTES

Results reported in µg/g dry (ppm) unless otherwise stated NS indicates that no standard applies RPD Relative percent difference

CSR Schedule 4, Generic Numerical Soil Standard unless noted otherwise
 CSR Schedule 5, Matrix Numerical Soil Standards (Groundwater flow to surface water used by freshwater aquatic life and livestock watering)
 CSR Schedule 10, Generic Numerical Soil Standards, Industrial Soil Standards
 RPD - Relative Percentage Difference

ntration exceeds the applicable standard or criteria.	s exceed 20%	
Sample conce	RPD values e	
BOLD	BOLD	



1.3km north of Hwy 97C on Hwy 5, Merritt, BC Spill Response

File No.:FV10-1597-00

Results of Confirmation Soil Samples PAH Analayses Page 3 of 4 Table 2

PARAMETERS	10-EW1	10-EW2	10-Base 1	10-Raca 2	10.7.1		
Sample Date	09-Sep-10	09-Sep-10	09-Sen-10	00-Son-10	10 Son 10	% ALV	LON IL SIGIUGIUS
Acenaphthene	<0.10	<0.10	<0.10 <	10.10	01-090-00		
Acenanhthylene	<0.10	010	0.10	\$0.1U	<0.10	1	NS
athrono and a start of the star	0.0	\$0.10	<0.10	<0.10	<0.10	1	NS
Anumacene	<0.10	<0.10	<0.10	<0.10	<0.10		NSN
Benzo (a) anthracene	<0.10	<0.10	<0.10	<0.10	<0.10		0
Benzo (a) pyrene	<0.10	<0.10	<0.10	~0.10	01.01		10,01
Benzo (b) fluoranthene	<0.10	<0.10	0101	0.10	~0.10	-	10 (2)
Benzo (a h i) nenvlene	010	0.0	~0.10	<0.10	<0.10	1	10
	>0.10	<0.10	<0.10	<0.10	<0.10	1	NS
Benzo (K) Tiuoranthene	<0.10	<0.10	<0.10	<0.10	<0.10		10
Chrysene	<0.10	<0.10	<0.10	010	01.07	-	0
Dibenz (a h) anthracene	<0.10	0101	0.10	-0.10	<u.10< td=""><td>1</td><td>NS</td></u.10<>	1	NS
	0.10	\$0.10	<0.10	<0.10	<0.10	1	10
iuorarimene	<0.10	<0.10	<0.10	<0.10	<0.10	-	NS
Fiuorene	<0.10	<0.10	<0.10	<0.10	<0.10		NN
Indeno (1,2,3-cd) pyrene	<0.10	<0.10	<0.10	<010 2010	010/		
Naphthalene	<0.10	<0.10	0101	0.0	-0.10	-	0
Phenanthrane	0401	0.0	-0.10	<0.10	<0.10		50
Durana	~0.10 640	<0.10	<0.10	<0.10	<0.10		50
yreric	<u.10< td=""><td><0.10</td><td><0.10</td><td><0.10</td><td><0.10</td><td>,</td><td>100</td></u.10<>	<0.10	<0.10	<0.10	<0.10	,	100

NOTES

Results reported in µg/g dry (ppm) unless otherwise stated NS indicates that no standard applies

RPD Relative percent difference

 CSR Schedule 4, Generic Numerical Soil Standard unless noted otherwise
 CSR Schedule 5, Matrix Numerical Soil Standards (Groundwater flow to surface water used by freshwater aquatic life and livestock watering)
 CSR Schedule 10, Generic Numerical Soil Standards, Industrial Soil Standards
 CSR Schedule 10, Generic Numerical Soil Standards, Industrial Soil Standards
 FRPD - Relative Percentage Difference
 BOLD
 Sample concentration exceeds the applicable standard or criteria. Sample concentration exceeds the applicable standard or criteria. RPD values exceed 20% BOLD



File No.:FV10-1597-00

1.3km north of Hwy 97C on Hwy 5, Merritt, BC Spill Response

Results of Confirmation Soil Samples PAH Analayses Page 4 of 4 Table 2

Sample Date 09-Sep-10 09-Sep-10 0 Acenaphthene < 0.10 < 0.10 < 0.10 < 0.10 Acenaphthene < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 Acenaphthylene < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 Acenaphthylene < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 Benzo (a) pyrene < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 Benzo (b) fluoranthene < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 Benzo (k) fluoranthene < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10	10-Base 3 10-Base 4	10-Base 5	10-Base 6	CSR IL Standards (1)
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		09-Sep-10	09-Sep-10	
 <0.10 		<0.10	<0.10	NS
 <0.10 		<0.10	<0.10	NS
 <0.10 		<0.10	<0.10	NS
 <0.10 		<0.10	<0.10	10
 <0.10 		<0.10	<0.10	10 (2)
 <0.10 		<0.10	<0.10	10
 <0.10 		<0.10	<0.10	NS
<0.10		<0.10	<0.10	10
anthracene <0.10 <0.10		<0.10	<0.10	NS
 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 		<0.10	<0.10	10
 -cd) pyrene <0.10 <0.10 <0.10 <0.10 		<0.10	<0.10	NS
-cd) pyrene <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10		<0.10	<0.10	NS
e <0.10 <0.10 <0.10		<0.10	<0.10	10
<0.10		<0.10	<0.10	50
		<0.10	<0.10	50
Pyrene <0.10 <0.10		<0.10	<0.10	100

NOTES

Results reported in µg/g dry (ppm) unless otherwise stated

NS indicates that no standard applies

RPD Relative percent difference

CSR Schedule 4, Generic Numerical Soil Standard unless noted otherwise
 CSR Schedule 5, Matrix Numerical Soil Standards (Groundwater flow to surface water used by freshwater aquatic life and livestock watering)
 CSR Schedule 10, Generic Numerical Soil Standards, Industrial Soil Standards

RPD - Relative Percentage Difference

BOLD BOLD

Sample concentration exceeds the applicable standard or criteria. RPD values exceed 20%

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	B Carrier Transporteur	Company name / Nom de l'entreprise	City / Ville Prov Posta	Registration No. / Nº d'immatriculation Vehicule		Ze femorque – wagon Point of entry Point d'entrée	Carrier Cartification: I declare that I have received waste as offered by the consignor in Part A for delivery to the intended consignee and that the information contained in Part B is complete and correct. Declaration du transporteur: -Latteste avoir requires defense offerts part l'expéditeur dans la partie A en vue de leur livraison au definitative rohosi et que les remseionements inscrits à la partie B sort exacts et complets.	Vear / Année Month / Mois Dayy Jour Nom de l'agent autorisé (caractères d'imprimérie)	Tel. No. /	Waste identification Cuantity shipped Units Provincia No. / Ne TOGAPRO Cuantity shipped Units (Cuebec-Ontario any) Units Outer the expedition outing Outer the expedition outer		Below Circulation no Quebec only Circulation - Réservée au Québec		Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour	n Part A is correct and complets. Ints à la partie A sont veridiqu: s'et complets. Nure
and environmental legislation requiring manifesting. Ce manifeste est conforme aux législations fédérale et provinciale sur l'environnement et le transport, requérant un manifeste.	A Consignor (Generator) Expediteur (Producteur)	Company name / Nom de l'entreprise	Shipping site address / Origine de l'expédition	Province Postal code /	Provincial ID No. / No d'id. provincial		e / Code posta	site address / Destination de l'expédition	City / Ville Province Postal code / Code postal	Physical Shipping name of waste Elat Appellation réglementaire du déchet (Quebec-		Special handling/Emergency instructions Manutention speciale/instructions d'urgence	4 - -	Vart shipped / Date d'expedition I Time / Heure Scheduled at Year / Année Month / Mois Day / Jour Year / Année A M. P.M.	ttion: péditeu

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	-	Iransporteur	Address / Adresse	City / Ville		Vehicle / Véhicule	 Trailer/Rail Car No. 1 ^{1 er} remorque – wagon 	Trailer/Rail Car No. 2 2 ^e remorque - wagon	Point of entry Point d'entrée	varirer veruncenton. I declare that ha to the intended consignee and that the in du transporteur : Vatteste avoir reçu les livraison au destinataire choisi et que les	Year / Année Month / Mois Day	City and Cit		Waste identification Identification du déchet	Provincial No. / No (Quebec-Ontario only) LTMD/NIP (Quebec-Ontario seul)	N. V. V. V.	44			Below Ci-dessous		Scheduled arrival date /Date d'arrivée prévue Year / Année Month / Mois Day / Jour	n Part A is correct and complete in the factor of the fact
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NAME/EMAIL: _	MAIL: 95Chullice Clevelton Com	rovn	*Contact Lab Ti Apply	*Contact Lab To Confirm. Surcharge May Apply		(bətc	D bət									
		MATRIX 20 SAMPLING		COMMENTS	corre		orina						0-7 I			
		ATER THER THER THINER TAINER DATE	ERED ERED T	Costroh (ie, flow/volume	HAV D	HAV (C	140 570	TAW - 2.	TAW - 2. JOS - 2.	EC D						
	CLIENT SAMPLE ID	LO 'M	FILT	C C C C C C C C C C C C C C C C C C C	HqE	ЧЭН/Г	HEN									IOLD
	10. NUI	2950	Park	Sc	1											
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	1~3~ 10-S~1	20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20 20-20-20-20-20-20 20-20-20-20-20-20-20-20-20-20-20-20-20-2	Sartan and any	0		>										
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	Ioruus			25		2										
	10-EWI	tear pa tota		Q		3										
	10-622	•)	10		>										
APPLIC/	APPLICABLE REGULATORY LIMITS	SPECIAL INSTRUCTIONS:	FRUCTIONS:								PAYMENT	5				
BC DR	CANADIAN DRINKING WATER QUALITY GUIDELINES BC DRINKING WATER PROTECTION ACT/REG. BCMOF CSR / RI CI / II A										CHEQUE	Щ н	λ X	SAMPLE RECEIPT TEMP: Work Order #	TEMP:	0
OTHEF											CASH	Ļ	บี	CUSTODY SEAL INTACT	7	N D N
											INVOICE	L)				

Nº 22189 P. E 2 OF 2	RECEIVED BY: DATE:	ab Time:	RECEIVED BY: DATE:	TIME:	0: PO#:	- 1597-00	EQUEST				F-C													SAMPLE RECEIPT TEMP: ° C Work Order # ° C CUSTODY SEAL INTACT Y □ N □ NA
	DATE: 10 Scipt 16 RE	gern le	E C		PROJECT NO	PN 60	ANALYSIS REQUEST		inc. pH		HbC C J J		FECA BOD POD											PAYMENT CHEQUE CREDIT CREDIT DEBIT CASH INVOICE
CHAIN-OF-CUSTODY RECORD		Hemanths. TIME:	RELINQUISHED BY: DATE:	TIME:		Joy Lee Spill			Jonchlorina	ted) (bet (bet JATO ATOLVI	correc correc correc ER T ER T	TAW - 21 TAW - 21	ерн уос рне меть меть меть	>	2	>	>	>	1		1			
120-12791 Clarke Place, Richmond BC V6V Tei: (604) 279-1499 Fax: (604) 279-1599	102-3677 Hwy 97N, Kelowna BC V1X 5C3 Tel: (250) 765-9646 Fax: (250) 765-3893		en mil			POSTAL CODE:	all SI Hemonths		Turn-Around Time 1 Day*	Other*	_	TIME Cosk Ch (e, flow/volume media ID/notes)	БЯЕ	PM 75	.0	10	ND	25	IS		9			SPECIAL INSTRUCTIONS:
□ 120-12791 Clarke F Tel: (604) 279-1499			Hon Care.	2		K	SAMPLER:	FAX:	NEW/CHANGED		MATRIX 2 SAMPLING	SOIL RER RER RER RER RER RER RER RER RER RE	C N	1 2 52 M	2 2000 C			2000 100 100 100 100 100 100 100 100 100	2 attaces		-			SPECIAL IN
		ANALYTICAL SERVICES	CITENT NAME.	X	ADDRESS:	CITY: SUNCY PROV:	CONTACT:	TEL: (004-308-1484	REPORTING: SAME AS PREVIOUS (PROJECT)	NAME/EMAIL:			CLIENT SAMPLE ID	10-Base 1	10- Sox 2	10.60583	0.	10. Base S	9.003.0	10- D.0	10. DUD2	~		APPLICABLE REGULATORY LIMITS CANADIAN DRINKING WATER QUALITY GUIDELINES CANADIAN DRINKING WATER PROTECTION ACT/REG. COME CCME CCME

CERTIFICATE OF ANALYSIS



CLIENT	Levelton Consultants Ltd Hazmat Surrey #301 - 19292 - 60th Avenue		
	Surrey BC	TEL	(604) 533-2992
	V3S 8E5	FAX	(604) 533-0768
ATTENTION	Gail Schultze		
RECEIVED / TEMP	Sep-10-10 11:12 / 12.0 °C	WORK ORDER	R009169
REPORTED	Sep-15-10	PROJECT	FV10-1597-00
COC #(s)	22188, 22189	PROJECT INFO	Joy Lee Spill

General Comments:

CARO Analytical Services employs methods which are based on those found in "Standard Methods for the Examination of Water and Wastewater", 21st Edition, 2005, published by the American Public Health Association (APHA); US EPA protocols found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846", 3rd Edition; and protocols published by the British Columbia Ministry of Environment (BCMOE).

Methods not described in these publications are conducted according to procedures accepted by appropriate regulatory agencies, and/or are done in accordance with recognized professional standards using accepted testing methodologies and quality control efforts except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirity. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

· All solids results are reported on a dry weight basis unless otherwise noted

 Units: mg/kg = milligrams per kilogram, equivalent to parts per million (ppm) mg/L = milligrams per litre, equivalent to parts per million (ppm) ug/L = micrograms per litre, equivalent to parts per billion (ppb) ug/g = micrograms per gram, equivalent to parts per million (ppm) ug/m3 = micrograms per cubic meter of air

- "RDL" Reported detection limit
- "<" Less than reported detection limit
- "AO" Aesthetic objective
- "MAC" Maximum acceptable concentration (health-related guideline)
- "LAB" RMD = CARO Richmond location, KEL = CARO Kelowna location, SUB = Subcontracted

Please contact CARO if more information is needed.

CARO Analytical Services

Final Review Per:

Patrick Novak, B.Sc., PChem Business Manager

CARO Analytical Services (Richmond)

120 - 12791 Clarke Place Richmond, BC Canada V6V 2H9 Tel: (604) 279-1499 Fax: (604) 279-1599 Web: www.caro.ca



CLIENT Levelton Consultants Ltd Hazmat Surrey PROJECT FV10-1597-00	WORK ORDER # REPORTED				R009169 Sep-15-10	
Analyte Result	RDL	Units	Analyzed	Method	Lab	Notes
General Parameters						
10-NW1 (R009169-01) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 7.1	0.1	%	Sep-14-10	Dry @105C	RMD	
L0-NW2 (R009169-02) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 16.2	0.1	%	Sep-14-10	Dry @105C	RMD	
						معلن.
L0-SW1 (R009169-03) Matrix: Soil Sampled: Sep-09-10 12:00						
Noisture 7.6	0.1	%	Sep-14-10	Dry @105C	RMD	
10-SW2 (R009169-04) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 5.7	0.1	%	Sep-14-10	Dry @105C	RMD	
10-SW3 (R009169-05) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 7.4	0.1	%	Sep-14-10	Dry @105C	RMD	
10-WW1 (R009169-06) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 5.8	0.1	%	Sep-14-10	Dry @105C	RMD	
			and reduced have	u la orden	8.19.28	THE R
10-WW2 (R009169-07) Matrix: Soil Sampled: Sep-09-10 12:00		<u>.</u>	6 1110	D 01050		
Moisture 6.8	0.1	%	Sep-14-10	Dry @105C	RMD	
10-WW3 (R009169-08) Matrix: Soil Sampled: Sep-09-10 12:00				and a lot		
Moisture 5.0	0.1	%	Sep-14-10	Dry @105C	RMD	
10-WW4 (R009169-09) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 9.7	0.1	%	Sep-14-10	Dry @105C	RMD	
10-WW5 (R009169-10) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 7.0	0.1	%	Sep-14-10	Dry @105C	RMD	
					-	2.8
10-EW1 (R009169-11) Matrix: Soil Sampled: Sep-09-10 12:00 Moisture 7.9	0.1	%	Sep-14-10	Dry @105C	RMD	
	0.1	70	5cp 1110	Diy @1050	KIID	
10-EW2 (R009169-12) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 7.3	0.1	%	Sep-14-10	Dry @105C	RMD	
10-Base 1 (R009169-13) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 6.9	0.1	%	Sep-14-10	Dry @105C	RMD	
10-Base 2 (R009169-14) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 6.9	0.1	%	Sep-14-10	Dry @105C	RMD	
10-Base 3 (R009169-15) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 4.9	0.1	%	Sep-14-10	Dry @105C	RMD	
				.,		14
10-Base 4 (R009169-16) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 5.3	0.1	%	Sep-14-10	Dry @105C	RMD	ad daa
10-Base 5 (R009169-17) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture 4.1	0.1	%	Sep-14-10	Dry @105C	RMD	



CLIENT PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORD	ER #	R009169 Sep-15-1	
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Note
General Paramete	rs. Continued						
	,						
10-Base 6 (R009169	0-18) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture	6.4	0.1	%	Sep-14-10	Dry @105C	RMD	
10-Dup 1 (R009169	-19) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture	7.0	0.1	%	Sep-14-10	Dry @105C	RMD	-
	710	0.1	/0	5cp 1110	Dry @1050	KIID	
10-Dup 2 (R009169-	-20) Matrix: Soil Sampled: Sep-09-10 12:00						
Moisture	8.4	0.1	%	Sep-14-10	Dry @105C	RMD	
Aggregate Organi	c Parameters						
	01) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	1000	250	ma/ka day	Con 14 10	EPA 3570/BCMOE	DMD	
LEPHs (10-19)	1000		mg/kg dry mg/kg dry	Sep-14-10 Sep-14-10		RMD	
EPHs (19-32)	810		mg/kg dry mg/kg dry	and a stand of the stand of	EPA 3570/BCMOE	RMD RMD	
HEPHs	810		mg/kg dry	Sep-14-10		RMD	
Total PAH	0.18		mg/kg dry	Sep-14-10		RMD	
10 1000 (00000000							
	2) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250		mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
LEPHs	<250		mg/kg dry	Sep-14-10	BCMOE	RMD	
EPHs (19-32)	<250	250	mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
HEPHs Total PAH	<250		mg/kg dry	Sep-14-10		RMD	
	<0.10	0.10	mg/kg dry	Sep-14-10	BCMOE	RMD	
10-SW1 (R009169-0	3) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250	250	mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
LEPHs	<250	250	mg/kg dry	Sep-14-10		RMD	
EPHs (19-32)	<250	250	mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
HEPHs	<250	250	mg/kg dry	Sep-14-10	BCMOE	RMD	
Total PAH	<0.10		mg/kg dry	Sep-14-10	BCMOE	RMD	
10-SW2 (R009169-04	4) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250	250	mg/kg dry	Sep-14-10	EDA 2570/PCMOE	DMD	
EPHs	<250		mg/kg dry		EPA 3570/BCMOE	RMD	
EPHs (19-32)	<250		mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
HEPHs	<250		mg/kg dry	Sep-14-10 Sep-14-10		RMD RMD	
Total PAH	<0.10		mg/kg dry	Sep-14-10		RMD	
0-SW3 (R009169-04	5) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250	250	ma/k= d=	Cen 1110			
EPHs	<250		mg/kg dry		EPA 3570/BCMOE	RMD	
PHs (19-32)	<250		mg/kg dry	Sep-14-10		RMD	
IEPHs	<250		mg/kg dry		EPA 3570/BCMOE	RMD	
otal PAH	<0.10		mg/kg dry mg/kg dry	Sep-14-10		RMD	
		0.10	mg/kg ury	Sep-14-10	DUMUE	RMD	
and the second s	6) Matrix: Soil Sampled: Sep-09-10 12:00						
PHs (10-19)	<250	250	mg/kg dry	Son 14.10	EPA 3570/BCMOE	RMD	



ROJECT		Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORDER # REPORTED				
Analyte			Result	RDL	Units	Analyzed	Method	Lab	Notes
ggregat	e Organic P	arameters,	Continued				alkooli etste		. 101. L.P
10-WW1	(R009169-06)	Matrix: Soil	Sampled: Sep-09-10 12:00,	Continued					
LEPHs			<250		mg/kg dry	Sep-14-10	BCMOE	RMD	
EPHs (19-32	2)		<250		mg/kg dry		EPA 3570/BCMOE	RMD	
HEPHs	- /		<250		mg/kg dry	Sep-14-10		RMD	
otal PAH			<0.10		mg/kg dry	Sep-14-10	BCMOE	RMD	
10-WW2	(R009169-07)	Matrix: Soil	Sampled: Sep-09-10 12:00						
EPHs (10-19			<250	250	mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
_EPHs	/		<250		mg/kg dry	Sep-14-10		RMD	
EPHs (19-32	2)		<250		mg/kg dry		EPA 3570/BCMOE	RMD	
HEPHs	-/		<250		mg/kg dry	Sep-14-10		RMD	
Total PAH	5	an den Sine	<0.10		mg/kg dry	Sep-14-10		RMD	
10-WW3	(R009169-08)	Matrix: Soil	Sampled: Sep-09-10 12:00						
EPHs (10-19			<250	250	mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
_EPHs	·)		<250		mg/kg dry	Sep-14-10		RMD	
EPHs (19-32	2)		<250		mg/kg dry		EPA 3570/BCMOE	RMD	
HEPHs	-)		<250		mg/kg dry	Sep-14-10		RMD	
Total PAH		CR1. 10	<0.10		mg/kg dry	Sep-14-10		RMD	
10-WW4	(R009169-09)	Matrix: Soil	Sampled: Sep-09-10 12:00						
EPHs (10-19			<250	250	mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
LEPHs			<250	250	mg/kg dry	Sep-14-10	BCMOE	RMD	
EPHs (19-32	2)		<250	250	mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
HEPHs			<250	250	mg/kg dry	Sep-14-10	BCMOE	RMD	
Total PAH	<u>ki in patries</u>		<0.10	0.10	mg/kg dry	Sep-14-10	BCMOE	RMD	<u>A. 567</u>
10-WW5	(R009169-10)	Matrix: Soil	Sampled: Sep-09-10 12:00						
EPHs (10-19	9)		<250	250	mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
LEPHs			<250	250	mg/kg dry	Sep-14-10	BCMOE	RMD	
EPHs (19-32	2)		<250	250	mg/kg dry	Sep-14-10	EPA 3570/BCMOE	RMD	
HEPHs			<250	250	mg/kg dry	Sep-14-10	BCMOE	RMD	
Total PAH			<0.10	0.10	mg/kg dry	Sep-14-10	BCMOE	RMD	in strengt
10-EW1 (R009169-11)	Matrix: Soil	Sampled: Sep-09-10 12:00						
EPHs (10-19	9)		<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
LEPHs			<250	250	mg/kg dry	Sep-15-10	BCMOE	RMD	
EPHs (19-32	2)		<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
HEPHs			<250	250	mg/kg dry	Sep-15-10	BCMOE	RMD	
Total PAH			<0.10	0.10	mg/kg dry	Sep-15-10	BCMOE	RMD	(in partie
10-EW2 ((R009169-12)	Matrix: Soil	Sampled: Sep-09-10 12:00						2945-11
EPHs (10-19	9)		<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
LEPHs			<250		mg/kg dry	Sep-15-10	BCMOE	RMD	
EPHs (19-32	2)		<250		mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
			<250		mg/kg dry	Sep-15-10		RMD	
HEPHs			220						



CLIENT PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORDER # REPORTED		R009169 Sep-15-10	
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
Aggregate Org	anic Parameters, Continued						
10-Base 1 (R009	0169-13) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
LEPHs	<250		mg/kg dry	Sep-15-10		RMD	
EPHs (19-32)	<250		mg/kg dry	Contraction of the second	EPA 3570/BCMOE	RMD	
HEPHs	<250	250		Sep-15-10		RMD	
Total PAH	<0.10		mg/kg dry	Sep-15-10		RMD	
10-Base 2 (R009	169-14) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
LEPHs	<250		mg/kg dry	Sep-15-10		RMD	
EPHs (19-32)	<250		mg/kg dry	•••••••••••••••••••••••••••••••••••••••	EPA 3570/BCMOE	RMD	
HEPHs	<250		mg/kg dry	Sep-15-10		RMD	
Total PAH	<0.10		mg/kg dry	Sep-15-10		RMD	
10-Base 3 (R009	169-15) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
LEPHs	<250		mg/kg dry	Sep-15-10		RMD	
EPHs (19-32)	<250		mg/kg dry		EPA 3570/BCMOE	RMD	
HEPHs	<250		mg/kg dry	Sep-15-10		RMD	
Total PAH	<0.10		mg/kg dry	Sep-15-10		RMD	
10-Base 4 (R009	169-16) Matrix: Soil Sampled: Sep-09-10 12:00						1.56
EPHs (10-19)	<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
LEPHs	<250		mg/kg dry	Sep-15-10		RMD	
EPHs (19-32)	<250		mg/kg dry				
HEPHs	<250		mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
Total PAH	<0.10		mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10		RMD RMD	
10-Base 5 (R009)	169-17) Matrix: Soil Sampled: Sep-09-10 12:00		/				
EPHs (10-19)	610	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
EPHs	610		mg/kg dry	Sep-15-10		RMD	
EPHs (19-32)	<250		mg/kg dry		EPA 3570/BCMOE	RMD	
HEPHs	<250		mg/kg dry	Sep-15-10		RMD	
Total PAH	<0.10		mg/kg dry	Sep-15-10		RMD	
LO-Base 6 (R0091	L69-18) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
EPHs	<250		mg/kg dry	Sep-15-10		RMD	
PHs (19-32)	<250		mg/kg dry		EPA 3570/BCMOE	RMD	
HEPHs	<250		mg/kg dry	Sep-15-10	and the second se	RMD	
Total PAH	<0.10	0.10	mg/kg dry	Sep-15-10		RMD	
0-Dup 1 (R0091	69-19) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	121.12
.EPHs	<250		mg/kg dry	Sep-15-10		RMD	
PHs (19-32)	<250		mg/kg dry		EPA 3570/BCMOE	RMD	
IEPHs	<250		mg/kg dry	Sep-15-10		RMD	
otal PAH	<0.10		mg/kg dry	Sep-15-10		RMD	



CLIENT PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORD	ER #	R009169 Sep-15-1	
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
Aggregate Organic	Parameters, Continued		10 (se) -	ni požura			
10-Dup 2 (R009169-2	0) Matrix: Soil Sampled: Sep-09-10 12:00						
EPHs (10-19)	<250	250	mg/kg dry	Sep-15-10	EPA 3570/BCMOE	RMD	
LEPHs	<250		mg/kg dry	Sep-15-10		RMD	
EPHs (19-32)	<250		mg/kg dry		EPA 3570/BCMOE	RMD	
HEPHs	<250	250		Sep-15-10			
Total PAH	<0.10		mg/kg dry	Sep-15-10 Sep-15-10		RMD RMD	
Polycyclic Aromatic	Hydrocarbons by GCMS	a desse de		harrast i coir i			
) Matrix: Soil Sampled: Sep-09-10 12:00						
Acenaphthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Acenaphthylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Anthracene	<0.10	0.10			EPA 3570/8270D	RMD	
Benzo (a) anthracene	<0.10		mg/kg dry mg/kg dry	· · · · · · · · · · · · · · · · · · ·	EPA 3570/8270D EPA 3570/8270D		
Benzo (a) pyrene	<0.10		mg/kg dry	NY CONTRACTOR	EPA 3570/8270D EPA 3570/8270D	RMD	
Benzo (b) fluoranthene	<0.10		mg/kg dry			RMD	
Benzo (g,h,i) perylene	<0.10			C-1.	EPA 3570/8270D	RMD	
Benzo (k) fluoranthene	<0.10	0.10	mg/kg dry		EPA 3570/8270D	RMD	
Chrysene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Fluorene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Indeno (1,2,3-cd) pyrene			mg/kg dry		EPA 3570/8270D	RMD	
Naphthalene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Phenanthrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Pyrene	0.18		mg/kg dry		EPA 3570/8270D	RMD	
Surrogate: Naphthalene-d8	57 %	50-130		Sep-14-10			
Surrogate: Acenaphthene-d10 Surrogate: Phenanthrene-d10		50-130		Sep-14-10			
Surrogate: Perylene-d12	91 %	60-130		Sep-14-10			
		60-130		Sep-14-10			
Acenaphthene) Matrix: Soil Sampled: Sep-09-10 12:00 <0.10	0.10	mg/kg dry	Sen-14-10	EPA 3570/8270D	RMD	
Acenaphthylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (a) anthracene	<0.10		mg/kg dry		EPA 3570/8270D EPA 3570/8270D	RMD	
Benzo (a) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (b) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (k) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Chrysene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10		mg/kg dry				
Fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Fluorene	<0.10				EPA 3570/8270D	RMD	
Indeno (1,2,3-cd) pyrene			mg/kg dry		EPA 3570/8270D	RMD	
Naphthalene	<0.10 <0.10		mg/kg dry		EPA 3570/8270D	RMD	
			mg/kg dry		EPA 3570/8270D	RMD	
Phenanthrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	



CLIENT PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORD	ER #	R009169 Sep-15-1	0
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
Polycyclic Aromatic	Hydrocarbons by GCMS, Continued						
10-NW2 (R009169-02)) Matrix: Soil Sampled: Sep-09-10 12:00, Co	ntinued					
Pyrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Surrogate: Naphthalene-d8	65 %	50-130		Sep-14-10			
Surrogate: Acenaphthene-d10	68 %	50-130		Sep-14-10			
Surrogate: Phenanthrene-d10	64 %	60-130		Sep-14-10			
Surrogate: Perylene-d12	91 %	60-130	101.0077	Sep-14-10			
10-SW1 (R009169-03)	Matrix: Soil Sampled: Sep-09-10 12:00						
Acenaphthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Acenaphthylene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Anthracene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Benzo (a) anthracene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Benzo (a) pyrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Benzo (b) fluoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Benzo (k) fluoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Chrysene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Fluoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Fluorene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Indeno (1,2,3-cd) pyrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Naphthalene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Phenanthrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Pyrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Surrogate: Naphthalene-d8	68 %	50-130		Sep-14-10			
Surrogate: Acenaphthene-d10	68 %	50-130		Sep-14-10			
Surrogate: Phenanthrene-d10	65 %	60-130		Sep-14-10			
Surrogate: Perylene-d12	77 %	60-130		Sep-14-10	andre Marches		
LO-SW2 (R009169-04)	Matrix: Soil Sampled: Sep-09-10 12:00						
Acenaphthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Acenaphthylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Anthracene	<0.10	0.10	mg/kg dry		EPA 3570/8270D	RMD	

Surrogate: Naphthalene-d8	64 %	50-130 Sep-14-10
Pyrene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Phenanthrene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Naphthalene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Indeno (1,2,3-cd) pyrene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Fluorene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Fluoranthene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Dibenz (a,h) anthracene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Chrysene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Benzo (k) fluoranthene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Benzo (g,h,i) perylene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Benzo (b) fluoranthene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Benzo (a) pyrene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Benzo (a) anthracene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
Anthracene	<0.10	0.10 mg/kg dry Sep-14-10 EPA 3570/8270D RMD
	40.10	0.10 mg/kg ury Sep-14-10 EPA 3570/8270D RMD

CARO Analytical Services (Richmond)



PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORD	ER #	R009169 Sep-15-1	0
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
olycyclic Aromatic	Hydrocarbons by GCMS, Continued	8-40 - 1920 - 2			Saray 1 alas	1.1345 (B).13	
0-SW2 (R009169-04)	Matrix: Soil Sampled: Sep-09-10 12:00, Co	ntinued					
Surrogate: Acenaphthene-d10	64 %	50-130		Sep-14-10			
Surrogate: Phenanthrene-d10	61 %	60-130		Sep-14-10			
urrogate: Perylene-d12	80 %	60-130		Sep-14-10			849. J. J.
0-SW3 (R009169-05)	Matrix: Soil Sampled: Sep-09-10 12:00						
cenaphthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
cenaphthylene	<0.10		mg/kg dry	be been all all all all all all all all all al	EPA 3570/8270D	RMD	
nthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
enzo (a) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
enzo (a) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
enzo (b) fluoranthene	<0.10		mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
enzo (g,h,i) perylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
enzo (k) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
hrysene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
ibenz (a,h) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
uoranthene	<0.10		mg/kg dry	Contract of the second s	EPA 3570/8270D	RMD	
uorene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
deno (1,2,3-cd) pyrene	<0.10		mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
aphthalene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
nenanthrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
/rene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
urrogate: Naphthalene-d8	69 %	50-130	ing/itg dry	Sep-14-10	2171 337 07 027 00	KIID	
urrogate: Acenaphthene-d10	69 %	50-130		Sep-14-10			
urrogate: Phenanthrene-d10	68 %	60-130		Sep-14-10			
urrogate: Perylene-d12	74 %	60-130		Sep-14-10		Aserile - Store	
0-WW1 (R009169-06) Matrix: Soil Sampled: Sep-09-10 12:00						
cenaphthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
cenaphthylene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
nthracene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
enzo (a) anthracene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
enzo (a) pyrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
enzo (b) fluoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
enzo (g,h,i) perylene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
enzo (k) fluoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
nrysene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
benz (a,h) anthracene	<0.10		mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
uoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Jorene	<0.10		mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
deno (1,2,3-cd) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
aphthalene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
nenanthrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
/rene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
urrogate: Naphthalene-d8	65 %	50-130		Sep-14-10			
irrogate: Acenaphthene-d10	67 %	50-130		Sep-14-10			
urrogate: Phenanthrene-d10	66 %	60-130		Sep-14-10			



CLIENT PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00		WORK ORDER # REPORTED	R009169 Sep-15-10
Analyte	Result	RDL Units	Analyzed Method	Lab Notes
	c Hydrocarbons by GCMS, Continued 6) Matrix: Soil Sampled: Sep-09-10 12:00, Co	ontinued		
Surrogate: Perylene-d12	76 %	60-130	Sep-14-10	
10-WW2 (R009169-0	7) Matrix: Soil Sampled: Sep-09-10 12:00			
Acenaphthene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Acenaphthylene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Anthracene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Benzo (a) anthracene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Benzo (a) pyrene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Benzo (b) fluoranthene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Benzo (g,h,i) perylene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Benzo (k) fluoranthene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Chrysene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Dibenz (a,h) anthracene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Fluoranthene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Fluorene	<0.10	0.10 mallia day	Can 14 10 EDA 2530/02300	BIND

ridorantifiche	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Fluorene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Indeno (1,2,3-cd) pyrene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Naphthalene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Phenanthrene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Pyrene	<0.10	0.10 mg/kg dry	Sep-14-10 EPA 3570/8270D	RMD
Surrogate: Naphthalene-d8	64 %	50-130	Sep-14-10	
Surrogate: Acenaphthene-d10	64 %	50-130	Sep-14-10	
Surrogate: Phenanthrene-d10	62 %	60-130	Sep-14-10	
Surrogate: Perylene-d12	77 %	60-130	Sep-14-10	

Acenaphthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Acenaphthylene	<0.10	0.10	mg/kg dry	Sep-14-10		RMD
Anthracene	<0.10	0.10	mg/kg dry	Sep-14-10		RMD
Benzo (a) anthracene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Benzo (a) pyrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Benzo (b) fluoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Benzo (g,h,i) perylene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Benzo (k) fluoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Chrysene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Dibenz (a,h) anthracene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Fluoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Fluorene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Indeno (1,2,3-cd) pyrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Naphthalene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Phenanthrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Pyrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD
Surrogate: Naphthalene-d8	68 %	50-130		Sep-14-10		
Surrogate: Acenaphthene-d10	69 %	50-130		Sep-14-10		
Surrogate: Phenanthrene-d10	65 %	60-130		Sep-14-10		
Surrogate: Perylene-d12	84 %	60-130		Sep-14-10		



ROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORD	ER #	R009169 Sep-15-1	0
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
Polycyclic Aromatic	Hydrocarbons by GCMS, Continued	The spiral gase		n generation of the		ana	<u>kisoo</u>
10-WW4 (R009169-09) Matrix: Soil Sampled: Sep-09-10 12:00						
Acenaphthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Acenaphthylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Anthracene	<0.10		mg/kg dry	Kanan Julya Halad	EPA 3570/8270D	RMD	
Benzo (a) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (a) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (b) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene	<0.10		mg/kg dry	a strange and a strange at the	EPA 3570/8270D	RMD	
Benzo (k) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Chrysene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Fluoranthene				2 3 C 1	EPA 3570/8270D	RMD	
	<0.10		mg/kg dry				
Fluorene	<0.10		mg/kg dry	· · · ·	EPA 3570/8270D	RMD	
Indeno (1,2,3-cd) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Naphthalene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Phenanthrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Surrogate: Naphthalene-d8	65 %	50-130		Sep-14-10			
Surrogate: Acenaphthene-d10		50-130		Sep-14-10			
Surrogate: Phenanthrene-d10		60-130		Sep-14-10			
Surrogate: Perylene-d12	88 %	60-130		Sep-14-10		MARY ANY	
) Matrix: Soil Sampled: Sep-09-10 12:00						
Acenaphthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Acenaphthylene	<0.10		mg/kg dry	State Contraction	EPA 3570/8270D	RMD	
Anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (a) anthracene	<0.10		mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Benzo (a) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (b) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Benzo (k) fluoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Chrysene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
luoranthene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
luorene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
ndeno (1,2,3-cd) pyrene	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
	<0.10	0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
		0.10	mg/kg dry	Sep-14-10	EPA 3570/8270D	RMD	
	<0.10			6 14.10	EPA 3570/8270D	RMD	
Phenanthrene Pyrene	<0.10 <0.10		mg/kg dry	Sep-14-10	EIA 3370/02700		
Phenanthrene Pyrene			mg/kg dry	Sep-14-10 Sep-14-10	EI A 3370/02/00		
Phenanthrene Pyrene Surrogate: Naphthalene-d8	<0.10 65 %	0.10	mg/kg dry		217 337 67 627 68		
Naphthalene Phenanthrene Syrrogate: Naphthalene-d8 Surrogate: Acenaphthene-d10 Surrogate: Phenanthrene-d10	<0.10 65 %	0.10 <i>50-130</i>	mg/kg dry	Sep-14-10			
Phenanthrene Pyrene Surrogate: Naphthalene-d8 Surrogate: Acenaphthene-d10	<0.10 65 % 67 %	0.10 <i>50-130</i> <i>50-130</i>	mg/kg dry	Sep-14-10 Sep-14-10	217 3576 02765		
Phenanthrene Pyrene Surrogate: Naphthalene-d8 Surrogate: Acenaphthene-d10 Surrogate: Phenanthrene-d10 Surrogate: Perylene-d12	<0.10 65 % 67 % 61 %	0.10 50-130 50-130 60-130	mg/kg dry	Sep-14-10 Sep-14-10 Sep-14-10			
Phenanthrene Pyrene Surrogate: Naphthalene-d8 Surrogate: Acenaphthene-d10 Surrogate: Phenanthrene-d10 Surrogate: Perylene-d12	<0.10 65 % 67 % 61 % 84 %	0.10 50-130 50-130 60-130 60-130	mg/kg dry mg/kg dry	Sep-14-10 Sep-14-10 Sep-14-10 Sep-14-10	EPA 3570/8270D	RMD	



PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORD	ER #	R009169 Sep-15-1	0
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Note
Polycyclic Aromatic	c Hydrocarbons by GCMS, Continued						
10-EW1 (R009169-11) Matrix: Soil Sampled: Sep-09-10 12:00, Con	tinued					
Anthracene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Benzo (a) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (a) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (b) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (k) fluoranthene	<0.10	0.10			EPA 3570/8270D	RMD	
Chrysene	<0.10		mg/kg dry	-	EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D EPA 3570/8270D	RMD	
Fluorene	<0.10		mg/kg ary mg/kg dry		EPA 3570/8270D EPA 3570/8270D	RMD	
Indeno (1,2,3-cd) pyrene	<0.10						
Naphthalene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Phenanthrene			mg/kg dry		EPA 3570/8270D	RMD	
Pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Surrogate: Naphthalene-d8	<0.10 69 %		mg/kg dry	· · · · · · · · · · · · · · · · · · ·	EPA 3570/8270D	RMD	
		50-130		Sep-15-10			
Surrogate: Acenaphthene-d10 Surrogate: Phenanthrene-d10		50-130		Sep-15-10			
Surrogate: Perylene-d12	62 % 88 %	60-130 60-130		Sep-15-10 Sep-15-10			
Acenaphthene Acenaphthylene	<0.10 <0.10		mg/kg dry		EPA 3570/8270D	RMD	
Anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (a) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (a) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (b) fluoranthene		0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D		
						RMD	
	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD RMD	
ienzo (g,h,i) perylene ienzo (k) fluoranthene	<0.10 <0.10	0.10 0.10	mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene	<0.10 <0.10 <0.10	0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene	<0.10 <0.10 <0.10 <0.10	0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Iuoranthene	<0.10 <0.10 <0.10 <0.10 <0.10	0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Iuoranthene Iuorene	<0.10 <0.10 <0.10 <0.10 <0.10 <0.10	0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Iuoranthene Iuorene Indeno (1,2,3-cd) pyrene	<0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10	0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Iuoranthene Iuorene Indeno (1,2,3-cd) pyrene Iaphthalene	<0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10	0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Duoranthene Iuoranthene Iuorene Indeno (1,2,3-cd) pyrene Iaphthalene henanthrene	<0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Iuoranthene Iuorene Indeno (1,2,3-cd) pyrene Iaphthalene henanthrene yrene	<0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene luoranthene luorene ndeno (1,2,3-cd) pyrene aphthalene henanthrene yrene <i>uurogate: Naphthalene-d8</i>	<0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Iuoranthene Iuorene Indeno (1,2,3-cd) pyrene Iaphthalene henanthrene yrene <i>Turogate: Naphthalene-d8</i> <i>Turogate: Acenaphthene-d10</i>	$ \begin{array}{c} <0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\\\\hline69\%\\69\%\\69\%\end{array} $	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD RMD	
Banzo (g,h,i) perylene Banzo (g,h,i) perylene Banzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Fluoranthene Fluoranthene Huoranthene Haphthalene Phenanthrene Pyrene Fluorogate: Naphthalene-d8 Fluorogate: Acenaphthene-d10 Fluorogate: Phenanthrene-d10 Fluorogate: Perylene-d12	<0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Iuoranthene Iuoranthene Iuorene ndeno (1,2,3-cd) pyrene Iaphthalene henanthrene yrene <i>Turogate: Naphthalene-d8</i> <i>Turogate: Acenaphthene-d10</i> <i>Turogate: Phenanthrene-d10</i> <i>Turogate: Perylene-d12</i>	$ \begin{array}{c} <0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\\\\hline 69\%\\\\69\%\\\\64\%\end{array} $	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Fluoranthene Fluoranthene Iluorene Indeno (1,2,3-cd) pyrene Iaphthalene Henanthrene Yrene Wirrogate: Naphthalene-d8 Wirrogate: Naphthalene-d8 Wirrogate: Phenanthrene-d10 Wirrogate: Phenanthrene-d10 Wirrogate: Perylene-d12 O-Base 1 (R009169-13	$ \begin{array}{c} <0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\<0.10\\\\\hline69\%\\\\69\%\\\\64\%\\\\79\%\\\\79\%\end{array} $	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Fluoranthene Fluoranthene Iuorene Indeno (1,2,3-cd) pyrene laphthalene thenanthrene tyrene <i>Turrogate: Naphthalene-d8</i> <i>Turrogate: Naphthalene-d10</i> <i>Turrogate: Phenanthrene-d10</i> <i>Turrogate: Perylene-d12</i> 0-Base 1 (R009169-13 cenaphthene	 <0.10 	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 50-130 50-130 60-130 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD RMD	
Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenz (a,h) anthracene Fluoranthene Fluoranthene Iduorene Indeno (1,2,3-cd) pyrene Iaphthalene Idenanthrene Yrene Furrogate: Naphthalene-d8 Furrogate: Naphthalene-d10 Furrogate: Phenanthrene-d10 Furrogate: Perylene-d12	 <0.10 <0.9 % 69 % 64 % 79 % 3) Matrix: Soil Sampled: Sep-09-10 12:00 	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 50-130 50-130 60-130 0.10 0.10	mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D EPA 3570/8270D	RMD RMD RMD RMD RMD RMD RMD RMD RMD	



PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORD	ER #	R009169 Sep-15-1	
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
olycyclic Aromati	c Hydrocarbons by GCMS, Continued	b.asp. de		a ya kata ka		52-54 () ()	
10-Base 1 (R009169-	13) Matrix: Soil Sampled: Sep-09-10 12:00, C	ontinued					
Benzo (a) pyrene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Benzo (b) fluoranthene	<0.10		mg/kg dry	1.00	EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene	<0.10		mg/kg dry	1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EPA 3570/8270D	RMD	
Benzo (k) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Chrysene	<0.10						
Dibenz (a,h) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
,			mg/kg dry		EPA 3570/8270D	RMD	
Fluoranthene Fluorene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Indeno (1,2,3-cd) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Naphthalene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Phenanthrene	<0.10	0.10	mg/kg dry		EPA 3570/8270D	RMD	
Pyrene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Surrogate: Naphthalene-d8	73 %	50-130		Sep-15-10			
Surrogate: Acenaphthene-d1	0 71 %	50-130		Sep-15-10			
Surrogate: Phenanthrene-d1	0 64 %	60-130		Sep-15-10			
Surrogate: Perylene-d12	83 %	60-130		Sep-15-10			
Acenaphthylene	<0.10	0.10	mg/kg dry mg/kg dry	Sep-15-10	EPA 3570/8270D EPA 3570/8270D	RMD	
Anthracene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Benzo (a) anthracene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Benzo (a) pyrene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Benzo (b) fluoranthene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Benzo (k) fluoranthene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Chrysene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Fluoranthene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Fluorene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Indeno (1,2,3-cd) pyrene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Naphthalene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Phenanthrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Surrogate: Naphthalene-d8	71 %	50-130	5. 5 - 1	Sep-15-10			
		50-130		Sep-15-10			
Surrogate: Acenaphthene-d1		60-130		Sep-15-10			
	73 %						
Surrogate: Phenanthrene-d10	73 % 88 %	60-130		Sep-15-10			
Surrogate: Phenanthrene-d10 Surrogate: Perylene-d12			21	Sep-15-10			
Surrogate: Phenanthrene-d10 Surrogate: Perylene-d12	88 %	60-130	mg/kg dry		EPA 3570/8270D	RMD	
Surrogate: Phenanthrene-d10 Surrogate: Perylene-d12 10-Base 3 (R009169-	88 % 15) Matrix: Soil Sampled: Sep-09-10 12:00	<i>60-130</i> 0.10	mg/kg dry mg/kg dry	Sep-15-10	EPA 3570/8270D EPA 3570/8270D	RMD RMD	
Surrogate: Phenanthrene-d10 Surrogate: Perylene-d12 10-Base 3 (R009169- Acenaphthene	88 % 15) Matrix: Soil Sampled: Sep-09-10 12:00 <0.10 <0.10	<i>60-130</i> 0.10 0.10	mg/kg dry	Sep-15-10 Sep-15-10	EPA 3570/8270D	RMD	
Surrogate: Phenanthrene-d10 Surrogate: Perylene-d12 10-Base 3 (R009169- Acenaphthene Acenaphthylene Anthracene	88 % 15) Matrix: Soil Sampled: Sep-09-10 12:00 <0.10 <0.10 <0.10	60-130 0.10 0.10 0.10	mg/kg dry mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D EPA 3570/8270D	RMD RMD	
Surrogate: Phenanthrene-d10 Surrogate: Perylene-d12 10-Base 3 (R009169- Acenaphthene Acenaphthylene	88 % 15) Matrix: Soil Sampled: Sep-09-10 12:00 <0.10 <0.10	60-130 0.10 0.10 0.10 0.10	mg/kg dry	Sep-15-10 Sep-15-10 Sep-15-10 Sep-15-10	EPA 3570/8270D	RMD	



GCMS, Continued Intra Field Intra Field	CLIENT PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00				WORK ORE		R009169 Sep-15-1	
Ided: Sep-09-10 12:00, Continued 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry S	Analyte	Result	RDL		Units	Analyzed	Method	Lab	Note
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10	Polycyclic Aromatic	Hydrocarbons by GCMS, Continued							
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10	10-Base 3 (R009169-1	.5) Matrix: Soil Sampled: Sep-09-10 12:00,	Continued						
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD % 50-130 Sep-15-10 EPA 3570/8270D RMD % 60-130 Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry	Benzo (g,h,i) perylene	<0.10	0.10	0 1	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10	Benzo (k) fluoranthene	<0.10							
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD % 50-130 Sep-15-10 EPA 3570/8270D RMD % 60-130 Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry	Chrysene	<0.10							
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD % 50-130 Sep-15-10 EPA 3570/8270D RMD % 60-130 Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry	Dibenz (a,h) anthracene	<0.10							
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10	Fluoranthene	<0.10							
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD % 50-130 Sep-15-10 EPA 3570/8270D RMD % 60-130 Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry	Fluorene	<0.10							
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10	Indeno (1,2,3-cd) pyrene	<0.10							
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD % 50-130 Sep-15-10 EPA 3570/8270D RMD % 50-130 Sep-15-10 EPA 3570/8270D RMD % 60-130 Sep-15-10 EPA 3570/8270D RMD % 60-130 Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D<	Naphthalene								
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD % 50-130 Sep-15-10 FPA 3570/8270D RMD % 50-130 Sep-15-10 FPA 3570/8270D RMD % 60-130 Sep-15-10 FPA 3570/8270D RMD % 60-130 Sep-15-10 FPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D<		<0.10							
% 50-130 Sep-15-10 M.I.C % 50-130 Sep-15-10 % % 60-130 Sep-15-10 % % 60-130 Sep-15-10 % % 60-130 Sep-15-10 % % 60-130 Sep-15-10 % Med: Sep-09-10 12:00 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10	Phenanthrene	<0.10							
% 50-130 Sep-15-10 % 60-130 Sep-15-10 % Sep-09-10 12:00 RMD 10 0.10 mg/kg dry Sep-15-10 % Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D <t< td=""><td>Pyrene</td><td><0.10</td><td></td><td>) r</td><td>mg/kg dry</td><td></td><td>EPA 3570/8270D</td><td>RMD</td><td></td></t<>	Pyrene	<0.10) r	mg/kg dry		EPA 3570/8270D	RMD	
% 60-130 Sep-15-10 % 60-130 Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10	Surrogate: Naphthalene-d8	70 %							
% 60-130 Sep-15-10 Ped: Sep-09-10 12:00 RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	Surrogate: Acenaphthene-d10					Sep-15-10			
International Sep 15 10 Sep 15 10 Indext 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD Indext 0.10 <t< td=""><td>Surrogate: Phenanthrene-d10</td><td>62 %</td><td></td><td></td><td></td><td>Sep-15-10</td><td></td><td></td><td></td></t<>	Surrogate: Phenanthrene-d10	62 %				Sep-15-10			
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD <t< td=""><td>Surrogate: Perylene-d12</td><td>89 %</td><td>60-130</td><td>1</td><td></td><td>Sep-15-10</td><td>eter par l'ita eta an</td><td></td><td></td></t<>	Surrogate: Perylene-d12	89 %	60-130	1		Sep-15-10	eter par l'ita eta an		
10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD <t< td=""><td>10-Base 4 (R009169-1</td><td>6) Matrix: Soil Sampled: Sep-09-10 12:00</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	10-Base 4 (R009169-1	6) Matrix: Soil Sampled: Sep-09-10 12:00							
10 0.10 mg/kg dry Sep-15.10 E/A 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD <t< td=""><td>Acenaphthene</td><td><0.10</td><td>0.10</td><td>) n</td><td>na/ka day</td><td>Sop 15 10</td><td>EDA 2570/0270D</td><td>DMD</td><td></td></t<>	Acenaphthene	<0.10	0.10) n	na/ka day	Sop 15 10	EDA 2570/0270D	DMD	
10 0.10 mg/kg dry Sep-15 to E/A 3570/6270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD <t< td=""><td>Acenaphthylene</td><td><0.10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Acenaphthylene	<0.10							
10 0.10 mg/kg dry Sep 15 10 EI A 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD <	Anthracene	<0.10			-				
10 0.10 mg/kg dry Sep 15 10 EI A 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD <	Benzo (a) anthracene	<0.10							
10 0.10 mg/kg dry Sep 15 10 EI A 3570/62700 RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD <	Benzo (a) pyrene	<0.10							
10 0.10 mg/kg dry Sep 1510 EPA 3570/8270D RMD 10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD <td>Benzo (b) fluoranthene</td> <td><0.10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Benzo (b) fluoranthene	<0.10							
0 0.10 mg/kg dry Sep 1510 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	Benzo (g,h,i) perylene							RMD	
0 0.10 mg/rg dry Sep 15 10 EFA 3570/6270D RMD 0 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep 15-10 EPA 3570/8270D RMD	Benzo (k) fluoranthene	<0.10				Sep-15-10	EPA 3570/8270D	RMD	
0 0.10 mg/rg dry Sep 15 10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD		<0.10	0.10	m	ng/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
0 0.10 mg/kg dry Sep 15-10 EPA 3570/6270D RMD 0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	Chrysene	<0.10	0.10	m	ng/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	Dibenz (a,h) anthracene	<0.10	0.10	m	ig/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	luoranthene	<0.10	0.10	m	ig/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	luorene	<0.10	0.10	m	g/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	ndeno (1,2,3-cd) pyrene	<0.10	0.10	m	g/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
	 A static static 	<0.10	0.10	m	g/kg dry				
0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	henanthrene	<0.10	0.10	m	g/kg dry				
	yrene	<0.10							
	Gurrogate: Naphthalene-d8	78 %	50-130					i i i b	
	Surrogate: Acenaphthene-d10	75 %	50-130						
	Surrogate: Phenanthrene-d10	70 %	60-130						
% 60-130 Sep-15-10	Turrogate: Perylene-d12	87 %	60-130						
0 % %	Naphthalene Phenanthrene Svrogate: Naphthalene-d8 Svrogate: Acenaphthene-d10 Svrogate: Phenanthrene-d10	<0.10 <0.10 78 % 75 % 70 %		0.10 0.10 50-130 50-130 60-130	0.10 m 0.10 m 0.10 m 50-130 50-130 60-130	0.10 mg/kg dry 0.10 mg/kg dry 0.10 mg/kg dry 50-130 50-130 60-130	0.10 mg/kg dry Sep-15-10 0.10 mg/kg dry Sep-15-10 0.10 mg/kg dry Sep-15-10 50-130 Sep-15-10 50-130 Sep-15-10 60-130 Sep-15-10 60-130 Sep-15-10	0.10 mg/kg dry Sep-15-10 EPA 3570/8270D 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D 50-130 Sep-15-10 EPA 3570/8270D 50-130 Sep-15-10 EPA 3570/8270D 60-130 Sep-15-10 Sep-15-10	0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 50-130 Sep-15-10 EPA 3570/8270D RMD 50-130 Sep-15-10 EPA 3570/8270D RMD 60-130 Sep-15-10 Sep-15-10 Sep-15-10
						Sep-15-10			
50 15 50p 15-10	anogale. reryiene-012	87 %	60-130		1. 2.84	Sep-15-10	and the set of the		3
Sep 15-10	.0-Base 5 (R009169-17) Matrix: Soil Sampled: Sep-09-10 12:00							
% 60-130 Sep-15-10	cenaphthene	<0.10	0.10	mr	a/kg drv	Sep-15-10	FPA 3570/82700	PMD	
% 60-130 Sep-15-10 d: Sep-09-10 12:00 0.10 m//m.1 0.10 m//m.1	cenaphthylene	<0.10							
% 60-130 Sep-15-10 d: Sep-09-10 12:00 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	nthracene	<0.10		-				RMD	
60-130 Sep-15-10 od: Sep-09-10 12:00 0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	enzo (a) anthracene					Sep-15-10	EPA 3570/8270D	RMD	
60-130 Sep-15-10 60-130 Sep-15-10 EPA 3570/8270D RMD 60-130 Sep-15-10 EPA 3570/8270D RMD		<0.10	0.10	mg	g/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
60-130 Sep-15-10 60-130 Sep-15-10 EPA 3570/8270D RMD	enzo (a) pyrene	<0.10	0.10	mg	g/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
% 60-130 Sep-15-10 % 60-130 Sep-15-10 % 80-130 Sep-15-10 % 90-10 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD % 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	enzo (b) fluoranthene	<0.10	0.10	mg	j/kg dry				
% 60-130 Sep-15-10 % 8 Sep-15-10 EPA 3570/8270D RMD % 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	enzo (g,h,i) perylene	<0.10						RMD	
% 60-130 Sep-15-10 sd: Sep-09-10 12:00 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD 0 0.10 mg/kg dry Sep-15-10 EPA 3570/8270D RMD	enzo (k) fluoranthene	<0.10		9				NI-ID	



CLIENT PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORD	ER #	R009169 Sep-15-1	0
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
olycyclic Aromatic	Hydrocarbons by GCMS, Continued	i Render		n an	genbyk sing	0014. See 2	
LO-Base 5 (R009169-1	.7) Matrix: Soil Sampled: Sep-09-10 12:00, 0	Continued					
Chrysene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10		mg/kg dry	1.1.1.1	EPA 3570/8270D	RMD	
luoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
luorene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
ndeno (1,2,3-cd) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
aphthalene	<0.10	0.10	mg/kg dry		EPA 3570/8270D	RMD	
henanthrene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
yrene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
urrogate: Naphthalene-d8	56 %	50-130		Sep-15-10			
urrogate: Acenaphthene-d10	61 %	50-130		Sep-15-10			
urrogate: Phenanthrene-d10	62 %	60-130		Sep-15-10			
urrogate: Perylene-d12	74 %	60-130		Sep-15-10			
0-Base 6 (R009169-1	8) Matrix: Soil Sampled: Sep-09-10 12:00						
cenaphthene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
cenaphthylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
nthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
enzo (a) anthracene	<0.10		mg/kg dry	for the second sec	EPA 3570/8270D	RMD	
enzo (a) pyrene	<0.10		mg/kg dry	1. Oh-	EPA 3570/8270D	RMD	
enzo (b) fluoranthene	<0.10	0.10	mg/kg dry		EPA 3570/8270D	RMD	
enzo (g,h,i) perylene	<0.10	0.10	mg/kg dry		EPA 3570/8270D	RMD	
enzo (k) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
hrysene	<0.10		mg/kg dry	and the second second second	EPA 3570/8270D	RMD	
ibenz (a,h) anthracene	<0.10		mg/kg dry	S. J	EPA 3570/8270D	RMD	
luoranthene	<0.10		mg/kg dry	A Read	EPA 3570/8270D	RMD	
luorene	<0.10	0.10	mg/kg dry		EPA 3570/8270D	RMD	
ndeno (1,2,3-cd) pyrene	<0.10	0.10	mg/kg dry		EPA 3570/8270D	RMD	
aphthalene	<0.10	0.10	mg/kg dry		EPA 3570/8270D	RMD	
henanthrene	<0.10		mg/kg dry	in the second	EPA 3570/8270D	RMD	
yrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
urrogate: Naphthalene-d8	67 %	50-130	ing/kg ury	Sep-15-10	LFR 3370/02700	RHD	
urrogate: Acenaphthene-d10		50-130		Sep-15-10			
urrogate: Phenanthrene-d10		60-130		Sep-15-10			
urrogate: Perylene-d12	81 %	60-130		Sep-15-10			
	9) Matrix: Soil Sampled: Sep-09-10 12:00						
cenaphthene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
cenaphthylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
nthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
enzo (a) anthracene	<0.10		mg/kg dry	inter interior	EPA 3570/8270D	RMD	
enzo (a) pyrene	<0.10		mg/kg dry	and the second sec	EPA 3570/8270D	RMD	
enzo (b) fluoranthene	<0.10		mg/kg dry	difference in the second	EPA 3570/8270D		
enzo (g,h,i) perylene	<0.10		mg/kg dry mg/kg dry	A Street St	EPA 3570/8270D EPA 3570/8270D	RMD	
enzo (k) fluoranthene	<0.10					RMD	
hrysene	<0.10		mg/kg dry mg/kg dry	territoria de la companya de la comp	EPA 3570/8270D	RMD	
and the second s					EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	



CLIENT PROJECT	Levelton Consultants Ltd Hazmat Surrey FV10-1597-00			WORK ORD	ER #	R009169 Sep-15-1	
Analyte	Result	RDL	Units	Analyzed	Method	Lab	Note
Polycyclic Aromatic	Hydrocarbons by GCMS, Continued						ente storendo
10-Dup 1 (R009169-1	9) Matrix: Soil Sampled: Sep-09-10 12:00,	Continued					
Fluoranthene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Fluorene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Indeno (1,2,3-cd) pyrene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Naphthalene	<0.10	0.10	mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Phenanthrene	<0.10		mg/kg dry	State of the Second Second	EPA 3570/8270D	RMD	
Pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Surrogate: Naphthalene-d8	81 %	50-130	5, 5 1	Sep-15-10			
Surrogate: Acenaphthene-d10	84 %	50-130		Sep-15-10			
Surrogate: Phenanthrene-d10	81 %	60-130		Sep-15-10			
Surrogate: Perylene-d12	96 %	60-130		Sep-15-10			
Acenaphthene	0) Matrix: Soil Sampled: Sep-09-10 12:00 <0.10		mg/kg dry	Sep-15-10	EPA 3570/8270D	RMD	
Acenaphthylene	<0.10		mg/kg dry		EPA 3570/8270D EPA 3570/8270D	RMD	
Anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (a) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (a) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (b) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (g,h,i) perylene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Benzo (k) fluoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Chrysene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Dibenz (a,h) anthracene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
luoranthene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
luorene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
ndeno (1,2,3-cd) pyrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
laphthalene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
henanthrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
yrene	<0.10		mg/kg dry		EPA 3570/8270D	RMD	
Surrogate: Naphthalene-d8	72 %	50-130	ing di j	Sep-15-10	LIA 3370/0270D	RMU	
Surrogate: Acenaphthene-d10	71 %	50-130		Sep-15-10			
Surrogate: Phenanthrene-d10	66 %	60-130		Sep-15-10			
Surrogate: Perylene-d12	89 %	60-130		Sep-15-10			

QUALITY CONTROL DATA



CLIENT	Levelton Consultants Ltd Hazmat Surrey	WORK ORDER #	R009169
PROJECT	FV10-1597-00	REPORTED	Sep-15-10

The following section reports quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with quality control samples that ensure your data is of the highest quality. Common QC types include:

• Method Blank (Blk): Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment

• Duplicate (Dup): Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.

• Blank Spike (BS): A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).

• Standard Reference Material (SRM): A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested for.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Aggregate Organic Parameters, Batch R002312

Blank (R002312-BLK1)				Analyzed: Sep-12	2-10				
EPHs (10-19)	<	250	mg/kg wet						
EPHs (19-32)	<	250	mg/kg wet						
Duplicate (R002312-DUP1)	Source	e: R0091	59-10	Analyzed: Sep-15	5-10				
EPHs (10-19)	<	250	mg/kg dry		<			40	
EPHs (19-32)	<	250	mg/kg dry		<			40	
Reference (R002312-SRM2)	and the second			Analyzed: Sep-14	4-10				
EPHs (10-19)	3290	250	mg/kg wet	3020		109	76-130		
EPHs (19-32)	4820	250	mg/kg wet	4330		111	75-128		

General Parameters, Batch R002315

Duplicate (R002315-DUP2)	Source	R009169-1	16	Analyzed: Sep-14-10			
Moisture	5.5	0.1	%	5.3	0.1	7.2	and the second

Polycyclic Aromatic Hydrocarbons by GCMS, Batch R002312

Blank (R002312-BLK1)			Analyzed: Sep-12	2-10		
Acenaphthene	<	0.10 mg/kg wet				
Acenaphthylene	<	0.10 mg/kg wet				
Anthracene	<	0.10 mg/kg wet				
Benzo (a) anthracene	<	0.10 mg/kg wet				
Benzo (a) pyrene	<	0.10 mg/kg wet				
Benzo (b) fluoranthene	<	0.10 mg/kg wet				
Benzo (g,h,i) perylene	<	0.10 mg/kg wet				
Benzo (k) fluoranthene	<	0.10 mg/kg wet				
hrysene	<	0.10 mg/kg wet				
bibenz (a,h) anthracene	<	0.10 mg/kg wet				
luoranthene	<	0.10 mg/kg wet				
luorene	<	0.10 mg/kg wet				
ndeno (1,2,3-cd) pyrene	<	0.10 mg/kg wet				
laphthalene	<	0.10 mg/kg wet				
henanthrene	<	0.10 mg/kg wet				
yrene	<	0.10 mg/kg wet				
Surrogate: Naphthalene-d8	1.89	mg/kg wet	2.00	94	50-130	
Surrogate: Acenaphthene-d10	1.80	mg/kg wet	2.00	90	50-130	
Surrogate: Phenanthrene-d10	1.65	mg/kg wet	2.00	82	60-130	
Surrogate: Chrysene-d12	1.27	mg/kg wet	2.00	63	60-130	
Surrogate: Perylene-d12	1.41	mg/kg wet	2.00	70	60-130	

QUALITY CONTROL DATA



CLIENT PROJECT	Levelton Consultants Ltd FV10-1597-00	Hazmat :	Surrey				WORK O			R0091 Sep-15	
Analyte		Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
	Hydrocarbona by CCI					Kesuit	-70KLC	Linnes	KPD	LIITIIC	NOLES
LCS (R002312-BS1)	Hydrocarbons by GCI	vis, batc	n R0023	rz, conti		Sop 14 10					
					Analyzed: S	sep-14-10			-		
Acenaphthene		1.51	0.10	-	2.00		75	53-127			
Acenaphthylene		1.49	0.10	mg/kg wet	2.00		75	52-122			
Anthracene		1.24	0.10		2.00		62	60-122			
Benzo (a) anthracene		1.74	0.10	0. 0	2.00		87	60-116			
Benzo (a) pyrene		1.79	0.10		2.00		89	60-124			
Benzo (b) fluoranthene		1.67	0.10		2.00		83	60-123			
Benzo (g,h,i) perylene		1.95	0.10		2.00		97	60-125			
Benzo (k) fluoranthene		1.81	0.10		2.00		90	60-128			
Chrysene		1.10	0.10	mg/kg wet	2.00		55	60-130			S02
Dibenz (a,h) anthracene		1.72	0.10	mg/kg wet	2.00		86	60-130			
Fluoranthene		1.54	0.10	5. 5	2.00		77	60-123			
Fluorene		1.48	0.10	mg/kg wet	2.00		74	51-124			
Indeno (1,2,3-cd) pyrene		1.75	0.10	mg/kg wet	2.00		87	60-124			
Naphthalene		1.46	0.10	mg/kg wet	2.00		73	51-130			
Phenanthrene		1.52	0.10	mg/kg wet	2.00		76	60-125			
Pyrene		1.52	0.10	mg/kg wet	2.00		76	60-124			
Surrogate: Naphthalene-d8		1.42		mg/kg wet	2.00		71	50-130			
Surrogate: Acenaphthene-d10		1.40		mg/kg wet	2.00		70	50-130			
Surrogate: Phenanthrene-d10		1.42		mg/kg wet	2.00		71	60-130			
Surrogate: Chrysene-d12		1.71		mg/kg wet	2.00		85	60-130			
Surrogate: Perylene-d12		1.56			2.00		78				
Duplicate (R002312-DUP	1)		ce: R00910	mg/kg wet	Analyzed: S	op 15 10	70	60-130			
	±)				Analyzeu. 3	<u>.</u>					
Acenaphthene		<	0.10	mg/kg dry		<				50	
Acenaphthylene		<	0.10	mg/kg dry		<				50	
Anthracene		<	0.10	mg/kg dry		<				50	
Benzo (a) anthracene		<	0.10	mg/kg dry		<				50	
Benzo (a) pyrene		<	0.10	mg/kg dry		<				50	
Benzo (b) fluoranthene		<	0.10	mg/kg dry		<				50	
Benzo (g,h,i) perylene		<	0.10	mg/kg dry		<				50	
Benzo (k) fluoranthene		<	0.10	mg/kg dry		<				50	
Chrysene		<	0.10	mg/kg dry		<				50	
Dibenz (a,h) anthracene		<	0.10	mg/kg dry		<				50	
luoranthene		<	0.10	mg/kg dry		<				50	
luorene		<	0.10	mg/kg dry		<				50	
ndeno (1,2,3-cd) pyrene		<	0.10	mg/kg dry		<				50	
aphthalene		<	0.10	mg/kg dry		<				50	
henanthrene		<	0.10	mg/kg dry		<				50	
yrene		<	0.10	mg/kg dry		<				50	
urrogate: Naphthalene-d8		1.37		mg/kg dry	1.97		69	50-130			
urrogate: Acenaphthene-d10		1.35		mg/kg dry	1.97		69	50-130			
urrogate: Phenanthrene-d10		1.27		mg/kg dry	1.97						
urrogate: Chrysene-d12		1.19					65 60	60-130			
urrogate: Perylene-d12		1.71		mg/kg dry mg/kg dry	1.97 1.97		60 87	60-130 60-130			
eference (R002312-SRM	1)				Analyzed: Se	ep-14-10					
cenaphthene		<	0.10	mg/kg wet	0.124		75	70-130			
cenaphthylene		<	0.10	mg/kg wet	0.124		75	70-130			CDM
nthracene		0.27	0.10	mg/kg wet	0.380		70	70-130			SRM
enzo (a) anthracene		3.96	0.10	mg/kg wet	4.16		95				
enzo (a) pyrene		0.26	0.10	mg/kg wet	0.291			70-130			
enzo (b) fluoranthene		1.52	0.10	mg/kg wet	1.40		88	70-130			
enzo (g,h,i) perylene		5.23	0.10	mg/kg wet	4.99		109	70-130			
enzo (k) fluoranthene		3.92		mg/kg wet			105	70-130			
nrysene		4.08			3.68		106	70-130			
benz (a,h) anthracene				mg/kg wet	7.62		54	70-130			SRM
Joranthene		5.30	0.10	mg/kg wet	4.96		107	60-130			
		3.18		mg/kg wet	4.15		77	70-130			
Jorene		4.17		mg/kg wet	5.80		72	70-130			
deno (1,2,3-cd) pyrene		2.45		mg/kg wet	2.22		110	70-130			
phthalene		0.99	0.10	mg/kg wet	1.14		87	70-130			
enanthrene		1.57	0.10	mg/kg wet	1.91		82	70-130			
rene											

QUALITY CONTROL DATA



ROJECT	FV10-1597-00	nts Ltd Hazmat Surrey				WORK ORDER # REPORTED					59 -10
Analyte		Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
	Aromatic Hydrocarbons by	GCMS, Bat	ch R00231		ued Analyzed: S	Sep-14-10					
Surrogate: Naph	thalene-d8	1.30		mg/kg wet	1.98		66	50-130			
Surrogate: Acen		1.31		mg/kg wet	1.98		66	50-130			
Surrogate: Phen	anthrene-d10	1.38		mg/kg wet	1.98		70	60-130			
Surrogate: Chry.	sene-d12	1.38		mg/kg wet	1.98		70	60-130			
Surrogate: Peryl	lene-d12	1.32		mg/kg wet	1.98		67	60-130			

STANDARD LIMITATIONS

- 1. The findings and conclusions documented in this report have been prepared for specific application to this project and have been developed in a manner consistent with that level of care normally exercised by environmental professionals currently practicing under similar conditions in the area.
- 2. The findings of this report are based solely on data collected on Site during this investigation and pertain only to the locations that have been investigated and on the conditions of the Site during the completion of the work. Levelton has relied on good faith on information provided by individuals and sources noted in the report. No other warranty, expressed or implied, is made.
- 3. If new information is developed in future work that affects the conclusions of this report, Levelton should be contacted to re-evaluate the conclusions of this report and provide amendments as required.
- 4. The service provided by Levelton in completing this report is intended to assist the client in a business decision. The liability of the Site is not transferred to Levelton as a result of such services, and Levelton does not make recommendation regarding the purchase, sale, or investment in the property.



APPENDIX D

AERIAL PHOTOGRAPHS



Photograph 1. 1948 Aerial Photograph BC 653_37 001



Photograph 2. 1972 Aerial Photograph RSA 30518-24 001

Lower Nicola Indian Band- Joeyaska IR #2 Phase 1 Environmental Site Assessment Appendix D



APPENDIX E

POTENTIAL SPECIES AT RISK

Scientific Name	English Name	COSEWIC*	BC List**
Amphibians			
Spea intermontana	Great Basin Spadefoot	T (Apr 2007)	Blue
	Western Painted Turtle - Intermountain -		
Chrysemys picta pop. 2	Rocky Mountain Population	SC (Apr 2006)	Blue
Fish			
Acrocheilus alutaceus	Chiselmouth	NAR (May 2003)	Blue
Catostomus platyrhynchus	Mountain Sucker	NAR (May 1991)	Blue
Salvelinus confluentus	Bull Trout		Blue
Reptiles			
Coluber constrictor	Racer	SC (Nov 2004)	Blue
Pituophis catenifer			
deserticola	Gopher Snake, deserticola subspecies	T (May 2002)	Blue
Crotalus oreganus	Western Rattlesnake	T (May 2004)	Blue
Birds			
Ardea herodias herodias	Great Blue Heron, herodias subspecies		Blue
Buteo swainsoni	Swainson's Hawk		Red
Falco mexicanus	Prairie Falcon	NAR (May 1996)	Red
Falco peregrinus anatum	Peregrine Falcon, anatum subspecies	SC (Apr 2007)	Red
Grus canadensis	Sandhill Crane	NAR (May 1979)	Yellow
Numenius americanus	Long-billed Curlew	SC (Nov 2002)	Blue
Asio flammeus	Short-eared Owl	SC (Mar 2008)	Blue
Athene cunicularia	Burrowing Owl	E (Apr 2006)	Red
Megascops kennicottii	Western Screech-Owl, macfarlanei		
macfarlanei	subspecies	E (May 2002)	Red
Otus flammeolus	Flammulated Owl	SC (Apr 2010)	Blue
Melanerpes lewis	Lewis's Woodpecker	T (Apr 2010)	Red
Sphyrapicus thyroideus	Williamson's Sapsucker, thyroideus		
thyroideus	subspecies	E (May 2005)	Red

Table B: BC CDC Search Results for Species within the Bunchgrass Ecosystem (CDC, 2010)¹

Scientific Name	English Name	COSEWIC*	BC List**
Contopus cooperi	Olive-sided Flycatcher	T (Nov 2007)	Blue
Eremophila alpestris merrilli	Horned Lark, merrilli subspecies		Blue
Hirundo rustica	Barn Swallow		Blue
Catherpes mexicanus	Canyon Wren	NAR (May 1992)	Blue
Oreoscoptes montanus	Sage Thrasher	E (Nov 2000)	Red
Chondestes grammacus	Lark Sparrow		Red
Spizella breweri breweri	Brewer's Sparrow, breweri subspecies		Red
Dolichonyx oryzivorus	Bobolink	T (Apr 2010)	Blue
Euphagus carolinus	Rusty Blackbird	SC (Apr 2006)	Blue
Mammals			
Perognathus parvus	Great Basin Pocket Mouse		Red
Corynorhinus townsendii	Townsend's Big-eared Bat		Blue
Euderma maculatum	Spotted Bat	SC (May 2004)	Blue
Myotis ciliolabrum	Western Small-footed Myotis		Blue
Myotis thysanodes	Fringed Myotis	DD (May 2004)	Blue
Gulo gulo luscus	Wolverine, luscus subspecies	SC (May 2003)	Blue
Martes pennanti	Fisher		Blue
Taxidea taxus	American Badger	E (May 2000)	Red
Ursus arctos	Grizzly Bear	SC (May 2002)	Blue
Ovis canadensis	Bighorn Sheep		Blue
Invertebrates			
Stylurus olivaceus	Olive Clubtail		Red
Hesperia nevada	Nevada Skipper		Blue
Pholisora catullus	Common Sootywing		Blue
Satyrium californica	California Hairstreak		Blue
Danaus plexippus	Monarch	SC (Apr 2010)	Blue
Promenetus umbilicatellus	Umbilicate Sprite		Blue
Vallonia cyclophorella	Silky Vallonia		Blue
Hemphillia camelus	Pale Jumping-slug		Blue
Vascular Plants			
Azolla mexicana	Mexican mosquito fern	T (Nov 2008)	Red

Scientific Name	English Name	COSEWIC*	BC List**
Dryopteris cristata	crested wood fern		Blue
Ophioglossum pusillum	northern adder's-tongue		Blue
Agoseris lackschewitzii	pink agoseris		Blue
Arabis lignifera	woody-branched rockcress		Blue
Arabis sparsiflora	sickle-pod rockcress		Red
Astragalus lentiginosus	freckled milk-vetch		Blue
Atriplex argentea ssp. argentea	silvery orache		Red
Atriplex truncata	wedgescale orache		Red
Castilleja cusickii	Cusick's paintbrush		Red
Centaurium exaltatum	western centaury		Red
Chamaerhodos erecta ssp. nuttallii	American chamaerhodos		Blue
Chamaesyce serpyllifolia ssp. serpyllifolia	thyme-leaved spurge		Blue
Chenopodium atrovirens	dark lamb's-quarters		Red
Crepis atribarba ssp. atribarba	slender hawksbeard		Red
Crepis modocensis ssp. modocensis	low hawksbeard		Red
Crepis modocensis ssp. rostrata	western low hawksbeard		Red
Epilobium halleanum	Hall's willowherb		Blue
Gaura coccinea	scarlet gaura		Red
Gayophytum humile	dwarf groundsmoke		Blue
Hackelia diffusa	spreading stickseed		Blue
Hedeoma hispida	mock-pennyroyal		Red
Hutchinsia procumbens	hutchinsia		Blue
Hypericum scouleri ssp.			
nortoniae	western St. John's-wort		Blue
Iva axillaris	poverty-weed		Red

Scientific Name	English Name	COSEWIC*	BC List**
Leptosiphon septentrionalis	northern linanthus		Blue
Lupinus argenteus var.			Ded
laxiflorus	silvery lupine		Red
Lupinus bingenensis var. subsaccatus	Sukedorfe luning		Dod
	Suksdorf's lupine		Red
Mimulus breviflorus	short-flowered monkey-flower		Red
Myriophyllum ussuriense	Ussurian water-milfoil		Blue
Navarretia intertexta	needle-leaved navarretia		Red
Polygonum polygaloides ssp. kelloggii	Kellogg's knotweed		Blue
Pyrola elliptica	white wintergreen		Blue
Salix boothii	Booth's willow		Blue
Salix tweedyi	Tweedy's willow		Blue
Sidalcea oregana var. procera	Oregon checker-mallow		Red
Sphaeralcea coccinea	scarlet globe-mallow		Red
Allium geyeri var. tenerum	Geyer's onion		Blue
Carex hystericina	porcupine sedge		Blue
Carex sychnocephala	many-headed sedge		Blue
Cyperus squarrosus	awned cyperus		Blue
Epipactis gigantea	giant helleborine	SC (May 1998)	Blue
Hesperostipa spartea	porcupinegrass		Red
Juncus confusus	Colorado rush		Red
Melica spectabilis	purple oniongrass		Blue
Olsynium douglasii var. inflatum	satinflower		Red
Poa fendleriana ssp.			
fendleriana	mutton grass		Red
Sphenopholis obtusata	prairie wedgegrass		Red
Sporobolus compositus var. compositus	rough dropseed		Blue

Scientific Name	English Name	COSEWIC*	BC List**
Stuckenia vaginata	sheathing pondweed		Blue
Non Vascular Plants			
Bryoerythrophyllum			
columbianum	Columbian carpet moss	SC (May 2004)	Blue
Microbryum vlassovii	nugget moss	E (Nov 2006)	Red
Pterygoneurum kozlovii	alkaline wing-nerved moss	T (Nov 2004)	Red

* SC=Special Concern; T=Threatened; E=Endangered; XT=extirpated ** Blue= of special concern, Red= extirpated, endangered or threatened in British Columbia

APPENDIX F

PHOTOGRAPHIC DOCUMENTATION



Photo 1. View of the Joeyaska IR2 Lot 9 Residential Dump facing east. Note the abandoned vehicles and reserve boundary along Highway 5 to the east.



Photo 2. View of the Joeyaska IR2 Lot 9 Burnt House facing northeast. Note the occasional metal debris, concrete foundation, AST, and remaining chimney.





Photo 3. View of the Joeyaska Lot 6 Residential Dump facing east. Note the scattered debris surrounding the vehicles to the southeast.



Photo 4. View of the abandoned vehicles on the northeast extent of the Joeyaska Lot 6 Residential Dump facing southwest. Note the scattered car parts surrounding the vehicles.





Photo 5. View of the used road salt pile (top left) looking south, and the concrete lined drain pit (top right) down gradient from the salt pile looking northwest at the Godey Gravel Pit. Note the salt staining on the concrete leading to the drain area.



Photo 6. View of the fenced settling pond facing northwest at the Godey Gravel Pit.

Lower Nicola Indian Band-Joeyaska IR#2 Phase I Environmental Site Assessment Appendix F





Photo 7. View of the recycled asphalt pile at the Godey Grave Pit facing west. Note the proximity of the asphalt pile to the reserve boundary marked by a post and wire fence (right).



Photo 8. View of the off-reserve diesel spill site northeast of Joeyaska IR2 facing southeast. Note the scraped appearance of the soil and replaced rip-rap.

