

August 3, 2022

Ms. Michelle Myers Indigenous Services Canada 1138 Melville Street Vancouver, BC V6E 4S3

Dear Ms. Myers:

Re: DRAFT #1 (August 3, 2022) Report of Findings – Phase I Environmental Site Assessment 8 Reserve Lands, Xeni Gwet'in First Nations Government Nemiah Valley, BC Project No. 16287

We have enclosed the report titled *Report of Findings – Phase I Environmental Site Assessment,* 8 *Reserve Lands, Xeni Gwet'in First Nations Government, Nemiah Valley, BC.* We are pleased to submit this report to the Xeni Gwet'in First Nations Government and Indigenous Services Canada.

Please contact us if you have any questions.

Sincerely,

DRAFT

Mike Farnsworth, B.Sc., P.Ag. Senior Project Manager

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encl.

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DRAFT #1 (August 3, 2022) Report of Findings Phase I Environmental Site Assessment

8 Reserve Lands, Xeni Gwet'in First Nations Government Nemiah Valley, BC

Prepared for: Xeni Gwet'in First Nations Government and Indigenous Services Canada

Project No. 16287 August 2022

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EXECUTIVE SUMMARY

This KEYSTONE ENVIRONMENTAL[™] Phase I Environmental Site Assessment (ESA) report was prepared at the request the Xeni Gwet'in First Nations Government c/o Indigenous Services Canada (ISC), for eight Indigenous Reserves (I.R.s); Chilco Lake 1, Chilco Lake 1A, Garden 2, Garden 2A, Lezbye 6, Lohbiee 3, Tanakut 4 and Tsunnia Lake 5, located in the Nemiah Valley and/or on Tŝilhqot'in Title Land, in the Cariboo Regional District of BC (the Site).

We understand that the purpose of this Phase I ESA report is to determine the environmental condition of the Site I.R.s prior to the transfer of management of lands from the Government of Canada to the Xeni Gwet'in First Nations, and as such is under federal jurisdiction with respect to environmental regulations.

ON-SITE

The eight Site I.R.s are located approximately 140 km (approximately 200 km by road) southwest of Williams Lake, BC. The majority of the Site I.R.s have remained undeveloped (primarily forest and grasslands) with portions having been used for residential and agricultural purposes (primarily ranching). With the exception of several small residential, agricultural and institutional buildings constructed in the 1940s or earlier, the majority of development at the Site occurred between circa 1980 and the early 2000s (including the construction of approximately 50 residences and several institutional, commercial and utility buildings, the majority of which are located on Lohbiee 3).

Based on our review of the Federal Contaminated Sites Inventory (FSCI) and Integrated Environment Management System (IEMS) databases and following the review of various other historical records and our 2022 Site reconnaissance, Keystone Environmental identified the following areas of potential environmental concerns (APECs) on the Site I.R.s that warrant further investigation/action at this time. The following APECs are summarized below.

APEC 1A: Xeni Gwet'in Enterprise Storage Yard (Former Band Office Aboveground Storage Tanks/FCSI 05055001 and Former Tatla Gas Station/FCSI 05055002), Lohbiee IR 3:

- Located on the northwest portion of Lohbiee 3 in the vicinity of the Band Office.
- A diesel aboveground storage tank (AST) was located in the former Band Office powerhouse (constructed in the 1980s), a diesel AST (used to fuel Band-owned heavy equipment) was located outdoors adjacent to the powerhouse, and the former Tatla Gas Station diesel and gasoline ASTs were located approximately 20 m east of the Band Office. Stained soil was observed outside the powerhouse (approximately 26 m²), and minor soil staining was observed (approximately 1 m² at each tank) at the gas station.
- These tanks were removed/relocated and contaminated soil was remediated by excavation and on-Site bio-remediation from 1998 to 2000. Confirmatory soil samples indicated that concentrations of light and heavy extractable petroleum hydrocarbons (LEPH/HEPH) were less than the BC Contaminated Sites Regulation (CSR) commercial and industrial land use (CL/IL) standards of the day (soil samples were not analyzed for the equivalent Federal parameters; Petroleum Hydrocarbons (PHCs F1-F4), and copies of the analytical results were not attached



to the copy of the report provided to Keystone Environmental to compare to current applicable Canadian Council of Ministers of the Environment (CCME) guidelines). Minor shallow soil contamination remained in the vicinity of the powerhouse; however, is anticipated to have been removed when the former powerhouse was demolished in the early 2000s.

- The existing Xeni Gwet'in Enterprise (Enterprise) Works Yard (along with the new powerhouse, repair shop and diesel AST) were constructed in the early 2000s over the area of the former Band powerhouse, Tatla Gas Station and associated ASTs.
- The FCSI database indicates the status of the Band Office ASTs (FCSI 05055001) was "Confirmatory sampling completed. No further action required". The IEMS database indicates the files for this site were closed in 2002, and First Nations Emergency Services Society (FNESS) indicated that "Soil treatment in biocell complete, biocell had been decommissioned. No further work required".
- The IEMS database indicates the file for the Tatla Service Station (FCSI 05055002) was closed in 2003.
- Heavy equipment has been stored, maintained and refuelled in the Enterprise Works Yard since the early 2000s, and in 2022, over two hundred 20 L containers of waste oil were observed to be stored, without cover, over gravel in the storage yard. Some of the containers did not have lids or were tipped over and associated dark staining was observed (~20 m²). Additional soil staining was observed (~5 m²) adjacent to the diesel fuel pump.
- Approximately fifty additional 20 L containers of new oil and/or waste oil were observed in the repair shop with underlying staining, including minor staining adjacent to the floor drain.
- Currently there is not a waste oil tank at the Enterprise repair shop, and at the time of the Site reconnaissance the waste oil tank at the adjacent Enterprise Gas Station was full.¹
- Although, the FCSI and IEMS files for the former Band Office ASTs and Tatla Gas Station were closed, it remains unknown if the 1998 to 2000 confirmatory analytical results meet current applicable guidelines, and additional parameters and media (such as dissolved metals, i.e. lead and tetraethyl lead in groundwater) would require analysis to meet current remediation guidelines. Based on current observations in the Enterprise Yard, there is considered to be a potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines. However, before additional investigation (i.e. Phase II ESA) can occur, the two hundred plus containers of waste oil should be removed to allow access to the underlying grounds.

APEC 1B Enterprise Gas Station, Lohbiee IR 3:

- A FCSI number has not been assigned for this site.
- The Enterprise Gas Station has been located approximately 10 m east of the Enterprise Works Yard, on Lohbiee IR 3, since the early 2000s.

¹ Based on interviews and in our opinion, the one tank does not provide enough capacity for both operations, and that a regular disposal program should be arranged to transport waste oil to a disposal facility.



- APEC 1A and 1B could be combined together for the purposes of investigations, based on proximity (approximately 10 m east), are both owned and operated by Enterprise, and that these operations reportedly share an oil/water separator.
- In 2022, approximately ten 20 L containers and various smaller containers of waste oil were stored, over a concrete pad with a catch basin adjacent to a full waste oil AST (~3000 L) at the Enterprise Gas Station. Thick oil-like staining was observed over the concrete pad and grate to the catch basin (as identified for APEC 1A),
- The gas station has double-walled Enviro-Safe gasoline and diesel ASTs, approximately 30,000 L each, and according to the gas station manager, the tanks are regularly dipped and volume audits conducted, and evidence of leaks of volume discrepancies have not been identified. In addition to the storage tanks, the unpaved area around the fuel pad, the catch basins and associated oil/water separator, and waste oil storage area; are considered to be an APEC.
- Based on current observations at the Enterprise Gas Station, there is considered to be a potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

APEC 2 Glen Lulua's Derelict Cars/Junk Yard, Garden 2A:

- A FCSI number has not been assigned for this site.
- Approximately 50 derelict cars and small trucks were observed in the pasture in the vicinity of Glen Lulua's residence on the south portion of Garden 2A during the 2022 Site visit.
- In addition, various engine parts, empty gas tanks, and approximately 20 batteries were observed on unpaved ground adjacent to the residence.
- With the exception of minor small drips, staining was not observed.
- Based on current observations, there is considered to be a potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines. We understand that since the June 2022 Site visit was conducted, that an "End of Life Vehicles" removal program has been initiated and that as of the end of July 2022, a vehicle crusher was operating on the Site and surrounding lands.
- After the vehicles are removed, the grounds should be inspected to observe if significant staining is present to determine if a Phase II ESA is warranted.

OFF-SITE

The lands surrounding the Site have predominantly remained undeveloped, and minor areas have been developed for residential, agricultural and commercial purposes. Off-Site operations/features of potential environmental concern have been located in the Nemiah Valley/ on Tŝilhqot'in Title Land (such as landfills/dumps, fuel storage and a gas station). However, based primarily on the distances from the Site, there is considered to be a low potential for contaminants of concern from off-Site activities to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.



CONCLUSION

There is considered to be a potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines, and further investigation is warranted.

This Executive Summary is subject to the same general limitations as contained in the report and must be ready in conjunction with the report.



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LIST OF ACRONYMS

AEC	AREA OF ENVIRONMENTAL CONCERN
APEC	AREA OF POTENTIAL ENVIRONMENTAL CONCERN
AST	ABOVEGROUND STORAGE TANK
AW	AQUATIC LIFE WATER USE (SITE SPECIFIC)
BC ENV	BC MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE STRATEGY
bgs	BELOW GROUND SURFACE
BH	BOREHOLE
BTEX	BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE
CCME	CANADIAN COUNCIL OF MINISTERS OF THE ENVIRONMENT
CL	COMMERCIAL LAND USE (SITE SPECIFIC)
CofC	CERTIFICATE OF COMPLIANCE
CSR	CONTAMINATED SITES REGULATION
DNAPL	DENSE NON-AQUEOUS PHASE LIQUIDS
DSI	DETAILED SITE INVESTIGATION
DW	DRINKING WATER USE (SITE SPECIFIC)
EMA	ENVIRONMENTAL MANAGEMENT ACT
EPH	EXTRACTABLE PETROLEUM HYDROCARBONS
ERA	ECOLOGICAL RISK ASSESSMENT
GPR	GROUND PENETRATING RADAR
HEPH	HEAVY EXTRACTABLE PETROLEUM HYDROCARBONS
HHERA	HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT
HWR	HAZARDOUS WASTE REGULATION
IL	INDUSTRIAL LAND USE (SITE SPECIFIC)
IW	IRRIGATION WATER USE (SITE SPECIFIC)
LEPH	LIGHT EXTRACTABLE PETROLEUM HYDROCARBONS
LNAPL	LIGHT NON-AQUEOUS PHASE LIQUID
LW	LIVESTOCK WATER USE (SITE SPECIFIC)
mbg	METRES BELOW GRADE
mbgs	METRES BELOW GROUND SURFACE
MTBE	METHYL TERTIARY BUTYL ETHER
MW	MONITORING WELL
NAPL	NON-AQUEOUS PHASE LIQUID
OWS	OIL/WATER SEPARATOR



LIST OF ACRONYMS (CONT'D)

PAH(S) PCB(S) PCOC(S) PERC PL ppm PSI 1 PSI 2	POLYCYCLIC AROMATIC HYDROCARBON(S) POLYCHLORINATED BIPHENYL(S) POTENTIAL CONTAMINANTS OF CONCERN PERCHLOROETHYLENE URBAN PARK LAND USE (SITE SPECIFIC) PARTS PER MILLION PRELIMINARY SITE INVESTIGATION – STAGE 1 PRELIMINARY SITE INVESTIGATION – STAGE 2
QA/QC	QUALITY ASSURANCE/QUALITY CONTROL
RL RPD	RESIDENTIAL LAND USE (SITE SPECIFIC) RELATIVE PERCENTAGE DIFFERENCE
SSI	SUPPLEMENTAL SITE INVESTIGATION
TP	TEST PIT
UST	UNDERGROUND STORAGE TANK

- VOC(s)VOLATILE ORGANIC COMPOUND(S)VPHVOLATILE PETROLEUM HYDROCARBONS
- WQG WATER QUALITY GUIDELINES



1. INTRODUCTION

This KEYSTONE ENVIRONMENTAL[™] Phase I Environmental Site Assessment (ESA) was prepared at the request of the Xeni Gwet'in First Nations Government c/o Indigenous Services Canada (ISC), for eight Indigenous Reserves (Chilco Lake 1, Chilco Lake 1A, Garden 2, Garden 2A, Lezbye 6, Lohbiee3, Tanakut 4, and Tsunnia Lake 5), located in the Nemiah Valley and/or on Tŝilhqot'in Title Land, in the Cariboo Regional District of BC (the Site). The Site locations are shown on Figures 1 and 2, and photographs of the Site are included in Appendix A.

This Phase I ESA was conducted to determine the potential for contaminants of concern to be present in the soil and groundwater at the Site at concentrations greater than the applicable land and water use standards as outlined by the Canadian Council of Ministers of the Environment (CCME) guidelines and Federal Environmental Quality Guidelines (FIQG). The BC Contaminated Sites Regulation (CSR) standards are also considered to be applicable for the comparison of vapour concentrations or in the case of soil relocation associated with potential remediation activities and disposal at provincial facilities.

We understand that the purpose of this Phase I ESA report is to determine the environmental condition of the Site prior to the transfer of management of lands from the Government of Canada to the Xeni Gwet'in First Nations, and as such is under federal jurisdiction with respect to environmental regulations.

1.1 Site Identification

The Site is comprised of eight Indigenous Reserves (I.R.s) totalling approximately 1390 ha in area. The individual I.R.s are identified as follows:²

Chilco Lake 1

Natural Resources Canada (NRCan) Property Identification Number (PIN): ³	1158376
Canada Lands Survey Records (CLSR) Plan Number:4	56907 CLSR BC
BC Land Title and Survey Authority (LTSA) Parcel Identifier (PID) or BC LTSA Plan Number: ⁵	38TRIR_IR_COAST
Legal Description: ⁶	I.R. No. 1, Being Chilco Lake, Range 2 Coast District
BC PIN:7	15220630

² Civic addresses and zoning are not available.

⁷ ibid



³ Canada Lands Survey System (CLSS) map browser

⁴ ibid

⁵ BC Land Title and Survey Authority (LTSA) and/or BC Crown land registry Government Access Tool for Online Retrieval (GATOR)

⁶ ibid

Interest Holder: 8	Crown Indigenous Relations and Northern Affairs Canada
Area: ⁹	80 ha (approximate)
Latitude: ¹⁰	51º 24' 45" North (approximate)
Longitude:	124º 6' 54" West (approximate)

Chilco Lake 1A

NRCan PIN:	1162198
CLSR Plan Number:	56907 CLSR BC
BC LTSA PID or Plan Number:	33TR15_COAST
Legal Description:	District Lot 1416, I.R. No. 1A, Being Chilco Lake, Range 2 Coast District
BC PIN:	6649880
Interest Holder:	Crown Indigenous Relations and Northern Affairs Canada
Area:	641 ha (approximate)
Latitude:	51º 25' 16" North (approximate)
Longitude:	124º 5' 58" West (approximate)

Garden 2

NRCan PIN:	1158377
CLSR Plan Number:	BC813 CLSR BC
BC LTSA PID or Plan Number:	38TRIR_IR_COAST
Legal Description:	I.R. No. 2, Being Garden, Range 2 Coast District
BC PIN:	15221090
Interest Holder:	Crown Indigenous Relations and Northern Affairs Canada
Area:	32 ha (approximate)
Latitude:	51º 26' 29" North (approximate)
Longitude:	124º 2' 53" West (approximate)

Garden 2A¹¹

NRCan PIN:	1158378
CLSR Plan Number:	BC813 CLSR BC
BC LTSA PID or Plan Number:	33TR15_COAST

⁸ GATOR

¹¹ Garden 2A is comprised of two District Lots according to Provincial databases; however, is shown as one parcel on Federal databases.



⁹ ibid

¹⁰ Google Earth software program (http://earth.google.com/)

Legal Description:	District Lots 817 and 1415, I.R. No. 2A, Being Garden, Range 2 Coast District
BC PIN:	6649750 and 6620110
Interest Holder:	Crown Indigenous Relations and Northern Affairs Canada
Area:	150 ha (approximate)
Latitude:	51º 25' 28" North (approximate)
Longitude:	124º 3' 5" West (approximate)

Lezbye 6¹²

1158463 (Lot 1) and 1158464 (Remainder)
56973 CLSR BC and 719 RSBC BC (Lot 1)
011-218-088
Block A of District Lot 305 Range 2 Coast District
6171821
Her Majesty the Queen in Right of Canada
None
89 ha (approximate)
51º 25' 0" North (approximate)
124º 4' 20" West (approximate)

Lohbiee 3¹³

NRCan PIN:	1158459 (and individual PINs for Lots 1 to 59)
CLSR Plan Number:	BC811 CLSR BC and 3112R RSBC BC (for Lots 1 to 59)
BC LTSA PID or Plan Number:	42TR5_LILLOOET
Legal Description:	District Lot 5394, I.R. No. 3, Being Lohbiee, Lillooet District
BC PIN:	5916110
Interest Holder:	Crown Indigenous Relations and Northern Affairs Canada
Area:	213 ha (approximate)
Latitude:	51º 28' 4" North (approximate)
Longitude:	123º 56' 13" West (approximate)

¹³ A portion of Lohbiee 3 is subdivided into 59 small lots and right-of-ways according to Federal databases and plans; however, is shown as one parcel on Provincial databases.



¹² A portion of Lezbye 6 is subdivided into a separate lot according to Federal databases and plans; however, is shown as one parcel on Provincial databases.

<u>Tanakut 4</u>

NRCan PIN:	1158460
CLSR Plan Number:	56975 CLSR BC
BC LTSA PID or Plan Number:	38TRIR_IR_COAST
Legal Description:	I.R. No. 4, Being Tanakut, Lillooet District
BC PIN:	15259930
Interest Holder:	Crown Indigenous Relations and Northern Affairs Canada
Area:	183 ha (approximate)
Latitude:	51º 28' 57" North (approximate)
Longitude:	123º 50' 39" West (approximate)

<u>Tsunnia Lake 5</u>

NRCan PIN:	1158461
CLSR Plan Number:	74966 CLSR BC
BC LTSA PID or Plan Number:	33TR15_COAST
Legal Description:	District Lot 1417, I.R. No. 5, Being Tsunnia Lake, Range 2 Coast District
BC PIN:	6649910
Interest Holder:	Crown Indigenous Relations and Northern Affairs Canada
Area:	3.3 ha (approximate)
Latitude:	51º 31' 34" North (approximate)
Longitude:	124º 9' 24" West (approximate)

1.2 Scope of Work

The scope of work for this study is in general accordance with the requirements of the Canadian Standards Association (CSA) Phase I ESA standards as outlined in the CSA publication Z768-01, and included the following tasks:

- A review of historical records including, historical legal plans, aerial photographs, and Environment Canada Climate Normals. Detailed archaeological investigations, street directories, Google Street View images, fire insurance maps, and subdivision/development/land use maps were not available for the vicinity of the Site.
- A review of current records including, BC Land Title and Survey Authority (LTSA)/BC Crown and Natural Resources Canada (NRCan)/Canada Lands Survey Records (CLSR) land title, legal plan and land registry online records, the BC Ministry of Environment and Climate Change Strategy (BC ENV) on-line Site Registry, the BC Water Resources Atlas, the Federal Contaminated Sites Inventory (FSCI)/Directory of Real Property Management (DFRP) Map



Navigator, First Nations Emergency Services Society (FNESS) and ISC/Integrated Environment Management System (IEMS) databases, and Cariboo Regional District website.

- A Site reconnaissance to observe Site conditions which may indicate the potential presence of contamination and to prepare a photographic record.
- Interviews with individuals knowledgeable about the Site.
- A preliminary building survey for Special Attention Substances such as polychlorinated biphenyls (PCBs), asbestos, and urea formaldehyde foam insulation (UFFI), which may be present in construction materials at the Site.
- A review of documents and reports relating to waste management and site contamination, if available.

Previous environmental reports were prepared for various portions of the Site by Keystone Environmental and others between 1998 and 2014. These reports are summarized in Section 3.7, and copies will be attached in Appendix G in the final report.

1.3 General Limitations

Findings presented in this report are based upon (i) a limited visual review of accessible areas of the Site and surrounding lands, (ii) interviews with personnel familiar with Site activities, and (iii) a review of Site, environmental agency and historical archive records. Sampling and analysis of wastes, water, soil, groundwater or air was not conducted as part of this review. Consequently, while findings and conclusions documented in this report have been prepared in a manner consistent with that level of care and skill normally exercised by other members of the environmental science and engineering profession practising under similar circumstances in the area at the time of the performance of the work, this report is not intended nor is it able to provide a totally comprehensive review of past or present Site environmental conditions. This report is intended to provide information to reduce, but not necessarily eliminate, uncertainty regarding the potential for contamination of a property. Where this potential has been identified, the further reduction of uncertainty requires the performance of a Phase II ESA.

This report has been prepared solely for the internal use of the Xeni Gwet'in First Nations Government, and Indigenous Services Canada, pursuant to the agreement between Keystone Environmental Ltd. and the Xeni Gwet'in First Nations Government. A copy of the general terms and conditions associated with this agreement is attached in Appendix H. By using the report the Xeni Gwet'in First Nations Government, and Indigenous Services Canada, agree that they will review and use the report in its entirety. Any use which other parties make of this report, or any reliance on or decisions made based on it, are the responsibility of such parties. Keystone Environmental Ltd. accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this report.



2. SITE DESCRIPTION

The Site consists of eight I.R.s located in the Nemiah Valley and/or on Tŝilhqot'in Title Land, in the Cariboo Regional District of BC, approximately 140 km (approximately 200 km by road) southwest of Williams Lake, BC, as shown on Figures 1 and 2.

Chilco Lake 1, Chilco Lake 1A, Garden 2, Garden 2A and Lezbye 6 are adjacent I.R.s located adjacent to within approximately 6 km of the east shore of Chilco Lake. Lohbiee 3 is located approximately 14 km east of Chilco Lake adjacent to the west shore of Konni Lake, and Tanakut 4 is located approximately 6 km further east adjacent to the east shore of Konni Lake. Tsunnia Lake 5 is located adjacent to the west shore of Tsuniah Lake approximately 11 km north of Chilco Lake 1A/approximately 17 km northwest of Konni Lake.

The eight Site I.R.s and surrounding area are used for residential and agricultural purposes (primarily ranching) or are undeveloped (primarily forest and grasslands).

2.1 Surficial Geology

According to the Geological Survey of Canada Map Open File 837 (1982), the surficial geology of Chilco Lake 1, Chilco Lake 1A, Garden 2, Garden 2A and Lezbye 6 is comprised of continuous till cover greater than 10 m thick on valley floors and lower slopes. The surficial geology of Lohbiee 3 and Tanakut 4 is comprised of diamicton and gravel occurring in fan deposits, consisting of thickly bedded, internally massive units and cross bedded units characterized by cut-and-fill structures. The surficial geology of Tsunnia Lake 5 is comprised of thin to discontinuous till generally less than 2 m thick.

Soil investigations were conducted for various areas of the Site by PGL in 1999 (refer to Section 3.7). The surficial geology encountered consisted primarily of coarse river deposits, such as poorly sorted sand, gravel, and cobbles.

2.2 Hydrogeology

Groundwater is expected to follow regional topography flowing from areas of higher elevation to areas of lower elevation. Local groundwater flow direction may vary as a result of local conditions such as topography, geology and the presence of drainage channels and buried utilities and is subject to confirmation with field measurements. The Site I.R.s are located on valley floors adjacent to lakes and/or are crossed by creeks. The local groundwater flow directions are inferred to be variable based on topography and to be to the closest significant waterbodies. The regional groundwater flow direction is inferred to be to the west towards Chilco Lake. Groundwater is anticipated to flow to the Site from adjacent lands and up-gradient lands located on surrounding hillsides.

Groundwater investigations were conducted for various areas of the Site by PGL in 1999 (refer to Section 3.7). The depth to groundwater was observed to be approximately 3.5 to 4 m below ground.

2.3 Surface Water

Various creeks, marshes, ponds, and other freshwater wetlands were observed across the various Site I.R.s during the Site visit.



3. RECORDS REVIEW

Various documents were reviewed for information concerning past uses of, and activities at, the Site, and for lands located in the vicinity of the Site. The vicinity of the Site is defined as the area within an approximately 500 m radius of the various Site I.R.s. The documents reviewed for information concerning historical land use include FCSI/DFRP, FNESS, IEMS databases, current and historical legal plans, a LTSA land title, aerial photographs, the BC ENV on-line Site Registry, the BC Water Resource Atlas, Environment Canada climate records, and previous reports. Street directories, Google Street View images, fire insurance maps, subdivision/ development/land use maps, and detailed archaeological investigations. were not available for the vicinity of the Site. A list of references is included at the end of this report.

3.1 FCSI/DFRP, FNESS, IEMS Databases

The FCSI/DFRP Map Navigator was accessed on June 16, 2022. Additional information related to FSCI sites was obtained from FNESS and IEMS databases in 2021. The FNESS and IEMS databases identified eleven areas of potential environmental concern (APECs) on or adjacent to the Site I.R.s and one APEC located off-Site approximately 2 km east of the Site (Cariboo Regional District Landfill). However, due to separate FCSI sites being shown at the same location, and FCSI sites being shown in the wrong location, the FCSI Map Navigator shows seven FCSI sites on the Site and two FCSI sites adjacent to the Site¹⁴. Pertinent details regarding these APECs/FCSI sites are summarized as follows, and copies of the associated FCSI/DFRP/FNESS/IEMS records are included in Appendix C.¹⁵

- FCSI 00004447: identified on the IEMS database as "tanks through the Reserve (Lohbiee 3)", and shown on the Map Navigator on the south shoreline of Konni Lake on the southwest portion of Lohbiee 3 (tanks were not observed in the vicinity of the location shown on the Map Navigator, and the Band Office and gas station aboveground storage tanks (ASTs) are already identified as separate FCSI numbers). The status of FCSI 00004447, last updated in 2021/2022, was "Historical review planned".
- FCSI 05055004: FCSI 05055004 is not shown on the Map Navigator; however, the detail information for FCSI 00004447 indicates FCSI 05055004 is located in the same area along the south shoreline of Konni Lake on the southwest portion of Lohbiee 3. FCSI 05055004 is identified as "Nemiah Lake Dump" (however, according to Xeni Gwet'in community members, the Nemiah Lake Dump was located closer to Nemiah Lake approximately 200 m west of Lohbiee 3. The status of FCSI 05055004, last updated in 2009/2010, was "Long term monitoring completed. No further action required". The IEMS database indicates that an action was added in 1997 to "Remediate dump site. Will be done by Band in spring 1997. Follow up

¹⁵ Further information regarding the environmental investigations on the majority of these FCSI sites is provided in the Previous Reports Section 3.7.



¹⁴ The corrected locations of each FCSI site, based on field observations, are shown on Figures 1 and 2. Photographs included in Appendix A and cropped aerial photographs (refer to Section 3.3) included in Appendix B, provide additional details regarding the locations of these FCSI sites.

with Band to see if work done", and that the work was completed and the file for this site was closed in 2000.¹⁶

- FCSI 00006190: identified on the IEMS database as "Cariboo Regional District Landfill" and shown on the Map Navigator on the northwest shore of portion of Tanakut 4; however, the Regional District Landfill was observed to be located off-Site approximately 2 km east of Tanakut 4. The status of FCSI 00006190, last updated in 2021/2022, was "Initial testing completed. Detailed testing underway". The IEMS database indicates that "follow up" was to occur regarding the Regional District solid waste management plan and if the Regional District was planning to close this site, and "If yes, ensure site properly closed. If no, ensure site upgraded to meet Provincial requirements", and that on-going follow-up was to be done in 2000/2001; however, it was unknown if "follow-up" was done.
- FCSI 05055001: identified on the IEMS database as "Band Office ASTs" and shown on the Map Navigator on the northwest shore of Lohbiee 3; however, the Band Office was observed to be located approximately 700 m northwest in the same vicinity as FCSI 05055002 (refer to the following bullet). The status of FCSI 05055001, last updated in 2002/2003, was "Confirmatory sampling completed. No further action required". The FNESS and IEMS databases indicate the files for this site were closed in 2002, and FNESS indicated that "Soil treatment in biocell complete, biocell had been decommissioned. No further work required.
- FCSI 05055002: identified on the IEMS database as "Tatla Service Station/Gas Bar" and shown on the Map Navigator on the northwest portion of Lohbiee 3 (adjacent to the east of the Band Office in the same area as the existing Xeni Gwet'in Enterprise¹⁷ Works Yard). The status of FCSI 05055002, last updated in 2021/2022, was "Historical review planned". The IEMS database indicates an action was added in 2006 to transfer Site Management to INAC, that this Site was not part of the FNESS' fuel program, and although the status of a biocell was unknown¹⁸, the file was closed in 2003.
- FCSI 05055003: identified on the IEMS database as "Naghtaneqed School Generator UST (underground storage tank)" and shown on the Map Navigator adjacent to the west of Lohbiee 3 (same location as the existing school). The status of FCSI 05055003, last updated in 2021/2022, was "Initial testing completed. Detailed testing underway". The IEMS database indicates an action was added in 1996 that "assessment and remediation will be done as part of FNESS UST program" and that the FNESS file was closed in 2001.
- FCSI 00004653: identified on the IEMS database as "Lulua's Gas Station" and shown on the Map Navigator near the centre of Chilco Lake 1A (same location as the existing disused ASTs on William Lulua's property). The status of FCSI 00004653, last updated in 2021/2022, was "Historical review planned".

¹⁸ Previous reports by PGL (refer to Section 3.7) indicate the soil excavated from the Tatla Gas Station was placed in the same biocell as the soil from FCSI 05055001.



¹⁶ With the exception of one derelict vehicle, evidence of this former dump was not observed during the 2022 Site visit.

¹⁷ Xeni Gwet'in Enterprise (Enterprise) is a department of the Xeni Gwet'in First Nations Government (XGFNG) and provides the community's maintenance and construction services. Enterprise was established in 1994 with the purpose of maintaining all of the XGFNG assets and managing new capital projects both inside and outside of the XGFNG territory.

- FCSI 00006194: FCSI 00006194 is not shown on the Map Navigator; however, the detail information for FCSI 00004653 indicates FCSI 00006194 is located in the same area near the centre of Chilco Lake 1A. FCSI 00006194 is identified as "William Lulua's Dump" (and was observed to be located approximately 300 m north of the former William Lulua Gas Station). The status of FCSI 00006194, last updated in 2000/2001, was "Long term monitoring completed. No further action required". The IEMS database indicates the dump was to be cleaned up by the Band, and soil and groundwater investigation was to be conducted, and although the database indicates that it was unknown if this work was completed, the file for this site was closed in 2000.¹⁹
- FCSI 00006191: identified on the IEMS database as "UST at Community Hall" and shown on the Map Navigator on the south boundary of Lezbye 6. The status of FCSI 00006191, last updated in 2021/2022, was "Initial testing completed. Detailed testing underway". The IEMS database indicates that an action was added in 1997 to remove and replace the tank, that the tanks were removed and soil placed in a biocell²⁰ (in 1999), and the FNESS file was closed in 2005.
- FCSI 00006193: identified on the IEMS database as "Well at Robin Lulua's Residence" and shown on the Map Navigator at the centre of Chilco Lake 1 (however, the well and residence were observed to be located approximately 400 m west near the shore of Chilco Lake). The status of FCSI 00006193, last updated in 2021/2022, was "Initial testing completed. Detailed testing underway".
- FCSI 00006378: identified on the IEMS database as "Light Ballasts" and shown on the Map Navigator at the centre of Lezbye 6 (a hay field and wetland are located at the centre of Lezbye 6; although, a residence is located on the northwest portion, and the Community Hall and storage building/shop are located on the southeast portion of Lezbye 6). The status of FCSI 00006378, last updated in 1996/1997, was "Remediation/risk management completed. No further action required". The IEMS database indicates "ballasts were removed", "no further action required", and the file for this site was closed in 1996.²¹.
- **IEMS #7000057895:** (a FCSI number was not assigned for this site): identified on the IEMS database as "Vehicle Repair Area" at Lohbiee 3 (this site is not shown on the Map Navigator). The IEMS database indicates an action was added in 1996 that this site "will be dealt with by FNESS", and that the file was closed in 2001.²²

²² Based on a heavy equipment storage area and the Tatla Gas Bar being located adjacent to the Lohbiee 3 Band Office, between 1996 and 2001, the "Vehicle Repair Area" is anticipated to have been in the same location as FCSI 05055001 and/or FCSI 05055002, and as such, there is considered to be a low potential that the "Vehicle Repair Area" is a new APEC.



¹⁹ A derelict vehicle and approximately 1 m³ of weathered household waste were observed at this location during the 2022 Site visit.

²⁰ Previous reports by PGL (refer to Section 3.7) indicate the soil excavated from the Community Hall was placed in the same biocell as the soil from FCSI 05055001

²¹Used building materials and plumbing fixtures, associated with building renovations and repairs across the Site I.R.s, were observed in the storage building/maintenance shop adjacent to the Community Hall during the 2022 Site visit.

3.2 Legal Plans and Land Title

Historical legal plans for the Site I.R.s (the base maps were created circa the 1910s/1920s and in 1943; however, the 1910s/1920s base maps were updated with ink and pencil markings though the 1930s, and the 1943 base maps were updated with pencil markings to 1969), current legal plans (surveyed in the 1970s with the exception of additional subdivision plans), and a current LTSA land title for Lezbye 6 (entered in 1969), were obtained from the CLSS and LTSA websites. Copies of the legal plans, land title, and land registry records are provided in Appendix D, and pertinent information for the Site and vicinity is summarized as follows:

- The historical legal plans provide details from 1943 or earlier regarding vegetation, topographic/geographic features, and historical structures and transportation routes such as:²³
 - The vegetation and geography were generally described as undulating dry gravelly land with rock outcrops, timbered with pine, poplar, willow and scattered spruce, burnt timber, and wild hay meadows and wild grasses.
 - > Pack trails crossed the I.R.s (vehicle/jeep tracks or roadways are not indicated).
 - "Indian Graves" are shown along the north shore of Konni Lake, on the northeast portion of Lohbiee 3.
 - > A "Garden" existed on the southwest portion of Lohbiee 3.
 - > "Indian Houses" or cabins, and a corral are shown on the south portion of Garden 2A.
 - A symbol for a large structure (typically an institutional building) labelled "House" and a corral are shown off-Site adjacent to the south of Garden 2A
 - > "Indian Buildings" were located off-Site between Chilco Lake 1A and Lezbye 6.
 - > "Indian Graves" are shown off-Site approximately 200 m southwest of Tsunnia Lake 5.
- The land title for Lezbye 6 does not list leases, title transfers, covenants or easements related to site contamination issues.
- The current legal plans for the various Site I.R.s do not provide details regarding vegetation, structures, or land use.

3.3 Aerial Photographs

Aerial photographs dated 1949, 1951, 1965, 1967, 1976, 1980, 1989, 1993, 1997, 2001, 2004, 2005, 2006, 2015, 2019, and 2021 were reviewed. Not all years of photographs are available for all portions of the Site (the most recent photographs for various portions of the Site I.R.s vary between 2004 and 2021). Refer to the cropped portions of historical photograph attached in Appendix B (cropped to show details and locations of Site buildings/facilities of potential concern). The following is a summary of observations made during the aerial photograph review:

²³ These details are interpreted to have been recorded in 1943 or earlier, based on being printed in ink and not shown as pencilled updates.



On-Site General Aerial Photograph Observations

- **Chilco 1:** The 1951 aerial photographs show the I.R. was forested and undeveloped. A vehicle track or pack trail existed across the I.R. in 1965 and 1976. Small clearings are shown in 1980 in the vicinity of the existing residences located near the shoreline of Chilco Lake. The 1989 to 2015 aerial photographs show residences in the clearings and that the access road/track was upgraded/widened.
- **Chilco 1A:** The 1951 aerial photographs show the I.R. was grassland and forest, and undeveloped. Clearings, and vehicle tracks or pack trails across the I.R., are shown in 1965 and 1976. Residential and/or agricultural buildings, and additional roads are shown on the 1980 to 2015 aerial photographs.
- Lezbye 6: The 1951 aerial photographs show the I.R. was grassland and forest, and undeveloped. Vehicle tracks or pack trails across the I.R., are shown in 1965. The existing Community Hall, unpaved roads, and former or existing out-buildings, residences and/or agricultural buildings are shown at various areas across the I.R. from 1980 to 2015.
- **Garden 2:** The 1951 to 1976 aerial photographs show the I.R. was forested and undeveloped. The 1980 to 2019 aerial photographs show a residence and out-buildings on the south portion of the I.R.
- **Garden 2A:** The 1951 and 1965 aerial photographs show the I.R. was grassland and forest, and undeveloped, with small out-buildings, residences and/or agricultural buildings on the south portion. The 1976 to 1980 aerial photographs show the buildings were removed or abandoned (based on the lack of tracks and vegetation growing around the location of the buildings). The 1989 to 2019 aerial photographs show the existing residence and agricultural buildings with increasing numbers of vehicles over time.
- Lohbiee 3: The 1949 and 1951 aerial photographs show the I.R. was grassland and forest, with a vehicle track or pack trail across it. The 1965 to 1980 aerial photographs show additional roads, agricultural fields/pastures, and several residential and/or agricultural buildings. The 1989 to 2001 aerial photographs show the existing Band Office and surrounding out-buildings on the northwest portion of the I.R., and construction of additional residential buildings across the I.R. The 2004 to 2021 aerial photographs show the existing powerhouse/generator, Enterprise Works Yard and shop, and Enterprise Gas Station to the east to northeast of the Band Office. The existing Health Clinic was constructed to the west of the Band Office in 2019 and substantially completed by 2021.
- **Tanakut 4:** The 1951 aerial photograph shows the I.R. was grassland, wetland and forest, and undeveloped. Vehicle tracks or pack trails, across the I.R., are shown in 1965. Small structures are shown adjacent to the shoreline of Konni Lake in 1976. Residential and/or agricultural buildings are shown on the northeast portion of the I.R. from 1980 to 2019.
- **Tsunnia Lake 5:** The 1951 aerial photograph shows the I.R. was grassland and forest, and undeveloped. The 1965 to 2021 aerial photographs show the existing vehicle track and bridge.



On-Site APEC/FCSI Site Aerial Photograph Observations

- FCSI 05055001/Band Office ASTs: Located on the northwest portion of Lohbiee 3. The 1989 and 1993 aerial photographs show former structures consistent with ASTs and a powerhouse approximately 10 m northeast of the Band Office. Due to the poor resolution of the 2001 aerial photographs, details are not apparent. The 2004 to 2021 aerial photographs show the former ASTs and powerhouse were removed and replaced with the existing AST and powerhouse.
- FCSI 05055002/Tatla Gas Bar: Formerly located on the northwest portion of Lohbiee 3 approximately 10 m east of the Band Office (location of the existing Enterprise Works Yard). The 1989 and 1993 aerial photographs show former structures consistent with a former service station approximately 20 m east of the Band Office. Due to the poor resolution of the 2001 aerial photographs, details are not apparent. The 2004 to 2021 aerial photographs show the former gas station was removed and replaced with the existing AST and Enterprise Works Yard and shop.
- Enterprise Gas Bar: (a FCSI number was not assigned for this site) Located on the northwest portion of Lohbiee 3 approximately 10 m east of the former Tatla Gas Bar/existing Enterprise Works Yard. The 2001 aerial photograph shows the existing gas station store/laundry; however, due to poor resolution, further derails are not apparent. The 2004 to 2015 aerial photographs show the existing fuel ASTs and pump island.
- FCSI 00004653/William Lulua's Gas Station: Located on the central portion of Chilco Lake 1A. Residential and/or agricultural buildings are shown in 1980 to 1993 in the vicinity of the existing residence; however, ASTs, a driveway or clearing consistent with the gas station are not shown. The 2001 aerial photograph shows a driveway and clearing in the vicinity of the gas station; however, due to poor resolution, further details are not apparent. The 2004 and 2006 aerial photographs show two AST-like objects, consistent with the existing ASTs, in a similar location on the north side of the driveway, a third AST-like object existed approximately 20 m south of the existing disused AST, and two former out-buildings were located west of the ASTs. The 2015 aerial photograph shows the out-buildings were removed, and that the third AST was moved to the existing location.
- FCSI 00006194/William Lulua's Dump: Located approximately 300 m north of William Lulua's Gas Station. The 1980 to 2015 aerial photographs show the existing vehicle track; however, due to poor resolution, further details are not visible.
- FCSI 00006191/UST at Community Hall: Existing abandoned dance hall/former community hall located on the south boundary of Lezbye 6. The 1976 to 1980 aerial photographs show a structure similar in shape and location as the existing dance hall, but in a different orientation (rotated approximately 45°) to the existing building. The 1976 aerial photographs also show several former out-buildings. The 1989 to 2015 aerial photographs show the existing dance hall (in the current orientation and location), existing maintenance shop/storage building, and several former and/or existing out-buildings.
- FCSI 00006193/Robin Lulua's Well: Located on the southwest portion of Chilco Lake 1. The 1989 and 2015 aerial photographs show the existing Robin Lulua residence; however, due to poor resolution, a well cover is not visible.



- Kerry Billy's ASTs: (a FCSI number was not assigned for this site) Located on the northwest portion of Lohbiee 3. The 1993 and earlier aerial photographs show the vicinity of Kerry Billy's residence was forested and undeveloped. A driveway and clearing are shown in the vicinity of the existing residence in 2001; however, due to the poor resolution of the photographs, further details are not apparent. The 2004 to 2015 aerial photographs do not show structures consistent with ASTs.
- **Glen Lulua's Junk Yard:** (a FCSI number was not assigned for this site) Located on the south portion of Garden 2A. The 1989 and 1993 aerial photographs show approximately ten vehicle-like objects. The resolution of the 2001 aerial photograph is poor. The 2004 to 2019 aerial photographs show approximately 40 to 50 vehicle-like objects (some were either removed and replaced by different vehicles, or were moved to different locations).

Off-Site APEC/FCSI Site Aerial Photograph Observations

- FCSI 05055004/Nemiah Lake Dump: Located approximately 200 m west of Lohbiee 3. The 1976 and 1980 aerial photographs show an approximately 200 m² rectangular-shaped clearing adjacent to the north side of the road (vicinity of an existing derelict car). The 1989 to 2021 aerial photographs show the rectangular-shaped clearing becoming overgrown with vegetation.
- FCSI 05055003/School Generator UST: Located adjacent to the west of Lohbiee 3. The 1980 to 2021 aerial photographs show the existing school.
- FCSI 00006190/Cariboo Regional District Landfill: Located off-Site approximately 2 km east of Tanakut 4. The 2001 to 2019 aerial photographs show the existing landfill. (A clearing or other features consistent with a Regional District Landfill were not observed on Tanakut 4 during the Site visit and are not visible on aerial photographs.)
- **Tsuniah Lake Lodge Airstrip and Dock:** The 1965 aerial photograph shows the existing unpaved airstrip adjacent to the north of Tsunnia Lake 5. Wharfs were located approximately 150 m northeast of the I.R. at various times since 1976. The 1989 to 2021 aerial photographs show the existing airstrip storage shed approximately 150 m north and the existing residence adjacent to the north of the I.R.
- BC ENV Site ID 5388/Former Konni Lake Resort Gas Station: (refer to Section 3.4, a FCSI number was not assigned for this site). Located approximately 3 km east of Lohbiee 3 and 2 km west of Tanakut 4. The 1980 to 2019 aerial photographs show the existing store, but the resolutions of the photographs are too poor to determine details regarding a former gas station.

3.4 Ministry of Environment Site Registry Search

An on-line search of the BC ENV Site Registry was conducted to determine if it contained information regarding contamination at lands within a 100 km² area centred on 51° 28' 15" North by 123° 39' 28" West, the approximate latitude and longitude entered for Lohbiee 3 and Tanakut 4, within a 100 km² area centred on 51° 25' 41" North by 124° 4' 27" West,



the approximate latitude and longitude entered for Chilco Lake 1, Chilco Lake 1A, Garden 2, Garden 2A and Lezbye 6, and a 1 km² area centred on 51° 31' 34.5" North by 124° 9' 24.2" West, the approximate latitude and longitude entered for Tsunnia Lake 5. At the time of the online search (June 16, 2022), the Site Registry was updated to June 5, 2022, a copy of the search results is provided in Appendix E. The Site I.R.s were not listed. One off-Site listing was identified within the search areas; Site ID 5388/Konni Lake Resort, located on the north shore of Konni Lake approximately 2 km west of Tanakut 4 and approximately 3 km east of Lohbiee 3.

The Detail Report for Site ID 5388/Konni Lake Resort was obtained and is summarized as follows:

- Site ID 5388 was registered with BC ENV in 1998 and was last updated in 2002.
- A Site Profile, and a Preliminary Site Investigation Stage 1 and 2 (PSI 1 and 2) report, were submitted to BC ENV in 1998 and 1999 respectively.
- The suspect land uses of concern were related to a petroleum UST, a service station/dispensing facility, and discarded barrels, drums or tanks.

3.5 Water Well Search

The BC Water Resource Atlas, which displays groundwater management information for the Province of BC, was accessed on July 8, 2022. Pertinent information from the water well search is summarized as follows:

- Two water wells were shown on Lohbiee 3. Well Tag Number 97744, located south of the Band Office, is used for water supply purposes (community water supply well)²⁴. Well Tag Number 97748, located in the vicinity of the Band Office, is a decommissioned (due to lack of water) water supply well.
- Three water wells were shown on Tanakut 4. Well Tag Numbers 72624, 72625 and 72626, located near the centre of the I.R., are classified as "unknown use".
- One water well was shown on Lezbye 6. Well Tag Number 72627, located near the centre of the I.R., is classified as "unknown use".
- Water wells were not shown on the remaining five Site I.R.s.
- A domestic water supply well and a commercial/industrial water supply well were shown in the vicinity of the school adjacent to the west of Lohbiee 3. Other off-Site wells were not shown within 500 m of the Site I.R.s.

3.6 Environment Canada Climate Data

The closest climate station to the Site with "Canadian Climate Normals" listings is located at Kleena Kleene 2 (51^o 58' North by 124^o 59' West, approximately 80 to 100 km northwest of the various Site I.R.s). The "Canadian Climate Normals" information is based on data collected by

²⁴ Refer to the 2014 TRUE Consulting, Water Quality Improvements - Preliminary Design Report.



Environment Canada between 1981 and 2010, is summarized as follows, and a copy is included in Appendix F:

Daily Average Temperature:	3.1°C
Rainfall:	204.7 mm/year
Snowfall:	113.8 cm /year
Precipitation:	318.6 mm/year
Highest Monthly Average Precipitation:	November, 41.9 mm
Lowest Monthly Average Precipitation:	July, 10.6 mm

3.7 **Previous Reports**

The following previous environmental reports for the Site I.R.s were provided to Keystone Environmental for review and are summarized below:

- Xeni Gwet'in First Nations Reserves Phase I Report, FNESS UST Removal/Replacement Program, prepared by Pottinger Gaherty Environmental Consultants Ltd. (PGL) for First Nations Emergency Services Society of British Columbia (FNESS), March 1998
- Tank and Soil Removal Report for Lezbye IR #6, Lohbiee IR #3, and Chilco Lake IR #1A -Xeni Gwet'in First Nations, Nemiah Valley, BC, prepared by Pottinger Gaherty Environmental Consultants Ltd. for Morrow Engineering Ltd. (Morrow), Public Works and General Services Canada (PWGSC), and Xeni Gwet'in First Nations, April 1999
- Tank and Soil Removal Report Addendum 1 Outstanding Contaminated Soil and Tank Issues, Xeni Gwet'in First Nations, Nemiah Valley, BC, prepared by Pottinger Gaherty Environmental Consultants Ltd. for Morrow Engineering Ltd., March 2001
- Phase 1 Environmental Site Assessment, 90-Lot Subdivision, Xeni Gwet'in First Nations, prepared by Pottinger Gaherty Environmental Consultants Ltd. for Xeni Gwet'in First Nations, April 2006
- *Re-Assessment of Environmental Issues Inventory, Robin Lulua's Well, Xeni Gwet'in First Nations Government, Chilco Lake #1, BC*, prepared by Keystone Environmental Ltd. for Xeni Gwet'in First Nations, Seabird Island Band, and Public Works and General Services Canada, April 2006
- Naut'sa mawt Tribal Council Xeni Gwet'in First Nation Nemiah Valley Powerhouse Fuel System Upgrades, Project Completion Report, prepared by Morrow Engineering Ltd. for Naut'sa mawt Tribal Council (NmTC) and the Department of Aboriginal Affairs and Northern Development Canada (AANDC/INAC), April 2012
- Water Quality Improvements Preliminary Design Report, AANDC CPMS #7359, Xeni Gwet'in First Nations, prepared by TRUE Consulting (TRUE) for Xeni Gwet'in First Nations, October 2014



UST Removal/Replacement Program, PGL, March 1998

PGL's scope of work included assessments of USTs on the Xeni Gwet'in First Nations reserves (the Site visit was conducted in 1996), and provision of a workplan/design for tank replacement and soil removal for FNESS:

- The Xeni Gwet'in community's heating sources were primarily propane in 1998, and primarily wood in the past, with minor use of electricity and heating oil. In 1998, heating oil was not used on-Site.
- Three single-walled ASTs; a 4500 L diesel AST, 9100 L gasoline AST and 2300 L disused AST, were identified at Chilco Lake 1A at the (former) gas station located near William Lulua's residence (FCSI 00004653). Underground lines were not present. Minor soil staining associated a minor drip from a fitting on the gasoline tank was observed. The in-use tanks had drums to collect drips and minor spills. Signs of staining or significant spills were not identified around the disused tank. PGL reported that based on an archival photograph, the gas station tanks had previously been located approximately 10 m north.²⁵ Signs of staining or significant spills were not identified around the former tank location.
- A disused 900 L heating oil AST was identified at William Lulua's residence. Evidence of significant spills or leakage were reportedly not observed (it was not recorded as a separate FCSI site).
- Stained soil (approximately 8 m²) was observed at an outdoor vehicle maintenance area adjacent to William Lulua's residence (which according to an attached photograph appeared typical of rural residential/agricultural vehicle maintenance areas and not a commercial operation). PGL considered this area to not be a "high risk issue" and recommended the stained soil be remediated as part of future work associated with William Lulua's gas station (it was not recorded as a separate FCSI site).
- Two single-walled ASTs; a 4500 L diesel AST for Band-owned heavy equipment and a 4500 L diesel AST inside the diesel generator building (powerhouse), were identified at the Band Office at Lohbiee 3 (FCSI 05055001). Stained soil (approximately 8 m²), drums and debris were observed in the vicinity of the equipment AST. Stained soil (approximately 18 m²) was observed outside the concrete-floored powerhouse from an "unknown spill".
- Two single-walled ASTs, a 2250 L diesel tank and a 9100 L gasoline tank, were identified at the (former) Tatla Gas Bar located adjacent to the Band Office at Lohbiee 3 (FCSI 05055002). Minor soil staining (approximately 1 m² at each tank) was observed.
- A single-walled 22,500 L diesel/heating oil UST, a 90 L diesel generator day tank/AST, and a fuel drum storage shed, were observed at the Community Hall and maintenance shop on Lezbye 6 (FCSI 00006191). Soil staining (approximately 5 m²) from apparent over-filling was observed under the day tank. Soil staining (approximately 20 m²) was observed outside the fuel drum storage shed, and the fuel drums were reported to be lacking a structure to prevent spills (secondary containment).

²⁵ The photograph of the ASTs attached to the PGL report (refer to Photographs 19 to 21 in Appendix A of this report) shows that in 1996 the ASTs were located approximately 20 m south of the current location.



- From archival research information²⁶, PGL reported that an "oily sheen" had been noted in a "shallow dug well" at the Robin Lulua's residence (FCSI 00006193 at Chilco Lake 1). However, according to community members, their concerns were more for water turbidity than for an oily sheen. PGL recommended future work to determine the use of this well, samples be collected and analyzed for appropriate characteristics, and contamination, if present, be located and remediated.
- Fuel spills, or other fuel ASTs or USTs were not observed on the remaining Site I.R.s.
- Two USTs were identified off-Site; adjacent to the west of Lohbiee 3 at the school (FCSI 05055003/School Generator UST) and at the Nemiah Valley Store (BC ENV Site ID 5388/located between Lohbiee 3 and Tanakut 4).
- PGL's recommendations were to remove or upgrade the on-Site tanks, clean-up the sites, and remove contaminated soil.

Tank and Soil Removal Report, PGL, April 1999

PGL managed tank and soil removal activities at the Xeni Gwet'in First Nations reserves:

- The Community Hall UST (FSCI 00006191) and two Band Office ASTs (FCSI 05055001), along with associated underground lines, remaining fuel, drums, pales, waste, debris and contaminated soil, were excavated, removed, recycled and/or disposed of off-Site.
- Confirmatory soil samples were collected from the excavation boundaries and from excavated soil placed in stockpiles, and analyzed for light and heavy extractable petroleum hydrocarbons (LEPH/HEPH). The concentrations of LEPH/HEPH for the remediated/excavated areas were less than the BC CSR commercial and industrial land use (CL/IL) standards of the day (the soil samples were not analyzed for the equivalent Federal parameters; Petroleum Hydrocarbons (PHCs F1-F4), and copies of the analytical results were not attached to the copy of the report provided to Keystone Environmental to compare to current applicable CCME guidelines). The excavated soils that contained LEPH/HEPH at concentrations greater than the CSR CL/IL standards were to be treated prior to re-use or disposed off-Site. A stockpile soil sample with the highest concentration of HEPH (that originated from soil with waste oil staining from the Community Hall area) was analyzed for lead and the concentration was less than the reported laboratory detection limit (RDL) (anticipated to also be less than the CCME guideline).
- The approximately 160 m³ (combined/total volume) of fuel-contaminated soil excavated from the various clean-up/tank removal locations (including from a diesel spill that occurred when a Band Office AST was moved) was placed in one stockpile, on and under plastic for future treatment, near and north of the Lohbiee 3 Band Office/fuel station.
- "Some" contamination remained under the powerhouse (generator) building near the Band Office, and was to be investigated and addressed when the building was demolished or upgraded.
- Tank removal and soil disposal work was not completed at the William Lulua Gas Station (FCSI 0000465) or at the Tatla Gas Station (FCSI 05055002). The Band members/tank

²⁶ It is not indicated that PGL conducted a Site visit at Robin Lulua's residence



owners wanted to keep the gas station ASTs even though they do not meet proper fuel tank codes of practice. The two Tatla Gas Station ASTs were moved to the Kerry Billy residence (currently occupied by Bruce and Darlene William, refer to Interviews Section 5). The Band and tank owners were aware the tanks and any spills were their own liability. Kerry Billy's ASTs were to be removed when an alternate/upgraded fuel source was provided to the Band.

- PGL inspected the area around William Lulua's tanks. Signs of significant fuel spills or leaks were not identified.
- PGL investigated the former location of the Tatla Gas Station ASTs. As suspect soils or signs of spills were not identified, soil samples were not collected in the vicinity of the former Tatla Gas Station.

Tank and Soil Removal Report – Addendum, PGL, March 2001

PGL conducted on-Site treatment of contaminated stockpiled soil, a limited soil investigation at the Band Office powerhouse, and enquired into the status of the service station ASTs located at the William Lulua and Kerry Billy residences:

- Soil samples were collected in the autumn of 2000 from the stockpile of contaminated soil, located near the Lohbiee 3 Band Office, that had been undergoing soil mixing and bio-remediation since June 1998. The stockpile soil samples contained concentrations of LEPH/HEPH that met the standards of the day for landspreading at a commercial/industrial site. The samples also met residential site standards. PGL understood that the landspreading would be completed in 2001 once the soil stockpile has thawed from the winter frost "at its current location, an appropriate commercial/industrial-use area" (anticipated to be the storage yard/parking lot located behind/north of the Band Office).
- During the powerhouse upgrade work in 1998 near the Band Office, approximately 10 m³ of diesel fuel-stained soil was excavated from the south end of the powerhouse, and added/mixed with the (pre-existing) petroleum hydrocarbon-contaminated soil stockpile. According to the excavation contractors/personnel, the fuel-stained soil was not extensive and most, or all, was removed from the south side of the powerhouse.
- PGL collected soil samples from two test pits located near the powerhouse. Fuel-stained soil was identified in just one test pit and only in the sand fill layer, to a depth of about 0.5 m below the surface. Fuel-stained soil was observed to extend less than 1 m laterally east of the powerhouse (it ended within the first test pit). Suspect soil was not observed in the second test pit. The test pit soil analytical results indicated LEPH/HEPH, at concentrations greater than the applicable CL/IL standards of the day, in only one sample from the first test pit. These results indicated there was "some" fuel-contaminated soil immediately adjacent to the powerhouse, but it was considered un-likely to be extensive vertically or laterally. PGL estimated that less than 20 m³ of contaminated soil remained.
- PGL recommended the remaining contaminated soil could be removed at that time the old powerhouse building was to be demolished.
- The status of the service station ASTs, located at the William Lulua and Kerry Billy residences, was reported to have not changed (since April 1999). PGL recommended future follow up regarding these ASTs.



Phase 1 ESA 90-Lot Subdivision, PGL, April 2006

PGL conducted a Phase I ESA on a portion of Lohbiee 3, referenced to as a 90-Lot Subdivision:

- The 90-Lot Subdivision was partially developed with six single-family residences between 1996 and 1999. The remainder of the subdivision and surrounding land was undeveloped.
- The closest developed land to the subdivision was approximately 300 m down-gradient to the southwest, consisting of the (existing) Band Office constructed in the mid-1980s and the (existing) bulk fuel storage facility constructed in the early 2000s.
- The residences were heated with wood and propane.
- APECs were not identified for the 90-Lot Subdivision.

Re-Assessment Robin Lulua's Well, Keystone Environmental, April 2006

Keystone Environmental provided an update to the previous environmental records in the Environmental Stewardship Strategy Information Management System (ESSIMS) for Robin Lulua's Well (FCSI 00006193 at Chilco Lake 1):

- The update was conducted by interviewing Mr. Robin Lulua (access to the property was not permitted by the Band Council as they did not consider a Site visit necessary in order to update the ESSIMS database).
- Mr. Robin Lulua reported that he had not observed the "water pollution oily sheen on water surface" in the well, as listed in the ESSIMS database.
- Both Mr. Lulua and Health Canada personnel did not identify concerns regarding drinking water quality at this well.
- Based on the reported information, there was considered to be a low potential that Robin Lulua's well was a concern to humans, animals or sensitive environments, and that further investigation was not warranted.

Powerhouse Fuel System Upgrades, Morrow, April 2012

Morrow provided a project completion report for petroleum storage tank systems upgrade work at the Lohbiee IR#3 powerhouse/generator (same location as the former Band Office ASTs, FCSI 05055001):

- Construction of the up-graded fuel system was substantially completed in March 2012.
- The facilities, shown in attached photographs and plans, are consistent with the existing generator building with adjacent double-walled AST located in the Works Yard (approximately 10 m northeast of the Band Office).
- The attached photographs show that the fuel lines are aboveground. Staining is not visible under the fuel lines between the outdoor AST and exterior wall of the powerhouse.



Water Quality Improvements - Preliminary Design Report, TRUE, October 2014

TRUE completed a drinking water system assessment, and provided recommendations for improvements to the drinking water system:

- In 2004, the Xeni Gwet'in First Nation water distribution system expanded approximately 15 km in order to provide water service to residents located between Lohbiee 3 and Chilco 1.
- A groundwater supply study was conducted in 2007 as a result of the depleting groundwater level in a (former) water supply well, in 2010 a new groundwater supply well was connected to the community water system, and in 2011 the previous water supply wells (which were no longer in use) were decommissioned.
- Water quality testing in 2011 indicated that the groundwater was corrosive with pH readings more acidic than the Guidelines for Canadian Drinking Water Quality (GCDWQ). Furthermore, design guidelines for the groundwater source required, at a minimum, primary and secondary disinfection. As a suitable water treatment plant was not available, TRUE recommended a new water treatment system that would meet AANDC and GCDWQ water quality requirements.
- On behalf of TRUE, Orbis Consulting completed a detailed environmental assessment for the proposed project area in 2013. However, the scope of work was to assess potential impacts to valued ecosystem components (VECs) during construction phases, and did not assess the potential for pre-construction soil or groundwater contamination.



4. SITE RECONNAISSANCE

Keystone Environmental personnel visited the Site on June 20 to 23, 2022, accompanied by Ms. Lia Colasacco, Nen Ch'eh (Land Code) Coordinator. The purpose of the visit was to observe operations and conditions at the Site and neighboring areas to determine the potential for contamination at the Site and to prepare photographic documentation. The grounds of the various Site I.R.s were traversed by automobile, by bicycle, or on foot. Stored materials, parked/ abandoned vehicles, vegetation, and wetlands limited observations of portions of the Site. In consideration of the residents, detailed reconnaissance were not conducted on the grounds adjacent to the majority of Site residences (including FCSI 00004653/William Lulua's residence, where the current residents did not grant permission).

4.1 General Survey Observations

The following was observed by Keystone Environmental during the Site reconnaissance:

- The majority of the Site I.R.s are undeveloped (primarily forest and grasslands), and with the exception of Tsunnia Lake 5 (which remains vacant and undeveloped), minor portions were observed to be used for residential and agricultural purposes (primarily ranching). Approximately 50 residences and several institutional, commercial and utility buildings, were observed across the Site I.R.s the majority of which are located on Lohbiee 3.
- The majority of the Site is unpaved and/or vegetated. Minor areas are occupied by structures and paved/concrete pads.
- Site buildings are currently heated with propane and electricity and a minor amount of wood. Heating oil ASTs or USTs were not observed or identified by community members.
- Vent or fill pipes, or dispensing pumps, indicative of USTs, were not observed on the Site I.R.s.
- Groundwater monitoring wells were not observed on the grounds of the Site I.R.s in the vicinities of operations of potential environmental concern (refer to Section 4.2).²⁷
- Site drainage is by runoff to adjacent lands and by infiltration.
- In addition to Glen Lulua's derelict vehicles (refer Section 4.2), approximately 20 wrecked and derelict vehicles and machinery (induvial vehicles or small groups of vehicles) were observed across the Site I.R.s (another approximately 30 vehicles were observed in aerial photographs).
- Pole mounted transformers were observed on the northwest portion of Lohbiee 3, and pad mounted transformers were observed across the Site between Lohbiee 3 and Chilco Lake 1 and 1A. Hydrocarbon-like staining was not observed in the vicinity of the transformers.

²⁷ Wells from which water samples are collected to determine drinking water quality are considered separately from wells from which samples are collected to determine if groundwater contamination is present at concentrations greater than the CSR and/or CCME standards and guidelines.



4.2 APEC and FCSI Site Survey Observations

The following was observed by Keystone Environmental during the Site reconnaissance:

FCSI 05055001 and FCSI 05055002 Enterprise Works Yard, Shop, AST, Fuel Pad and Powerhouse (former Band Office ASTs and Tatla Gas Bar):

- The Enterprise Works Yard, maintenance shop, fuel AST and pump pad, and powerhouse were observed on the northwest portion of Lohbiee 3 adjacent to the east of the Band Office.
- Approximately two hundred 20 L containers of waste oil were stored, without cover, over gravel on the east portion of the storage yard. Some of the containers did not have lids or were tipped over and associated dark staining was observed to cover approximately 20 m².
- A double-walled Enviro-Safe approximately 30,000 L diesel AST was observed on a concrete pad. The fuel lines to the Works Yard fuel pump and generators in the adjacent powerhouse were observed to be aboveground.
- Both recent and weathered hydrocarbon-like stains were observed over unpaved ground, covering approximately 5 m², adjacent to the diesel fuel pump and an additional approximately ten 20 L containers of waste oil, on the northwest portion of the Enterprise storage yard.
- Small sections of staining in the vicinity of the containers and fuel pad were scraped with a shovel and the dark stained soil was observed to be approximately 1 to 5 cm in depth with relatively unstained gravelly soil underneath.
- Approximately fifty additional 20 L containers of new oil and/or waste oil were observed in the repair shop with underlying staining, including minor staining adjacent to the floor drain.
- The catch basins observed in the fuel pad and storage yard, and floor drain in the shop reportedly drain to an oil/water separator shared with the catch basins at the Enterprise Gas Station located adjacent to the east of the Enterprise storage yard (refer to Interviews Section 5). The oil/water separator could not be located and was potentially covered by parked vehicles, stored equipment or waste oil containers.

Enterprise Gas Station:

- The Enterprise Gas Station with General Store/Laundromat was observed on the northwest portion of Lohbiee 3 approximately 10 m east of the Enterprise Works Yard.
- Two double-walled Enviro-Safe approximately 30,000 L fuel ASTs containing gasoline and diesel were observed on a concrete pad. The fuel lines to the pump islands (located approximately 15 m to the southeast) appear to be underground.
- Approximately ten 20 L containers and various smaller containers of waste oil were stored, over a concrete pad with a catch basin adjacent to a full approximately 3,000 L waste oil tank at the Enterprise Gas Station. Thick oil-like staining was observed over the concrete pad and grate to the catch basin.



FCSI 00004653 William Lulua's Property (Former Gas Station):

- Residential and/or agricultural buildings were observed on the central portion of Chilco Lake 1A.
- Three abandoned empty single-walled ASTs (approximately 9100 L, 4500 L, and 2300 L in capacity) were observed in a clearing approximately 100 m north of the residence. The 9100 L tank was placed on a metal stand, the 4500 L was placed on stand made of logs (shown to have been located on a metal stand in a 1996 photograph), and the 2300 L was on the ground adjacent to an empty metal stand. Staining was not observed in the vicinity of these ASTs, or on the vacant ground approximately 20 m to the south in the former AST location (as shown on a 1996 photograph).

FCSI 00006194 William Lulua's Dump:

- Located approximately 300 m north of William Lulua's Gas Station.
- A derelict vehicle and approximately 1 m³ of household waste were observed. Based on the weathered appearance of the household waste, the dump appeared to no longer be in use.

FCSI 00006191/UST Community Hall/Dance Hall and Maintenance Shop/Storage Building:

- An existing abandoned dance hall/former community hall, and maintenance shop/storage building, storage shed, generator shed, and AST enclosure were observed on the south boundary of Lezbye 6.
- The AST is a double-walled Enviro-Safe approximately 2000 L tank located on a concrete pad.
- The maintenance shop has a concrete floor and is currently used to store old generators, building materials and plumbing fixtures, associated with building renovations and repairs across the Site I.R.s. With the exception of minor drips, staining or other evidence of spills or releases in quantities of concern was not observed on the floor.
- A bulldozer and a dump truck were parked in front of the maintenance shop. Based on the amount of vegetation under and around these vehicles, they did not appear to have been moved for a considerable time, and based on the poor condition and amount of rust, it is unknown if these vehicles are operable or if they are "End of Life Vehicles". Large stains were not observed in the vicinity of these vehicles.

FCSI 00006193 Robin Lulua's Well:

- A shallow well, approximately 2 m diameter, in a stick-up metal cylinder (culvert-type construction) was observed on the southwest portion of Chilco Lake 1 near Robin Lulua's residence (currently occupied by Virginia Haller).
- The cover of the well was removed, and a minor amount of dust or pollen was observed on the surface of the well water. An iridescent sheen typical of petroleum hydrocarbons was not observed (the degradation of organic matter, such as pollen, can cause a pearlescent sheen).



Kerry Billy/Bruce and Darlene William Property:

- The grounds around Bruce and Darlene William's residence (formerly Kerry Billy's residence and the former temporary location of the Tatla Gas Station ASTs) on the northeast portion of Lohbiee 3 were observed.
- Evidence of a former gas station or fuel tanks (such as stains, piping or mounting stands) was not observed.

Glen Lulua's Junk Yard:

- A residence, out-buildings and approximately 50 vehicles (the majority of which appeared to no longer be operatable) were observed on the south portion of Garden 2A.
- In addition, various engine parts, empty gas tanks, and approximately 20 batteries were observed on unpaved ground adjacent to the residence.
- With the exception of minor small drips, staining was not observed.

4.3 Special Attention Substances

Based on the age of the Site buildings (the majority of Site buildings were constructed circa the 1980s, with several constructed in the 1970s or earlier, and several constructed in the 2000s), the potential for Special Attention Substances such as asbestos, PCBs, and/or UFFI, to be present is discussed as follows:

- There is a potential for asbestos to be present in building materials manufactured prior to circa 1990, such as wallboard/gyproc, ceiling tiles, built up roof systems, piping insulation, cement products, grouts, plaster, compressed papers and boards, duct tape, floor tiles, sealants, and protective coatings. Asbestos was generally phased out in North America by circa 1990.
- Although according to database information for FCSI 00006378 (that ballasts were removed in the 1990s), there is considered to remain a potential for PCBs in current-regulating ballasts, transformers, and capacitors to be present at the Site. The use of PCBs in such equipment was general discontinued after the early 1980s.
- There is a potential for UFFI to be present in buildings constructed before 1980. The majority
 of UFFI was installed in new and existing structures in Canada between 1975 and 1978.
 However, injection holes consistent with the injection of UFFI were not observed in exterior
 walls.

The presence or absence of such Special Attention Substances has not been confirmed in the Site buildings. Further reduction of uncertainty requires the performance of a Hazardous Materials building survey. Where building materials may or do contain asbestos containing materials, WorkSafeBC stipulates requirements for their management during maintenance, renovation, or demolition.



4.4 Current Use – Adjacent Lands

The following was observed on adjacent lands during the Site reconnaissance:

- FCSI 05055004/Nemiah Lake Dump: Located approximately 200 m west of Lohbiee 3. A derelict car was observed in this vicinity. Household garbage or other wastes were not observed.
- FCSI 05055003/School UST: Located adjacent to the west of Lohbiee 3. A raised utility hole cover and a vent pipe were observed adjacent to the west side of the school in the vicinity of a generator building.
- FCSI 00006190/Cariboo Regional District Landfill: Located off-Site approximately 2 km east of Tanakut 4. Wastes were observed to be segregated by type (for example separate piles for vehicles, appliances and white goods, and organic compostable materials). A residential heating-oil-type-tank was observed (source unknown).
- **Tsuniah Lake Lodge Airstrip and Dock:** (raised as a potential concern by Community members) The airstrip storage shed was observed approximately 150 m north and the boat dock was observed approximately 200 m northeast of Tsunnia Lake 5.
- BC ENV Site ID 5388/Former Konni Lake Resort Gas Station: (refer to Section 3.4). Located approximately 3 km east of Lohbiee 3 and 2 km west of Tanakut 4. A vacant store was observed to remain. Pumps, vent of fill pipes, or other evidence of a former service station were not observed.
- Three additional off-Site dumps with small groups of wrecked and derelict vehicles (approximately 30 in total), and small volumes (approximately 5 m³ in total) of waste building materials (primarily wood), and small volumes of household waste (approximately 3 m³ in total) were observed in the vicinity of the Site I.R.s; approximately 1100 m east of Lezbye 6, 800 m east of Lohbiee 3, and 200 m southwest of Tanakut 4.
- Another approximately 20 wrecked and derelict vehicles were observed off-Site, primarily in the vicinity of residences along the north side of Konni Lake.
- The remaining lands surrounding the Site I.R.s were observed to be undeveloped, or used for residential and agricultural purposes.



5. INTERVIEWS

Interviews were conducted with various Xeni Gwet'in Elders, including Susie Lulua, Phyllis William, and Raphael William, between June 20 and July 22, 2022. They reported the following:

- The former Nemiah Lake Dump (FCSI 05055004) was located between Konni Lake and Nemiah Lake (approximately 200 m west of Lohbiee 3).
- A gas station was formerly located at the (currently vacant) Konni Lake store (approximately 3 km east of Lohbiee3).
- The community requires a central facility for the collection/disposal of waste oil (generated from individual households).
- Wastes, disposed at the Cariboo Regional District Landfill, should be buried more frequently and the fence surrounding the landfill should be higher to keep out wildlife.

Interviews were conducted with Dinah and Jim Lulua, Xeni Gwet'in residents, between June 20 and 23, 2022. They reported gasoline was sold from stand-mounted ASTs next to the Bruce and Darlene William residence (northeast portion of Lohbiee 3) for approximately three to five years in the 1990s.

An interview was conducted with Evans Stump, a former mechanic for Enterprise, on June 20, 2022. He reported that after the former UST was excavated and removed from the former Community Hall on Lezbye 6 and that a new generator and double-walled AST were placed in that area; however, due to the provision of a solar electricity supply system across the I.R.s, the generator has not been used and the new AST was not filled.

An interview was conducted with Jamis (last name not provided), a former mechanic for Enterprise, on June 20, 2022. He reported that the catch basins in the Enterprise Works Yard and at the Enterprise Gas Station drain to a single/common oil/water separator.

An interview was conducted with Glen Lulua, Xeni Gwet'in resident with a home on the south portion of Garden 2A, on June 21, 2022. He reported that the approximately 30 vehicles on his property were marked for crushing and removal from the Site.

An interview was conducted with David Setah, Manager Xeni Gwet'in Enterprise, on June 22, 2022. He reported the following:

- Enterprise started operations in 2001, was originally managed by George Colgate, and that he has managed Enterprise at various time between 2013 and the present.
- The diesel and gasoline ASTs at the Enterprise Works Yard and Gas Station are regularly dipped and volume audits conducted. Evidence of leaks of volume discrepancies have not been identified.
- He does not have knowledge about the location or condition of the Enterprise oil/water separator.



An interview was conducted with Eric Brebner, Owner Tsuniah Lake Lodge, on June 22, 2022. He reported the following:

- Drums of aviation fuel are periodically stored for emergency aircraft refuelling purposes in the storage building located approximately 150 m north of Tsunnia Lake 5.
- Fuel ASTs or USTs have not been present.
- Tsunnia Lake 5 has not been developed or occupied.
- The travel trailer observed during the 2022 Site visit is not located on Tsunnia Lake 5 I.R. (it is located approximately 100 m south of the I.R.), although, it is occupied by a Xeni Gwet'in First Nation community member.
- Tsuniah Lake Lodge personnel built the bridge and maintain the unpaved road across Tsunnia Lake 5.

Interviews were conducted with Lia Colasacco, Nen Ch'eh (Land Code) Coordinator, in person and by e-mail between June 20 and July 20, 2022. She reported/relayed the following:

- Kerry Billy formerly lived at the residence currently occupied by Bruce and Darlene William.
- Mining and mine exploration have not occurred on or in the vicinity of the Site I.R.s (in addition, Province of BC Government maps in the Land Code office did not show mine claims or mines on or in the vicinity of the Site I.R.s).



6. SUMMARY, DISCUSSION, AND CONCLUSIONS

This KEYSTONE ENVIRONMENTAL[™] Phase I ESA report was prepared for the Xeni Gwet'in First Nations Government c/o ISC, for eight I.R.s; Chilco Lake 1, Chilco Lake 1A, Garden 2, Garden 2A, Lezbye 6, Lohbiee3, Tanakut 4 and Tsunnia Lake 5, located in the Nemiah Valley and/or on Tŝilhqot'in Title Land, in the Cariboo Regional District of BC (the Site),

We understand that the purpose of this Phase I ESA report is to determine the environmental condition of the Site prior to the transfer of management of lands from the Government of Canada to the Xeni Gwet'in First Nations, and as such is under federal jurisdiction with respect to environmental regulations.

6.1 On-Site

The eight Site I.R.s are located approximately 140 km (approximately 200 km by road) southwest of Williams Lake, BC. The majority of the Site I.R.s have remained undeveloped (primarily forest and grasslands) with portions having been used for residential and agricultural purposes (primarily ranching). With the exception of several small residential, agricultural and institutional buildings constructed in the 1940s or earlier, the majority of development at the Site occurred between circa 1980 and the early 2000s (including the construction of approximately 50 residences and several institutional, commercial and utility buildings, the majority of which are located on Lohbiee 3).

Based on our review of the FSCI and IEMS databases and following the review of various other historical records and our 2022 Site reconnaissance, Keystone Environmental identified approximately thirteen APECs on the Site I.R.s. These APECs are summarized below:

On-Site APECs

APEC 1A: Enterprise Storage Yard (Former Band Office ASTs/FCSI 05055001 and Former Tatla Gas Bar/FCSI 05055002), Lohbiee IR 3:

- Located on the northwest portion of Lohbiee 3 approximately 10 m east and northeast of the Band Office.
- A 4500 L diesel aboveground storage tank (AST) was located in the former Band Office powerhouse (constructed in the 1980s), a 4500 L diesel AST (used to fuel Band-owned heavy equipment) was located outdoors adjacent to the powerhouse, and the former Tatla Gas Station 2250 L diesel and 9100 L gasoline ASTs were located approximately 20 m east of the Band Office. Stained soil was observed outside the powerhouse (approximately 26 m²), and minor soil staining was observed (approximately 1 m² at each tank) at the gas station.
- Circa 1998, these tanks were removed/relocated and stained soil was excavated under the direction of Pottinger Gaherty Environmental Consultants Ltd. (PGL). Confirmatory soil samples were collected from the excavation boundaries and from excavated soil placed in stockpiles, and analyzed for LEPH/HEPH. The concentrations of LEPH/HEPH for the remediated/excavated areas were less than the BC CSR CL/IL land use standards of the day (soil samples were not analyzed for the equivalent Federal parameters (PHCs F1-F4), and



copies of the analytical results were not attached to the copy of the report provided to Keystone Environmental to compare to current applicable CCME guidelines). The excavated soils that contained LEPH/HEPH at concentrations greater than the CSR CL/IL standards were placed on plastic and covered with plastic for bio-treatment prior to re-use. "Some" contamination reportedly remained under the powerhouse and during later powerhouse upgrade work, approximately 10 m³ of diesel fuel-stained soil was excavated from the south end of the powerhouse, and added/mixed with the bio-treatment stockpile. According to the excavation contractors/personnel, the fuel-stained soil was not extensive and most, or all, was removed from the powerhouse.

- In 2000, soil samples were collected by PGL from two test pits located near the powerhouse. Fuel-stained soil was identified in just one test pit to a depth of approximately 0.5 m below the surface, and to extend laterally less than 1 m east of the powerhouse. The test pit soil analytical results indicated LEPH/HEPH, at concentrations greater than the applicable CL/IL standards of the day, in only one sample from the first test pit. It was considered un-likely for the remaining fuel contaminated soil to be extensive vertically or laterally. PGL estimated that less than 20 m³ of contaminated soil remained and recommended the remaining contaminated soil could be removed at that time the old powerhouse building was to be demolished (in the early 2000s).
- PGL also collected soil samples from the bio-treatment stockpile in 2000. The stockpile soil samples contained concentrations of LEPH/HEPH that met the applicable standards of the day for landspreading at a commercial/industrial site. The samples also met residential site standards. The remediation report indicated that the landspreading was to be completed in 2001 "at its current location" (anticipated to be the storage yard/parking lot located behind/north of the Band Office).
- The existing Enterprise Works Yard (along with the new powerhouse, repair shop and diesel AST) were constructed in the early 2000s over the area of the former Band powerhouse, Tatla Gas Station and associated ASTs.
- The FCSI database indicates the status of the powerhouse and Band equipment ASTs (FCSI 05055001), last updated in 2002/2003, was "Confirmatory sampling completed. No further action required". The IEMS databases indicate the files for this site were closed in 2002, and FNESS indicated that "Soil treatment in biocell complete, biocell had been decommissioned. No further work required".
- The FCSI database indicates the status of the Tatla Service Station (FCSI 05055002), last updated in 2021/2022, was "Historical review planned". The IEMS database indicates that although the status of a biocell was unknown²⁸, the file was closed in 2003.
- Heavy equipment has been stored, maintained and refuelled in the Enterprise Works Yard since the early 2000s, and in 2022, over two hundred 20 L containers of waste oil were observed to be stored, without cover, over gravel in the storage yard. Some of the containers did not have lids or were tipped over and associated dark staining was observed to cover

²⁸ The 1999 and 2001 PGL Tank and Soil Removal Reports indicate the soil excavated from FCSI 05055001, 05055002 and 00006191 was combined into one stockpile located north of the Band Office.



approximately 20 m². Additional staining on unpaved ground was observed to cover approximately 5 m², adjacent to the diesel fuel pump and a pressure washer.

- Approximately fifty additional 20 L containers of new oil and/or waste oil were observed in the repair shop with underlying staining, including minor staining adjacent to the floor drain.
- Currently there is not a waste oil tank at the Enterprise repair shop, and at the time of the site reconnaissance the waste oil tank at the adjacent Enterprise Gas Station was full.²⁹
- Although, the FCSI and IEMS files for the former Band Office ASTs and Tatla Gas Station were closed, it remains unknown if the 1998 to 2000 confirmatory analytical results meet current applicable guidelines, additional parameters and media (such as dissolved metals, i.e. lead and tetraethyl lead in groundwater) would require analysis to meet current remediation guidelines. Based on current observations in the Enterprise Yard, there is considered to be a potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines. However, before additional investigation (i.e. Phase II ESA) can occur, the two hundred plus containers of waste oil should be removed to allow access to the underlying grounds.

APEC 1B Enterprise Gas Station, Lohbiee IR 3:

- A FCSI number has not been assigned for this site.
- The Enterprise Gas Station has been located approximately 10 m east of the Enterprise Works Yard, on Lohbiee IR 3, since the early 2000s.
- APEC 1A and 1B could be combined together for the purposes of investigation, based on proximity (approximately 10 m east), are both owned and operated by Enterprise, and that these operations reportedly share an oil/water separator.
- In 2022, approximately ten 20 L containers and various smaller containers of waste oil were stored, over a concrete pad with a catch basin adjacent to a full waste oil AST (~3000 L in capacity) at the Enterprise Gas Station. Thick oil-like staining was observed over the concrete pad and grate to the catch basin (as identified for APEC 1A, the waste oil tank at the Enterprise Gas Station is already overflowing and reportedly does not have the capacity to store the waste oil generated yearly at the at the gas station).
- The gas station has double-walled Enviro-Safe gasoline and diesel ASTs, approximately 30,000 L each, and according to the gas station manager, the tanks are regularly dipped and volume audits conducted, and evidence of leaks of volume discrepancies have not been identified. In addition to the storage tanks, the unpaved area around the fuel pad, the catch basins and associated oil/water separator, and waste oil storage area are considered to be an APEC.
- Based on current observations at the Enterprise Gas Station, there is considered to be a potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

²⁹ Based on interviews and in our opinion, the one tank does not provide enough capacity for both operations, and that regular disposal program should be arranged to transport waste oil to a disposal facility.



APEC 2 Glen Lulua's Derelict Cars/Junk Yard, Garden 2A:

- A FCSI number has not been assigned for this site.
- Approximately 50 derelict cars and small trucks were observed in the pasture in the vicinity of Glen Lulua's residence on the south portion of Garden 2A during the 2022 Site visit.
- In addition, various engine parts, empty gas tanks, and approximately 20 batteries were observed on unpaved ground adjacent to the residence.
- With the exception of minor small drips, staining was not observed.
- Based on current observations, there is considered to be a potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines. We understand that since the June 2022 Site visit was conducted, that an "End of Life Vehicles" removal program has been initiated and that as of the end of July 2022, a vehicle crusher was operating on the Site and surrounding lands.
- After the vehicles are removed, the grounds should be inspected to observe if significant staining is present to determine if a Phase II ESA is warranted.

On-Site APEC (that doesn't warrant further investigation or action at this time)

William Lulua's Property (Former Gas Station), Chilco Lake 1A, FCSI 00004653:

- Previous reports by PGL identified a gas station, 1990s or earlier to circa 2001, consisting of three stand-mounted single-walled ASTs (a 4500 L diesel AST, 9100 L gasoline AST and 2300 L disused AST), in the vicinity of William Lulua's residence on the central portion of Chilco Lake 1A.
- With the exception of minor soil staining and drips, evidence of leaks of spills were not observed during PGL's reconnaissance (circa 1996 to 1998).
- During the 2022 Site visit, the tanks were observed to be empty and not in use, and underlying staining was not observed.
- According to historical aerial photographs, historical photographs, and anecdotal reports, the tanks have been moved at various times (a 1996 photograph shows the tanks were located approximately 20 m south of the existing location).
- The FCSI file for this site has not been closed, and the last update in 2021/2022, indicated "Historical review planned".
- Based on the nature of operation (fuel dispensing and storage over unpaved surfaces), there is considered to be a potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.
- William Lulua (and the Band) were advised (circa 2000) that the tanks and any spills were their own liability; therefore, further investigation would likely not be permitted until requested by the current occupants of the residence and/or by the Xeni Gwet'in First Nations Government.



Low Potential On-Site Operations/Activities

Low Potential: Former Community Hall UST and Maintenance Shop, Lezbye 6, FCSI 00006191:

- The existing abandoned dance hall and/or former community hall has been located on the south boundary of Lezbye 6 since the 1970s or earlier. The existing maintenance shop/storage building was constructed adjacent to the community hall in the 1980s.
- In 1996, PGL observed a single-walled 22,500 L diesel/heating oil UST, a 90 L diesel generator day tank/AST, and a fuel drum storage shed. Soil staining was observed; (~5 m²) from apparent over-filling of the day tank, and (~20 m²) outside the fuel drum storage shed.
- The UST and stained soils were excavated circa 1998. Confirmatory soil samples were collected from the excavation boundaries and analyzed for LEPH/HEPH. The concentrations of LEPH/HEPH were less than the BC CSR CL/IL standards of the day (the soil samples were not analyzed for the equivalent Federal parameters (PHCs F1-F4), and copies of the analytical results were not attached to the copy of the report provided to Keystone Environmental to compare to current applicable CCME guidelines). A soil sample with the highest concentration of HEPH was analyzed for lead and the concentration was less than the reported laboratory detection limit (RDL) (anticipated to also be less than the CCME CL/IL guidelines).
- The FNESS file for this site was closed in 2005.
- Although, the former UST was replaced with the existing double-walled AST and generator circa 2000, the generator has not been used and the AST has remained unfilled.
- The maintenance shop has a concrete floor and is currently used to store old generators, building materials and plumbing fixtures, associated with building renovations and repairs across the Site I.R.s. With the exception of minor drips, staining or other evidence of spills or releases in quantities of concern was not observed on the floor during the 2022 Site visit.
- Based on the above observations, there is considered to be a low potential for associated contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

Former Kerry Billy ASTs, Lohbiee3:

- A FCSI number has not been assigned for this site.
- The previous 1999 and 2001 PGL Tank and Soil Removal Reports indicate the former Tatla Gas Station ASTs were relocated between March 1998 and April 1999 to Kerry Billy's residence (currently occupied by Bruce and Darlene William) on the northeast portion of Lohbiee 3. According to anecdotal reports fuel was resold from these stand-mounted ASTs for three to five years. According to aerial photographs, these ASTs were removed prior to 2004.
- Evidence of a former gas station or fuel tanks (such as stains, piping or mounting stands) were not observed during the 2022 Site visit.
- The 2001 PGL report did not identify issues, such as leaks or spills, with the ASTs at the Billy/William location.
- Based on the short duration (three to five years), considerable time since the tanks were removed (approximately 20 years), portable nature and type of fuel storage (stand-mounted aboveground tanks), and current lack of evidence (such as staining), there is considered to



be a low potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

Low Potential: Light Ballasts, Lezbye 6, FCSI 00006378:

- The IEMS database lists "Light Ballasts" and FCSI 00006378 is shown on the Map Navigator on Lezbye 6 (anticipated to be the Community Hall storage building based on the current use for storage of building materials removed from buildings across the Site I.R.s).
- The IEMS database indicates "ballasts were removed", "no further action required", and the file for this site was closed in 1996.
- Based on the removal of the ballasts, that light ballasts are typically used and stored indoors, and closure of the associated file, there is considered to be a low potential for associated contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

Low Potential: Robin Lulua's Well, Chilco Lake 1, FCSI 00006193:

- According to the Environmental Stewardship Strategy Information Management System (ESSIMS) database and archival research information (date and source unknown) an "oily sheen" was noted in a "shallow dug well" at the Robin Lulua's residence (west portion of Chilco Lake 1).
- However, according to community members, their concerns were more for water turbidity than for an oily sheen.
- In 2006, Keystone Environmental interviewed Mr. Robin Lulua, who reported that he had not observed the "water pollution oily sheen on water surface" in the well, as listed in the ESSIMS database. Both Mr. Lulua and Health Canada personnel did not identify concerns regarding drinking water quality at this well.
- During the 2022 Site visit, the cover of Robin Lulua's well was removed, and a minor amount of dust or pollen was observed on the surface of the well water. An iridescent sheen typical of petroleum hydrocarbons was not observed (the degradation of organic matter, can cause a pearlescent sheen).
- Based on the information reported by Robin Lulua and other community members, and
 observations by Keystone Environmental in 2022, it is anticipated that an organic sheen was
 incorrectly identified as an "oily sheen", and as such that there is considered to be a low
 potential that Robin Lulua's well is a concern to humans, animals or sensitive environments,
 or for associated contaminants of concern to be present in the Site soil, groundwater and/or
 vapour at concentrations greater than the applicable CCME guidelines.

Low Potential: Tanks through the Reserve, FCSI 00004447 (Potential Heating Oil Tanks):

 Although the IEMS database indicated this FCSI site was located on Lohbiee 3 and is shown on the Map Navigator on the south shoreline of Konni Lake on the southwest portion of Lohbiee 3 (tanks or former or existing buildings were not identified in that vicinity), and the Band Office, gas station ASTs, and Community Hall former UST and AST, are already identified as separate FCSI numbers, FCSI 00004447 is anticipated to refer to potential residential heating oil tanks throughout the eight Site I.R.s.



- With the exception of a reported disused heating oil AST at William Lulua's residence and former heating oil/diesel UST at the Community Hall, heating oil ASTs or USTs were not observed or identified by Keystone Environmental during the 2022 Site visit, or by PGL circa 1996 to 2000. In addition, according to community members and observations by PGL and Keystone Environmental, Site buildings were originally heated with wood, and are currently heated with propane and electricity and a minor amount of wood.
- A residential heating-oil-type-tank, was observed in the Cariboo Regional District Landfill (refer to separate discussion in the Off-Site Summary Section 6.2). However, it is unknown if the tank was formerly used on-Site (such as at William Lulua's residence) or if the heating oil tank originated from an off-Site home located in the Nemiah Valley region.
- Since contamination associated with heating oil, if any, is typically minor and localized, and a heating oil release was not observed or reported, further investigation regarding potential on-Site heating oil releases, if any, is not warranted at this time.

Low Potential: William Lulua's Dump, Chilco Lake 1A, FCSI 00006194:

- A dump (surficial disposal of household waste materials and not landfilling) is listed in the FCSI database approximately 300 m north of William Lulua's Gas Station.
- A derelict vehicle and approximately 1 m³ of weathered household waste were observed at this location during the 2022 Site visit.
- The IEMS database indicates the dump was to be cleaned up by the Band, and soil and groundwater investigation was to be conducted, and although the database indicates that it was unknown if this work was completed, the file for this site was closed in 2000.
- Based on the small scale (family-sized) and that the dump does not appear to be in current use (the majority of household garbage from the Site I.R.s appears to be currently collected for disposal at the Cariboo Regional District Landfill located approximately 2 km east of Tanakut 4), there is considered to be a low potential for associated contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

Low Potential: "End of Life Vehicles", Across the Site I.R.s:

- In addition to Glen Lulua's approximately 50 derelict vehicles, an additional approximately 50 wrecked and derelict vehicles and machinery (induvial vehicles or small groups of vehicles) were observed on aerial photographs and/or during the 2022 Site visit across the Site I.R.s.
- We understand that since the June 2022 Site visit was conducted, that an "End of Life Vehicles" removal program has been initiated and that as of the end of July 2022, a vehicle crusher was operating on the Site and surrounding lands.
- Based on the minor amounts of drips and staining observed under "End of Life Vehicles" during the 2022 Site visit, and that these vehicles were located individually or in small groups, underlying contamination, if any, is anticipated to be minor and localized., and as such, there is considered to be a low potential for associated widespread contamination to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.
- As well, unless substantial staining is observed that would warrant further investigation, after the "End of Life" vehicle removal program is completed, it is not recommended that the additional "End of Life Vehicles" be added as APECs into FCSI, IEMS, or other databases.



Low Potential: Vehicle Repair Area, Lohbiee 3, IEMS#7000057895:

- A "Vehicle Repair Area" was identified on the IEMS database at Lohbiee 3 (a FCSI number was not assigned for this site, nor is it shown on the Map Navigator). Based on former and existing heavy equipment maintenance/storage areas and former and existing gas stations being located east of the Lohbiee 3 Band Office, and that other likely vehicle repair locations were not identified by community members or are visible on historical aerial photographs, the "Vehicle Repair Area" is anticipated to have been in the same location as FCSI 05055001 and/or FCSI 05055002, and as such, there is considered to be a low potential that the "Vehicle Repair Area" is a different or separate APEC.
- The IEMS database indicates the file for this site was closed in 2001.
- Contamination, if any, associated with this vehicle repair area is anticipated to be addressed by the investigations for APEC 1A and 1B, and contamination identified, if any, is considered to be more likely associated with current vehicle repair and waste oil collection operations.

6.2 Off-Site

The lands surrounding the Site have predominantly remained undeveloped, and minor areas have been developed for residential, agricultural and commercial purposes. Off-Site operations/ features of potential environmental concern located in the Nemiah Valley and/or on Tŝilhqot'in Title Land are summarized as follows:

Off-Site: Former Nemiah Lake Dump, FCSI 05055004:

- Located between Nemiah Lake and Konni Lake, approximately 200 m west of Lohbiee 3.
- Aerial photographs show a former approximately 200 m² rectangular-shaped clearing adjacent to the north side of the road in the 1970s and 1980s, which gradually became overgrown with vegetation to the present.
- With the exception of one derelict vehicle, evidence of this former dump was not observed during the 2022 Site visit.
- The IEMS database indicates the file for this site was closed in 2000.
- Based on the small scale nature and distance from the Site (approximately 200 m), there is considered to be a low potential for associated widespread contamination to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

Off-Site: Naghtaneqed School UST, FCSI 05055003:

- Located adjacent and down-gradient to the west of Lohbiee 3.
- The IEMS database indicates that assessment and remediation were to be done (after 1996) as part of FNESS UST program, and that the FNESS file was closed in 2001.
- School personnel were interviewed, and they did not report leaks or releases having occurred to the best of their knowledge.
- Based on the above information, there is considered to be a low potential for associated widespread contamination to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.



Off-Site: Cariboo Regional District Landfill, FCSI 00006190:

- Located approximately 2 km east of Tanakut 4 since circa 2001 (however, incorrectly shown on the FCSI Map Navigator as being located on Tanakut 4).
- A clearing or other features consistent with a Regional District Landfill were not observed on Tanakut 4 during the 2022 Site visit and are not visible on historical aerial photographs.
- Based primarily on the distance from the Site (approximately 2 km), there is considered to be a low potential for associated widespread contamination to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

Off-Site: Tsuniah Lake Lodge Airstrip Fuel Storage and Boat Dock:

- Located approximately 150 m and greater north to northeast of Tsunnia Lake 5 since the 1960s.
- Aircraft fuel storage or boat moorage were not observed within approximately 150 m of Tsunnia Lake 5 during the 2022 Site visit and is not visible on historical aerial photographs.
- Eric Brebner, Tsunnia Lake Lodge owner, reported that fuel storage or boat moorage has not occurred within approximately 150 m of Tsunnia Lake 5., that fuel has been stored in drums, and fuel ASTs or USTs have not been present.
- Based primarily on the distance from the Site (approximately 150 m and greater), there is considered to be a low potential for associated widespread contamination to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

Off-Site: Konni Lake Resort Gas Station, BC ENV Site ID 5388:

- Located on the north shore of Konni Lake, approximately 3 km east of Lohbiee 3 and 2 km west of Tanakut 4, circa 1980 to 2000.
- The BC ENV Site Registry indicates that a Preliminary Site Investigation Stage 1 and 2 report was submitted to BC ENV in 1999.
- Based primarily on the distance from the Site (approximately 2 km and greater), there is considered to be a low potential for associated widespread contamination to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines.

6.3 **Recommendations**

To assist with the completion of a Phase II ESA the removal of derelict vehicles (APEC 2) and waste liquids (AEPC 1A and APEC 1B) is recommended to be completed prior to undertaking the Phase II ESA.

A Phase II ESA opinion of probable costs can be provided under a separate cover, and given the available information will be accurate within a factor of 30%. Our opinion of costs would assume that the three APECs would be investigated as one Phase II ESA program and not investigated individually.



A breakdown of APECs and the related PCOCs and those subject areas or sites where evidence of actual and/or potential contamination exists is included in the following table (Section 6.4).

6.4 Conclusion

There is considered to be a potential for contaminants of concern to be present in the Site soil, groundwater and/or vapour at concentrations greater than the applicable CCME guidelines, and further investigation is warranted.

PHASE I ESA RESULTS AND RECOMMENDATIONS								
Site/Area (APEC# and name)	FCSI/IEMS#	Likelihood of Contamination	PCOCs and/or COCs	Description of Contamination or Risk	Recommended Action			
Northwest portion of Lohbiee 3								
APEC 1A Enterprise Storage Yard (Former Band Office ASTs & Former Tatla Gas Bar)	FCSI 05055001 & 05055002 IEMS 7000069096 & 7000125498	High	LEPH/H EPH PAHs, VOCs VPH, metals glycols MTBE	Waste oil and diesel spills, and vehicle maintenance over unpaved surfaces and/or to catch basins with an oil/water separator	Remove waste oil containers and provide a waste oil tank with regular disposal program to transport waste oil to disposal facilities. Conduct Phase II ESA			
APEC 1A Enterprise Gas Station and Waste Oil AST (~3000 L)	Not previously assigned FCSI or IEMS numbers	High	LEPH/H EPH PAHs, VOCs VPH, metals glycols	Waste oil, gasoline and diesel spills to unpaved surfaces and/or to catch basins with an oil/water separator	Remove waste oil containers and provide either a larger waste oil tank and/or a more frequent disposal program to transport waste oil to disposal receiving facilities.			
South portion of Garden 2A								
APEC 2 Glen Lulua's Junk Yard (~50 End of Life Vehicles)	Not previously assigned FCSI or IEMS numbers	Medium	LEPH/H EPH PAHs, VOCs VPH, metals glycols MTBE	Drips and spills, of fluids from derelict vehicles, with maintenance & repairs, and battery, fuel tank and parts storage, over unpaved surfaces	Remove End of Life Vehicles and vehicle parts Inspect grounds for large areas of staining, and excavate stained soil and conduct Phase II ESA if warranted by staining			
FCSIFederal Contaminated Site InventoryIEMSEnvironment Management SystemLEPHlight extractable petroleum hydrocarbonsPAHspolycyclic aromatic hydrocarbons			COCcontaminants of concernPCOCpotential contaminants of concernASTaboveground storage tankHEPHheavy extractable petroleum hydrocarbonsVPHvolatile petroleum hydrocarbonsMTBEMethyl Tertiary Butyl Ether					



7. PROFESSIONAL STATEMENT

Keystone Environmental Ltd. confirms that this report titled *Report of Findings – Phase I Environmental Site Assessment, 8 Reserve Lands, Xeni Gwet'in First Nations Government, Nemiah Valley, BC* has been prepared in general accordance with CSA Standard Z768-01.

Report author Rod Dagneau, B.Sc. AScT., and Professional of Record Mike Farnsworth, B.Sc., P.Ag., have demonstrable experience in this type of assessment and are familiar with the investigation carried out at the Site.

The report is subject to the General Limitations presented in Section 1.3 of the report and the General Terms and Conditions appended at the end of the report.

If you have questions regarding the information contained in this report, please contact Mike Farnsworth at mfarnsworth@keystoneenvironmental.ca.

August 3, 2022

Date

Keystone Environmental Ltd.



Mike Farnsworth, B.Sc., P.Ag. Senior Project Manager



8. REFERENCES

Aerial photographs dated:

- 1949, 1951, 1965, 1967, 1976, 1980, 1989, 1993, 1997, 2001, and 2006 obtained from the UBC Geographic Information Centre
- 2004, 2005, 2015, 2019, and 2021 obtained from Google Earth

BC Land Title and Survey Authority (LTSA) ParcelMap BC/ Crown land registry Government Access Tool for Online Retrieval (GATOR)

- BC Ministry of Environment and Climate Change Strategy (BC ENV) Site Registry; www.bconline.gov.bc.ca
- Canada Lands Survey System (CLSS) map browser http://clss.nrcan.gc.ca/map-carteeng.php?can=08350

Cariboo Regional District website https://cv.cariboord.bc.ca

Environment Canada Historic Climate Data website: www.climate.weatheroffice.gc.ca/ climate_normals/index_e.html.

Geological Survey of Canada Map Open File 837, dated 1982

Government of Canada Directory of Real Property Management http://www.tbs-sct.gc.ca/dfrprbif/home-accueil-eng.aspx

Government of Canada Federal Contaminated Site Inventory http://www.tbs-sct.gc.ca/fcsirscf/home-accueil-eng.aspx

Interviews:

- Ms. Lia Colasacco, Nen Ch'eh (Land Code) Coordinator
- Susie Lulua, Xeni Gwet'in Elder
- Phyllis William, Xeni Gwet'in Elder
- Raphael William, Xeni Gwet'in Elder
- Dinah and Jim Lulua, Xeni Gwet'in residents
- David Setah, Manager Xeni Gwet'in Enterprise
- Evans Stump, a former mechanic for Xeni Gwet'in Enterprise
- Jamis (last name not provided), a former mechanic for Xeni Gwet'in Enterprise
- Glen Lulua, Xeni Gwet'in resident
- Eric Brebner, Owner Tsuniah Lake Lodge



Previous reports:

- Xeni Gwet'in First Nations Reserves Phase I Report, FNESS UST Removal/Replacement Program, prepared by Pottinger Gaherty Environmental Consultants Ltd. for First Nations Emergency Services Society of British Columbia, March 1998
- Tank and Soil Removal Report for Lezbye IR #6, Lohbiee IR #3, and Chilco Lake IR #1A Xeni Gwet'in First Nations, Nemiah Valley, BC, prepared by Pottinger Gaherty Environmental Consultants Ltd. for Morrow Engineering Ltd., Public Works and General Services Canada, and Xeni Gwet'in First Nations, April 1999
- Tank and Soil Removal Report Addendum 1 Outstanding Contaminated Soil and Tank Issues, Xeni Gwet'in First Nations, Nemiah Valley, BC, prepared by Pottinger Gaherty Environmental Consultants Ltd. for Morrow Engineering Ltd., March 2001
- Phase 1 Environmental Site Assessment, 90-Lot Subdivision, Xeni Gwet'in First Nations, prepared by Pottinger Gaherty Environmental Consultants Ltd. for Xeni Gwet'in First Nations, April 2006
- *Re-Assessment of Environmental Issues Inventory, Robin Lulua's Well, Xeni Gwet'in First Nations Government, Chilco Lake #1, BC*, prepared by Keystone Environmental Ltd. for Xeni Gwet'in First Nations, Seabird Island Band, and Public Works and General Services Canada, April 2006
- Naut'sa mawt Tribal Council Xeni Gwet'in First Nation Nemiah Valley Powerhouse Fuel System Upgrades, Project Completion Report, prepared by Morrow Engineering Ltd. for Naut'sa mawt Tribal Council and the Department of Aboriginal Affairs and Northern Development Canada, April 2012
- Water Quality Improvements Preliminary Design Report, AANDC CPMS #7359, Xeni Gwet'in First Nations, prepared by TRUE Consulting for Xeni Gwet'in First Nations, October 2014
- Video, *Delivering a Microgrid for the Xeni Gwet'in First Nation*, by AMP Energy, October 2021 https://www.youtube.com/watch?v=i_jHS0PRpeo

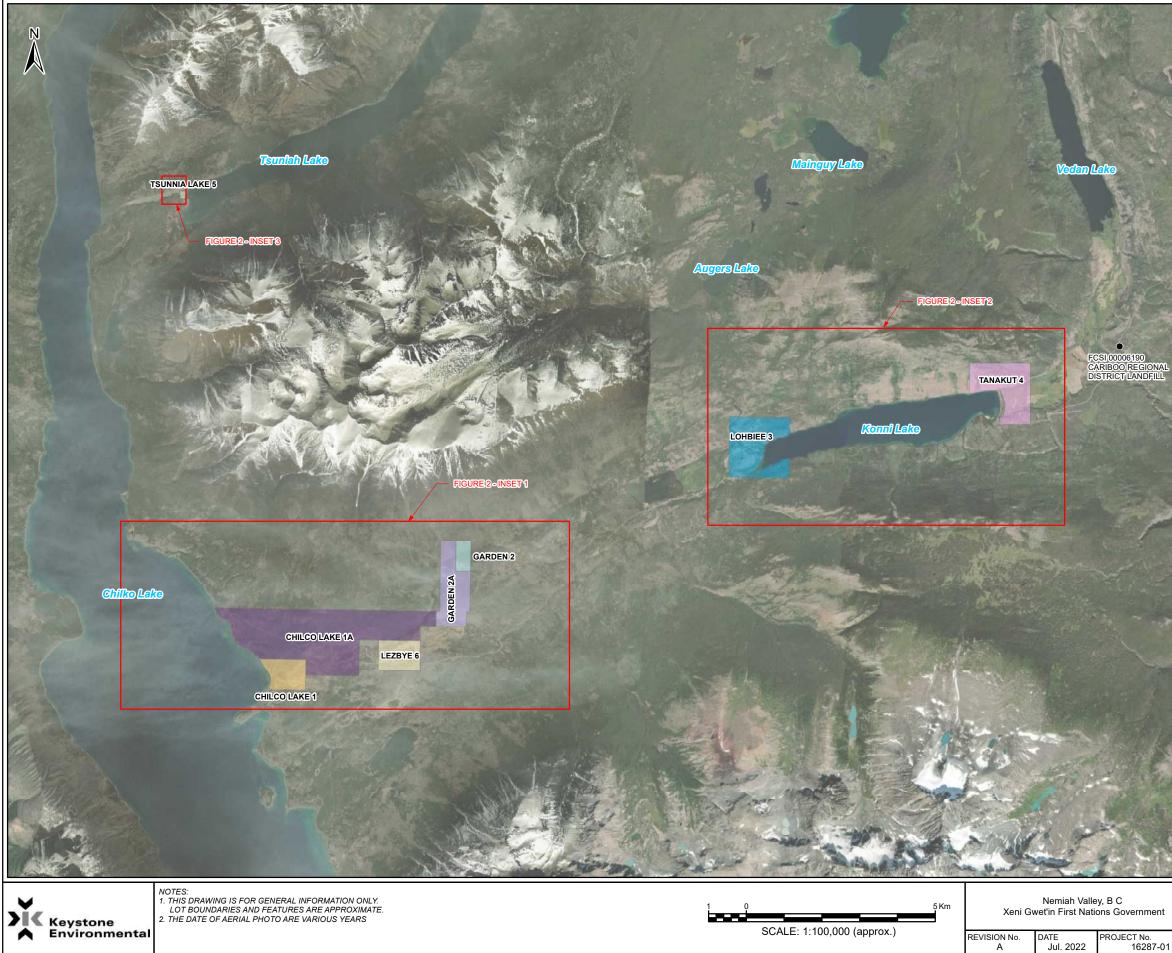
Water well search, British Columbia Water Resources Atlas: http://srmapps.gov.bc.ca/apps/wrbc/

Xeni Gwet'in First Nations Government website https://www.xeni-gwetin.ca/



FIGURES







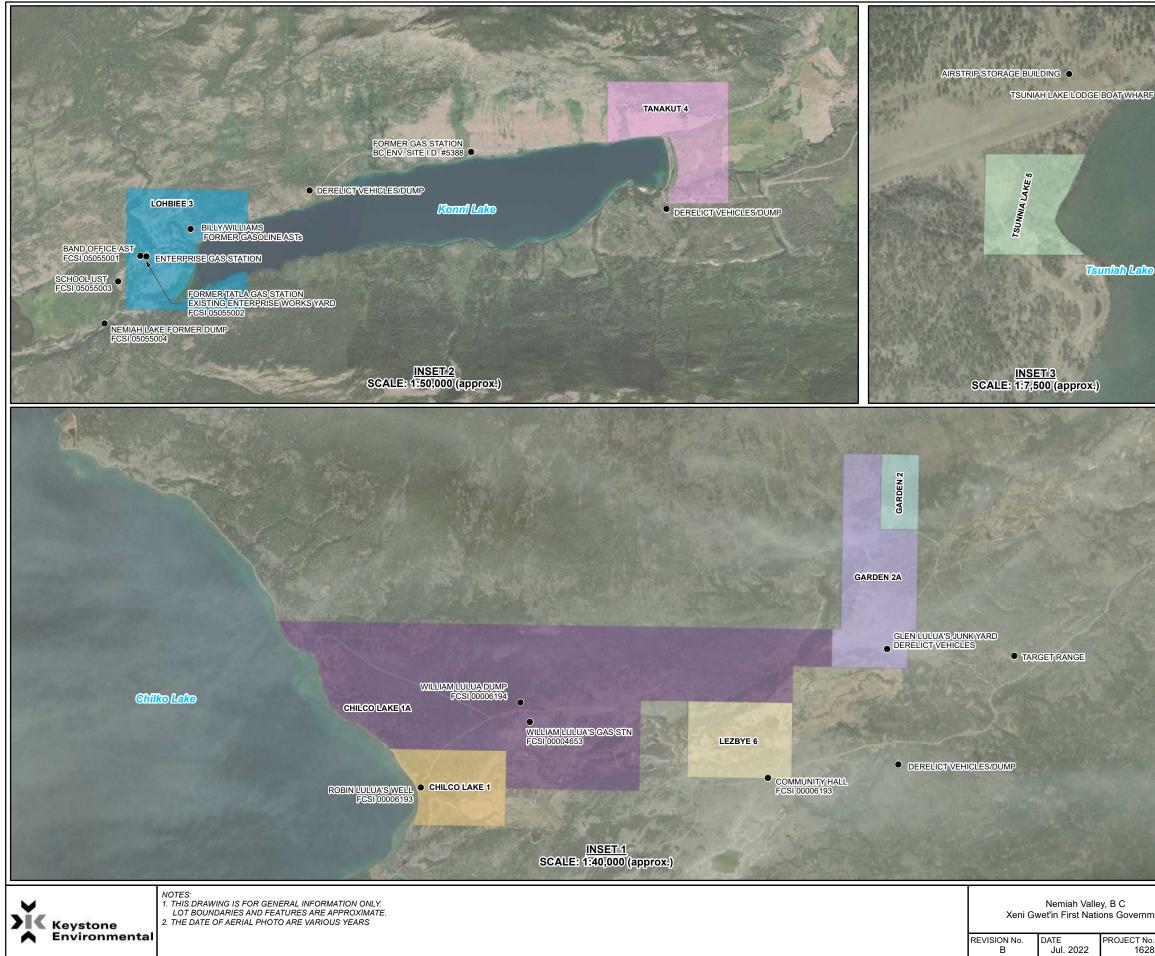
Legend

.

	CHILCO LAKE 1
	CHILCO LAKE 1A
	GARDEN 2
	GARDEN 2A
	LEZBYE 6
	LOHBIEE 3
	TANAKUT 4
	TSUNNIA LAKE 5
1	

Figure 1 Location Plan

PROJECT No. 16287-01



Contraction of the Owner of the					
	CHILCO LAKE 1A				
	GARDEN 2				
	GARDEN 2A				
	LEZBYE 6				
	LOHBIEE 3				
	TANAKUT 4				
	TSUNNIA LAKE 5				
	Figure 2				
iment	Site Plan				
lo. 287-01					

CHILCO LAKE 1

Legend



APPENDIX A

PHOTOGRAPHIC DOCUMENTATION





Photograph 1: Enterprise Works Yard (centre), Enterprise gas station ASTs (bottom right), and Xeni Gwet'in Band Office (centre left) on Lohbiee 3 looking northwest ¹



Photograph 2: Enterprise Works Yard (top centre) looking southeast ¹

¹ Screenshot from AMP Energy video *Delivering a Microgrid for the Xeni Gwet'in First Nation*



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Photograph 3: Enterprise gas station (right foreground) Enterprise Works Yard (centre midground), and Xeni Gwet'in Band Office (left background) on Lohbiee 3 looking northwest



Photograph 4: Enterprise Works Yard (right foreground) Xeni Gwet'in Band Office (centre midground), and Health Clinic (left background) looking northwest



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Photograph 5: Diesel AST for powerhouse/generators and Enterprise Works Yard fuel pump, located northeast of the Band Office, looking southwest



Photograph 6: Stains and waste oil adjacent to pressure washer on Enterprise Works Yard fuel pump pad, looking southwest





Photograph 7: Waste oil storage and staining in Enterprise Works Yard looking west



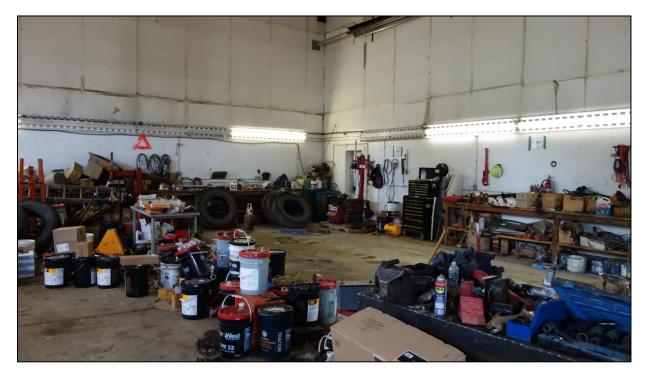
Photograph 8: Waste oil storage and staining in Enterprise Works Yard looking northeast



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Photograph 9: Waste oil storage and staining in Enterprise Works Yard looking northwest



Photograph 10: Inside Enterprise Works Yard shop



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Photograph 11: Enterprise gas station ASTs looking north



Photograph 12: Waste oil collection at Enterprise gas station



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Photograph 13: Glen Lulua's derelict vehicles on the south portion of Garden 2A looking northeast



Photograph 14: Glen Lulua's derelict vehicles looking southwest





Photograph 15: Glen Lulua's derelict vehicle and drum looking north



Photograph 16: Vehicle batteries and parts at Glen Lulua's looking east



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Photograph 17: Abandoned dance hall/former community hall on south portion of Lezbye 6 looking northwest



Photograph 18: Maintenance shop/storage building adjacent to the Lezbye 6 community hall looking southwest



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Photograph 19: Current location of William Lulua's (former gas station) ASTs, located at the centre of Chilco Lake 1A, looking northeast



Photograph 20: Former location of William Lulua's ASTs in 1996 looking southwest²

² Photograph obtained from 1998 PGL UST Removal/Replacement Program report



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Photograph 21: Vicinity of the former location of William Lulua's gas station ASTs in 1996 (foreground), located ~20 m south of the existing location of the ASTs, looking south



Photograph 22: William Lulua's dump, located ~300 m north of the former William Lulua gas station, on the north central portion of Chilco Lake 1A, looking east



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Photograph 23: Robin Lulua's well on the southwest portion of Chilco Lake 1



Photograph 24: Robin Lulua's well (foreground) and residence (background) looking southeast



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Photograph 25: Kerry Billy/Bruce and Darleen William residence, located on the northwest portion of Lohbiee 3, looking northwest



Photograph 26: Vicinity of former Nemiah Lake Dump, located ~200 m west of Lohbiee 3, looking northwest



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Photograph 27: Konni Lake (centre) and Tanakut 4 (foreground) looking southwest³



Photograph 28: Derelict vehicles on northwest portion of Tanakut 4 looking east

³ Screenshot from AMP Energy video Delivering a Microgrid for the Xeni Gwet'in First Nation



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Photograph 29: Tsunnia Lake 5 looking northwest



Photograph 30: Tsunnia Lake 5 (midground) looking northeast



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Photograph 31: Vicinity of UST at Naghtaneqed School, located adjacent to the west of Lohbiee 3, looking east



Photograph 32: Cariboo Regional District Landfill, located ~2 km east of Tanakut 4, looking southeast



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APPENDIX B

AERIAL PHOTOGRAPHS

(Attached In Final Report)



APPENDIX C

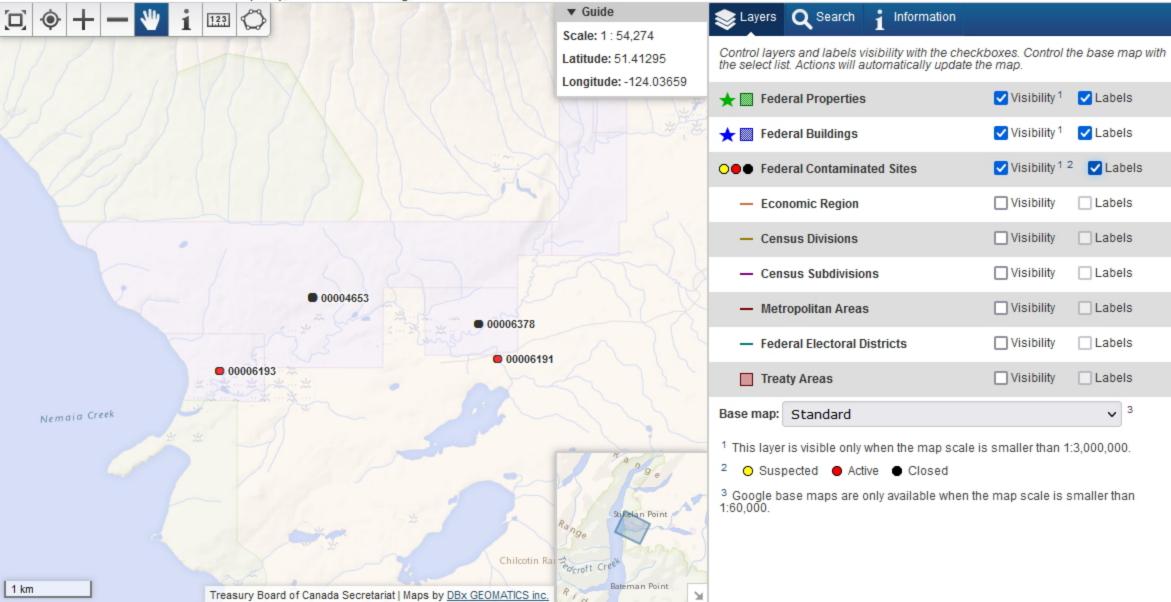
FEDERAL CONTAMINATED SITES/DIRECTORY OF REAL PROPERTY MANAGEMENT INVENTORY



Home > OCG > Real Property Management > DFRP/FCSI - Map Navigator

DFRP/FCSI - Map Navigator

Area: Cariboo Content: 0 Federal Property, 0 Federal Building, 5 Federal Contaminated Sites



Home > OCG > Real Property Management > DFRP/FCSI - Map Navigator

DFRP/FCSI - Map Navigator

Area: Cariboo Content: 0 Federal Property, 0 Federal Building, 6 Federal Contaminated Sites ▼ Guide 📚 Layers 🛛 Q Search a Information 123 Scale: 1: 54,274 Select the info tool then click on the map to display information associated with the Latitude: 51,46078 location of the mouse click. Longitude: -123.86733 Longitude: -123.948698 Latitude: 51.46463 Contaminated Sites (1) 00006190 Site Number: 05055003 Nemaiah Valley Reporting Organization or Branch: Indigenous Services Canada Internal Identifier: 7000057795 Site Name: 714 - Xeni Gwet'in First Nations Government - 08266 - LOHBIEE 3 -Konni Lake 7000057795 O 05055002 05055001 Census Subdivision (1) 05055003 Economic Region (1) 00004447 Census Divisions (1) Federal Electoral District (1) Stikelan Point Bateman Point 1 km Treasury Board of Canada Secretariat | Maps by DBx GEOMATICS inc.



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Treasury Board of Canada Secretariat

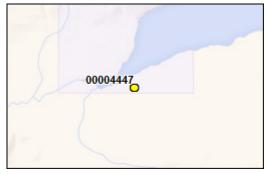
Home > **FCSI** > Site 00004447

Site 00004447 - 714 - Xeni Gwet'in First Nations Government - 08266 - LOHBIEE 3 - 0902465505

Status	Historical review planned.
Site Status	Suspected
Classification	
Site Details	
Reporting Organization	Indigenous Services Canada

Reason for Involvement	A reserve as defined in the Indian Act
Property Type	Canada Lands

Site Location



Latitude, Longitude	51.461558, -123.934547
Municipality	Lohbiee 3, BC
Federal Electoral District	CaribooPrince George

Site Management Strategy

Additional assessment

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	53
5 km	109
10 km	131
25 km	180

Site 00004447 - 714 - Xeni Gwet'in First Nations Government - 08266 ...

50 km 180

Financial/Annual Information

2021-2022	2020-2021	2019-2020	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016
2014-2015	2013-2014	2012-2013	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008
2006-2007	2005-2006						

2021-2022

Reporting Organization	Indigenous Services Canada
Internal Identifier	0902465505
Highest Step Completed	01 Identify Suspect Sites
Total Assessment Expenditure	\$0.00
Total Remediation Expenditure	\$0.00
Total Monitoring Expenditure	\$0.00
FCSAP Assessment Expenditure	\$0.00
FCSAP Remediation Expenditure	\$0.00
FCSAP Monitoring Expenditure	\$0.00
Actual Cubic Meters Remediated	0 m ³
Actual Hectares Remediated	0 ha
Actual Tons Remediated	0 t
Closed	No



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Treasury Board of Canada Secretariat

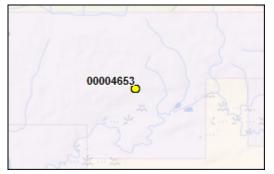
Home > **FCSI** > Site 00004653

Site 00004653 - 714 - Xeni Gwet'in First Nations Government - 08263 - CHILCO LAKE 1A - 0902486105

Status	Historical review planned.
Site Status	Suspected
Classification	
Site Details	
Reporting Organization	Indigenous Services Canada
Reason for Involvement	A reserve as defined in the Indian Act

Property Type Canada Lands

Site Location



Latitude, Longitude	51.420133, -124.099114
Municipality	Chilco Lake 1A, BC
Federal Electoral District	CaribooPrince George

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	11
5 km	55
10 km	55
25 km	180
50 km	180

Financial/Annual Information

2021-2022	2020-2021	2019-2020	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016
2014-2015	2013-2014	2012-2013	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008
2006-2007	2005-2006						

2021-2022

Reporting Organization	Indigenous Services Canada
Internal Identifier	0902486105
Highest Step Completed	01 Identify Suspect Sites
Total Assessment Expenditure	\$0.00
Total Remediation Expenditure	\$0.00
Total Monitoring Expenditure	\$0.00
FCSAP Assessment Expenditure	\$0.00
FCSAP Remediation Expenditure	\$0.00
FCSAP Monitoring Expenditure	\$0.00
Actual Cubic Meters Remediated	0 m ³
Actual Hectares Remediated	0 ha
Actual Tons Remediated	0 t
Closed	No



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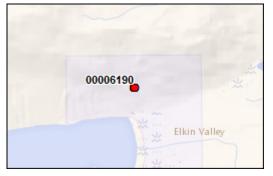
Home > **FCSI** > Site 00006190

Site 00006190 - 714 - Xeni Gwet'in First Nations Government - 08267 - TANAKUT 4 - 7000058095

Status	Initial testing completed. Detailed testing underway.
Site Status	Active
Classification	
Site Details	
Reporting Organization	Indigenous Services Canada
Reason for Involvement	A reserve as defined in the Indian Act

Property Type Canada Lands

Site Location



Latitude, Longitude	51.485531, -123.844531
Municipality	Tanakut 4, BC
Federal Electoral District	CaribooPrince George

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	12
5 km	15
10 km	125
25 km	180
50 km	180

Summary of Annually Reported Data

Total Expenditures

Assessment \$3,800.00

Financial/Annual Information

2021-2022	2020-2021	2019-2020	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016
2014-2015	2013-2014	2012-2013	2011-2012	2009-2010	2005-2006	2000-2001	

2021-2022

Reporting Organization	Indigenous Services Canada
Internal Identifier	7000058095
Highest Step Completed	03 Initial Testing Program
Total Assessment Expenditure	\$0.00
Total Remediation Expenditure	\$0.00
Total Monitoring Expenditure	\$0.00
FCSAP Assessment Expenditure	\$0.00
FCSAP Remediation Expenditure	\$0.00
FCSAP Monitoring Expenditure	\$0.00
Actual Cubic Meters Remediated	0 m ³
Actual Hectares Remediated	0 ha
Actual Tons Remediated	0 t
Closed	No



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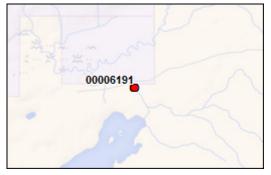
Home > **FCSI** > Site 00006191

Site 00006191 - 714 - Xeni Gwet'in First Nations Government - 08269 - LEZBYE 6 - 7000058195

Status	Initial testing completed. Detailed testing underway.
Site Status	Active
Classification	
Site Details	
Reporting Organization	Indigenous Services Canada

Reason for Involvement	A reserve as defined in the Indian Act
Property Type	Canada Lands

Site Location



Latitude, Longitude	51.413567, -124.067419
Municipality	Cariboo J, BC
Federal Electoral District	CaribooPrince George

Site Management Strategy

Other

Contaminant Details

Contamination Estimate

The following contaminated media may exist on the site:

Contaminant Type	Medium Type	
PHCs (petroleum hydrocarbons)	Soil	

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	20
5 km	54
10 km	55
25 km	180
50 km	180

Summary of Annually Reported Data

Total Expenditures

Assessment \$3,800.00

Financial/Annual Information

2021-2022	2020-2021	2019-2020	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016
2014-2015	2013-2014	2012-2013	2011-2012	2008-2009	2005-2006	2004-2005	

2021-2022

Reporting Organization	Indigenous Services Canada	
Internal Identifier	7000058195	
Highest Step Completed	03 Initial Testing Program	
Total Assessment Expenditure	\$0.00	
Total Remediation Expenditure	\$0.00	
Total Monitoring Expenditure	\$0.00	
FCSAP Assessment Expenditure	\$0.00	
FCSAP Remediation Expenditure	\$0.00	
FCSAP Monitoring Expenditure	\$0.00	
Actual Cubic Meters Remediated	0 m ³	
Actual Hectares Remediated	0 ha	
Actual Tons Remediated	0 t	
Closed	No	



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Treasury Board of Canada Secretariat

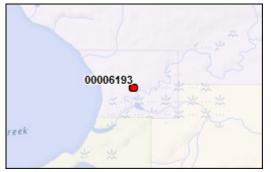
Home > **FCSI** > Site 00006193

Site 00006193 - 714 - Xeni Gwet'in First Nations Government - 08262 - CHILCO LAKE 1 - 7000054595

Status	Initial testing completed. Detailed testing underway.
Site Status	Active
Classification	Not a Priority for Action
Site Details	
Reporting Organization	Indigenous Services Canada
Reason for Involvement	A reserve as defined in the Indian Act

Property Type Canada Lands

Site Location



Latitude, Longitude	51.412312, -124.115083
Municipality	Chilco Lake 1, BC
Federal Electoral District	CaribooPrince George

Site Management Strategy

• Other

Contaminant Details

Contamination Estimate

The following contaminated media was identified on the site:

Contaminant Type	Medium Type
Other inorganics	Groundwater

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	8
5 km	51
10 km	55
25 km	180
50 km	180

Summary of Annually Reported Data

Total Expenditures

FCSAP Expenditures

Assessment \$6,126.88

Financial/Annual Information

2021-2022	2020-2021	2019-2020	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016	
2014-2015	2013-2014	2012-2013	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008	
2006-2007	2005-2006							

2021-2022

Reporting Organization	Indigenous Services Canada
Internal Identifier	7000054595
Highest Step Completed	04 Classify Contaminated Site Using the CCME National Classification System
Total Assessment Expenditure	\$0.00
Total Remediation Expenditure	\$0.00
Total Monitoring Expenditure	\$0.00
FCSAP Assessment Expenditure	\$0.00
FCSAP Remediation Expenditure	\$0.00
FCSAP Monitoring Expenditure	\$0.00
Actual Cubic Meters	0 m ³

Remediated		
Actual Hectares Remediated	0 ha	
Actual Tons Remediated	0 t	
Closed	No	



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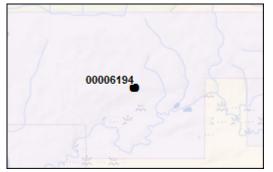
Home > **FCSI** > Site 00006194

Site 00006194 - 714 - Xeni Gwet'in First Nations Government - 08263 - CHILCO LAKE NO. 1A - 7000054795

Status	Long term monitoring completed. No further action required.
Site Status	Closed
Classification	High Priority for Action
Site Details	
Reporting Organization	Indigenous Services Canada
Reason for Involvement	A reserve as defined in the Indian Act

Property Type Canada Lands

Site Location



Latitude, Longitude	51.420142, -124.099114
Municipality	Chilco Lake 1A, BC
Federal Electoral District	CaribooPrince George

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	11
5 km	55
10 km	55
25 km	180
50 km	180

Financial/Annual Information

2000-2001	
2000-2001	
Reporting Organization	Crown-Indigenous Relations and Northern Affairs Canada (Indian and Inuit Affairs Program)
Internal Identifier	7000054795
Highest Step Completed	10 Long-Term Monitoring (Optional)
Total Assessment Expenditure	\$0.00
Total Remediation Expenditure	\$0.00
Total Care Maintenance Expenditure	\$0.00
Total Monitoring Expenditure	\$0.00
FCSAP Assessment Expenditure	\$0.00
FCSAP Remediation Expenditure	\$0.00
FCSAP Care Maintenance Expenditure	\$0.00
FCSAP Monitoring Expenditure	\$0.00
Actual Cubic Meters Remediated	0 m ³
Actual Hectares Remediated	0 ha
Actual Tons Remediated	0 t
Closed	Yes



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Treasury Board of Canada Secretariat

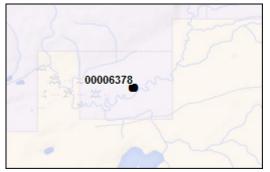
Home > **FCSI** > Site 00006378

Site 00006378 - 714 - Xeni Gwet'in First Nations Government - 08269 - LEZBYE NO. 6 - 7000058395

Status	Remediation / risk management completed. No further action required.
Site Status	Closed
Classification	Insufficient Information
Site Details	
Reporting Organization	Indigenous Services Canada
Reason for Involvement	A reserve as defined in the Indian Act

Property Type Canada Lands

Site Location



Latitude, Longitude	51.417315, -124.070604
Municipality	Lezbye 6, BC
Federal Electoral District	CaribooPrince George

Contaminant Details

Contamination Estimate

The following contaminated media was identified on the site:

Contaminant Type	Medium Type
PCBs (Polychlorinated Biphenyl) and PCDD/Fs (polychlorinated dibenzo-	Other
p-dioxin/dibenzofuran)	medium

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	22
5 km	55
10 km	55
25 km	180
50 km	180

Summary of Annually Reported Data

Total Expenditures

Remediation \$12,000.00

Financial/Annual Information

Crown-Indigenous Relations and Northern Affairs Canada (Indian and Inuit Affairs Program)
7000058395
08 Implement Remediation/Risk Management Strategy
\$0.00
\$12,000.00
\$0.00
\$0.00
\$0.00
\$0.00
\$0.00
\$0.00
0 m ³
0 ha
0 t

Closed

Yes



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Treasury Board of Canada Secretariat

Home > **FCSI** > Site 05055001

Site 05055001 - 714 - Xeni Gwet'in First Nations Government - 08266 - LOHBIEE NO. 3 - 7000069096

Status	Confirmatory sampling completed. No further action required.
Site Status	Closed
Classification	High Priority for Action
Site Details	
Reporting Organization	Indigenous Services Canada
Reason for Involvement	A reserve as defined in the Indian Act

Property Type Canada Lands

Site Location



Latitude, Longitude	51.46797, -123.93456
Municipality	Lohbiee 3, BC
Federal Electoral District	CaribooPrince George

Site Management Strategy

• Other

Contaminant Details

Contamination Estimate

The following contaminated media was identified on the site:

Contaminant Type	Medium Type
PHCs (petroleum hydrocarbons)	Other medium
PAHs (polycyclic aromatic hydrocarbon)	Other medium

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	94
5 km	109
10 km	130
25 km	180
50 km	180

Financial/Annual Information

2002-2003	
2002-2003	
Reporting Organization	Crown-Indigenous Relations and Northern Affairs Canada (Indian and Inuit Affairs Program)
Internal Identifier	7000069096
Highest Step Completed	09 Confirmatory Sampling and Final Reporting
Total Assessment Expenditure	\$0.00
Total Remediation Expenditure	\$0.00
Total Care Maintenance Expenditure	\$0.00
Total Monitoring Expenditure	\$0.00
FCSAP Assessment Expenditure	\$0.00
FCSAP Remediation Expenditure	\$0.00
FCSAP Care Maintenance Expenditure	\$0.00
FCSAP Monitoring Expenditure	\$0.00
Actual Cubic Meters Remediated	0 m ³
Actual Hectares Remediated	0 ha
Actual Tons Remediated	0 t
Closed	Yes

Site 05055001 - 714 - Xeni Gwet'in First Nations Government - 08266 ...



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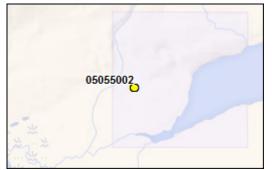
Home > **FCSI** > Site 05055002

Site 05055002 - 714 - Xeni Gwet'in First Nations Government - 08266 - LOHBIEE 3 - 7000125498

Status	Historical review planned.
Site Status	Suspected
Classification	
Site Details	
Reporting Organization	Indigenous Services Canada

Reason for Involvement	A reserve as defined in the Indian Act
Property Type	Canada Lands

Site Location



Latitude, Longitude	51.467425, -123.943786
Municipality	Lohbiee 3, BC
Federal Electoral District	CaribooPrince George

Site Management Strategy

Other

Contaminant Details

Contamination Estimate

The following contaminated media may exist on the site:

Contaminant Type	Medium Type	
PHCs (petroleum hydrocarbons)	Soil	

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	67
5 km	109
10 km	133
25 km	180
50 km	180

Financial/Annual Information

014-2015 2013-2014 203	2-2013				
		2011-2012	2003-2004		
2021-2022					
Reporting Organization	Indig	jenous Servic	es Canada		
Internal Identifier	7000	125498			
Highest Step Completed	01 Io	dentify Suspe	ct Sites		
Total Assessment Expenditure	\$0.0	0			
Total Remediation Expenditure	\$0.0	0			
Total Monitoring Expenditure	\$0.0	0			
FCSAP Assessment Expenditure	\$0.0	0			
FCSAP Remediation Expenditure	\$0.0	0			
FCSAP Monitoring Expenditure	\$0.0	0			
Actual Cubic Meters Remediated	0 m ³	l			
Actual Hectares Remediat	ed 0 ha				
Actual Tons Remediated	0 t				
Closed	No				



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Treasury Board of Canada Secretariat

Home > **FCSI** > Site 05055003

Site 05055003 - 714 - Xeni Gwet'in First Nations Government - 08266 - LOHBIEE 3 - 7000057795

Status	Initial testing completed. Detailed testing underway.
Site Status	Active
Classification	
Site Details	
Reporting Organization	Indigenous Services Canada
Reason for Involvement	A reserve as defined in the Indian Act

Property Type Canada Lands

Site Location



Latitude, Longitude	51.464686, -123.948381
Municipality	Cariboo J, BC
Federal Electoral District	CaribooPrince George

Site Management Strategy

• Other

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	37
5 km	109
10 km	143
25 km	180

Site 05055003 - 714 - Xeni Gwet'in First Nations Government - 08266 ...

50 km 180

Financial/Annual Information

2021-2022	2020-2021	2019-2020	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016
2014-2015	2013-2014	2012-2013	2011-2012	2000-2001			

2021-2022

Reporting Organization	Indigenous Services Canada
Internal Identifier	7000057795
Highest Step Completed	03 Initial Testing Program
Total Assessment Expenditure	\$0.00
Total Remediation Expenditure	\$0.00
Total Monitoring Expenditure	\$0.00
FCSAP Assessment Expenditure	\$0.00
FCSAP Remediation Expenditure	\$0.00
FCSAP Monitoring Expenditure	\$0.00
Actual Cubic Meters Remediated	0 m ³
Actual Hectares Remediated	0 ha
Actual Tons Remediated	0 t
Closed	No



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Home > FCSI > Site 05055004

Site 05055004 - 714 - Xeni Gwet'in First Nations Government - 08266 - LOHBIEE NO. 3 - 7000057995

Status	Long term monitoring completed. No further action required.
Site Status	Closed
Classification	High Priority for Action
Site Details	
Reporting Organization	Indigenous Services Canada
Reason for Involvement	A reserve as defined in the Indian Act

Property Type Canada Lands

Site Location



Latitude, Longitude	51.461548, -123.934557
Municipality	Lohbiee 3, BC
Federal Electoral District	CaribooPrince George

Population

This table contains the population estimates at distances around the site.

Radius	Population
1 km	53
5 km	109
10 km	131
25 km	180
50 km	180

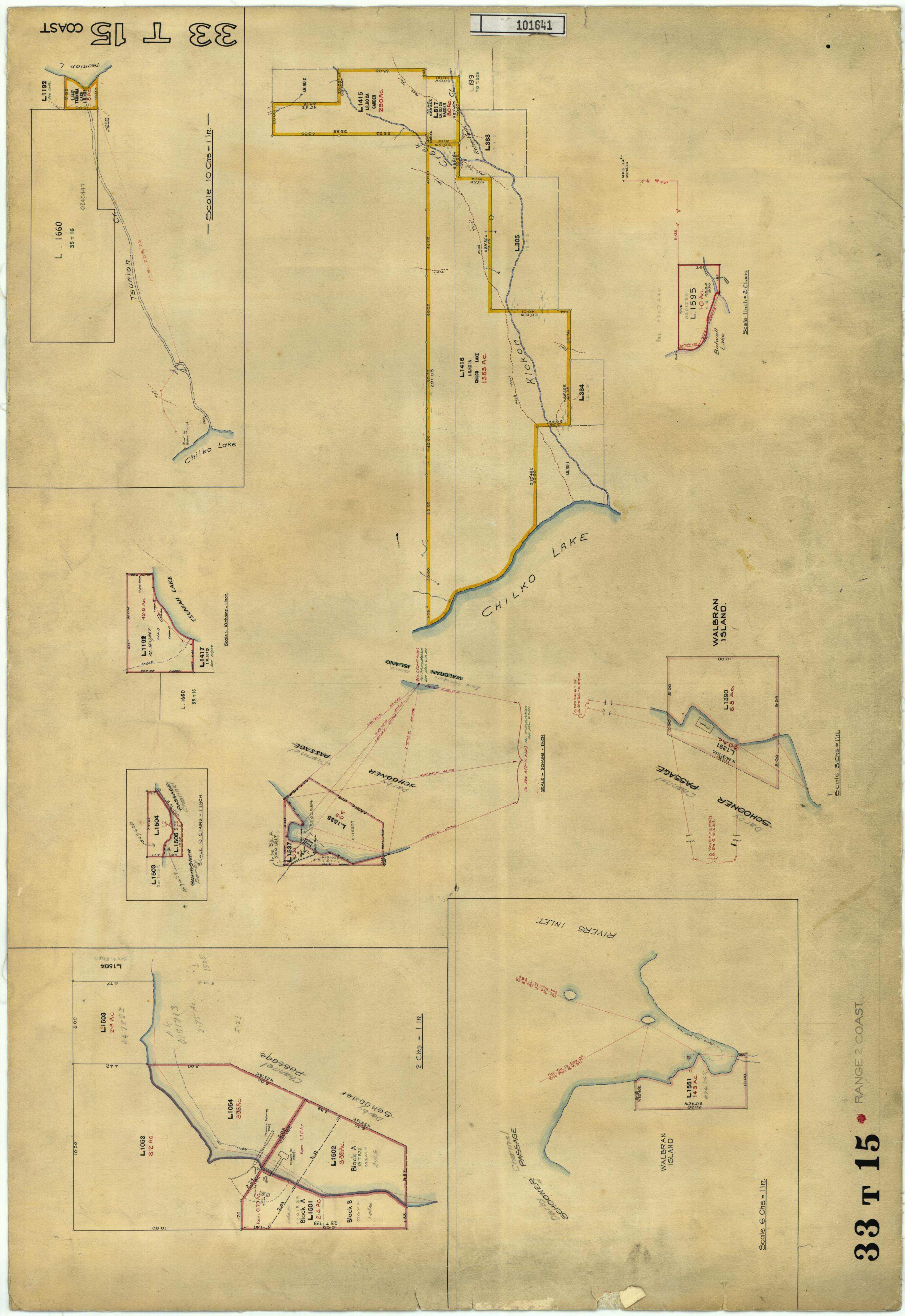
Financial/Annual Information

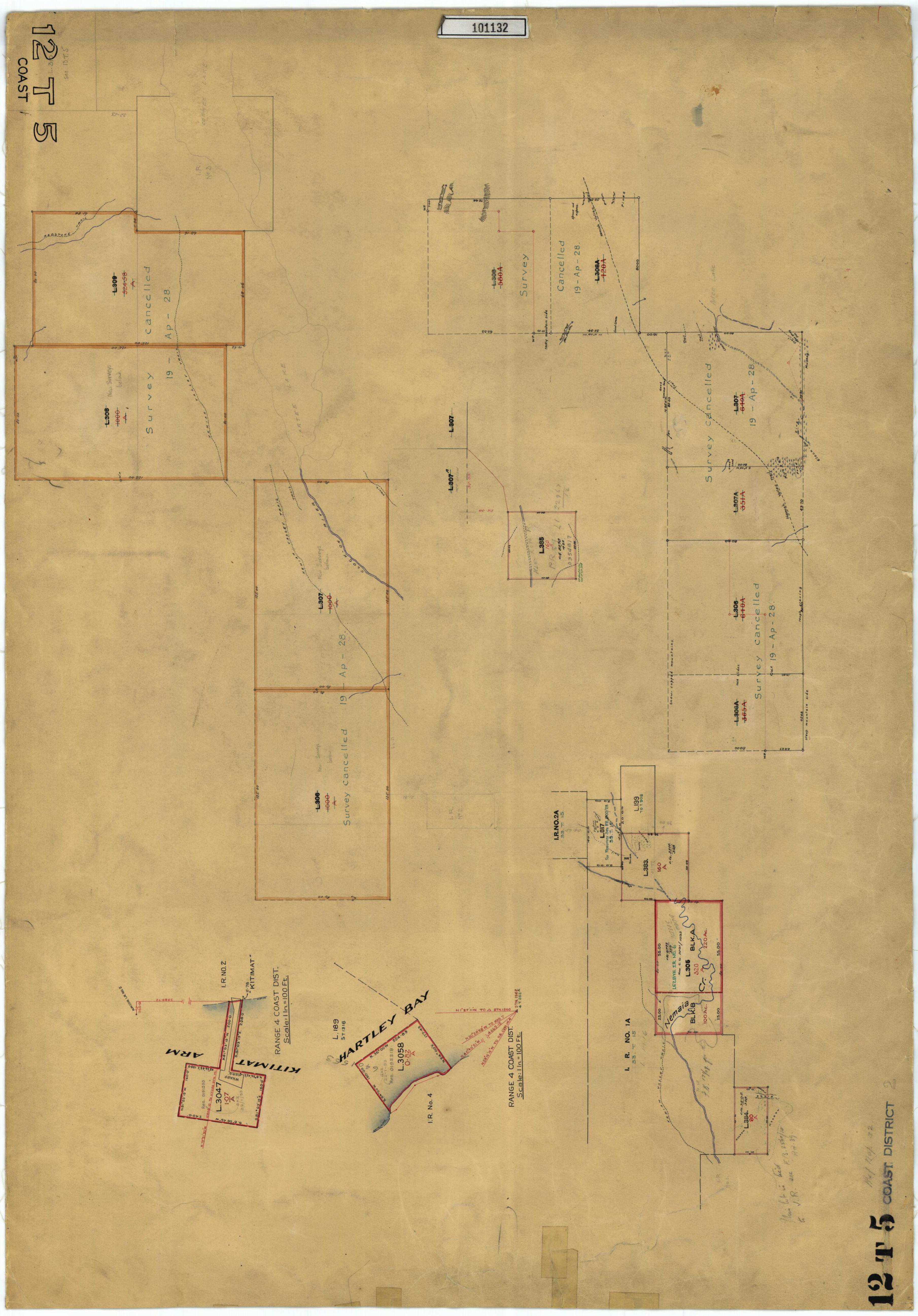
009-2010 20	05-2006	2000-2001	
2009-2010			
Reporting Or	ganizatio		vn-Indigenous Relations and Northern Affairs Canada (Indian an : Affairs Program)
Internal Ider	tifier	7000	0057995
Highest Step	Complete	ed 10 L	ong-Term Monitoring (Optional)
Total Assessı Expenditure	ment	\$0.0	0
Total Remedi Expenditure	ation	\$0.0	0
Total Care Ma Expenditure	aintenanc	e \$0.0	0
Total Monitor Expenditure	ring	\$0.0	0
FCSAP Assess Expenditure	sment	\$0.0	0
FCSAP Reme Expenditure	diation	\$0.0	0
FCSAP Care N Expenditure	1aintenan	ce \$0.0	0
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Actual Cubic Remediated	Meters	0 m ²	3
Actual Hecta	res Reme	diated 0 ha	
Actual Tons F	Remediate	ed Ot	
Closed		Yes	

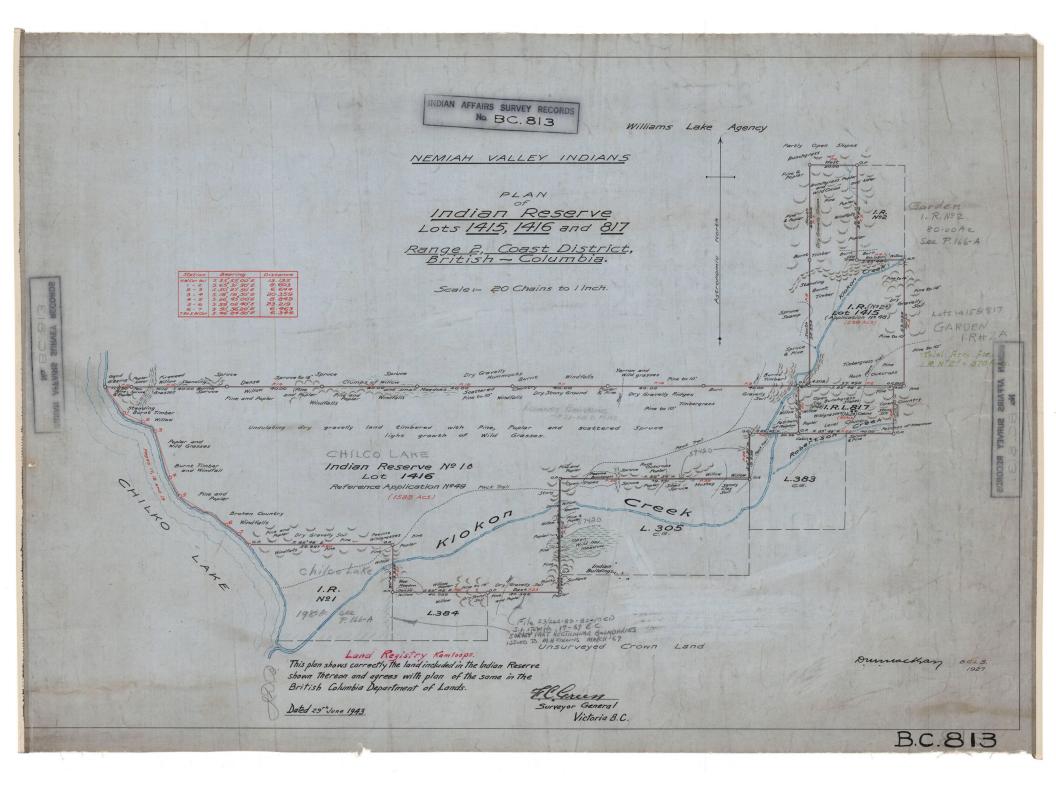
APPENDIX D

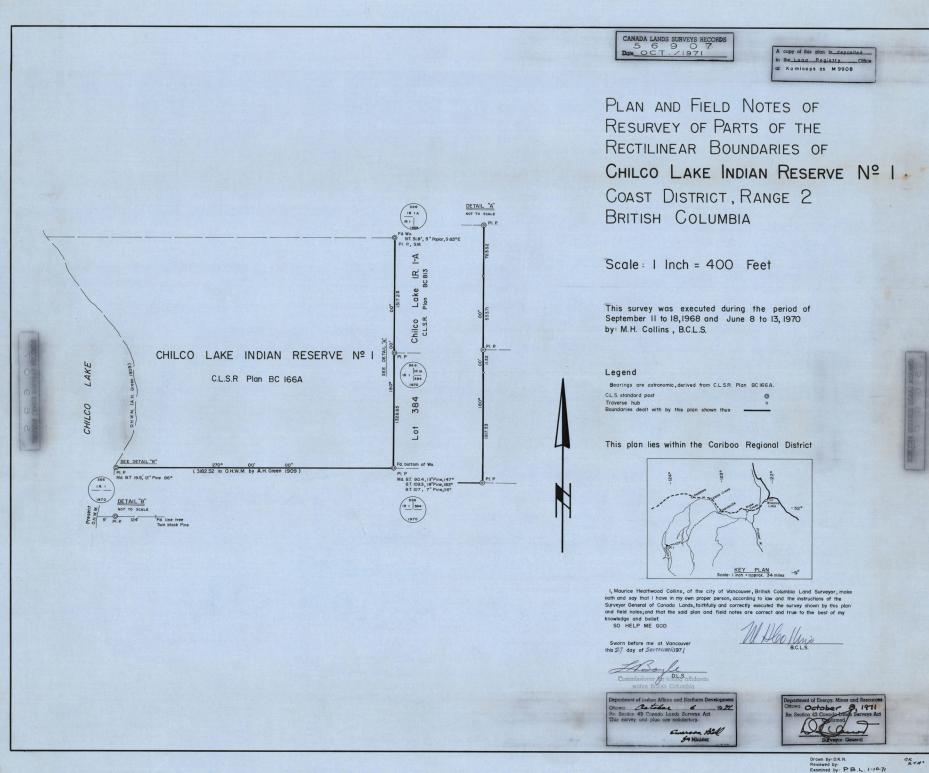
LEGAL PLANS, LAND TITLE, AND LAND REGISTRY RECORDS

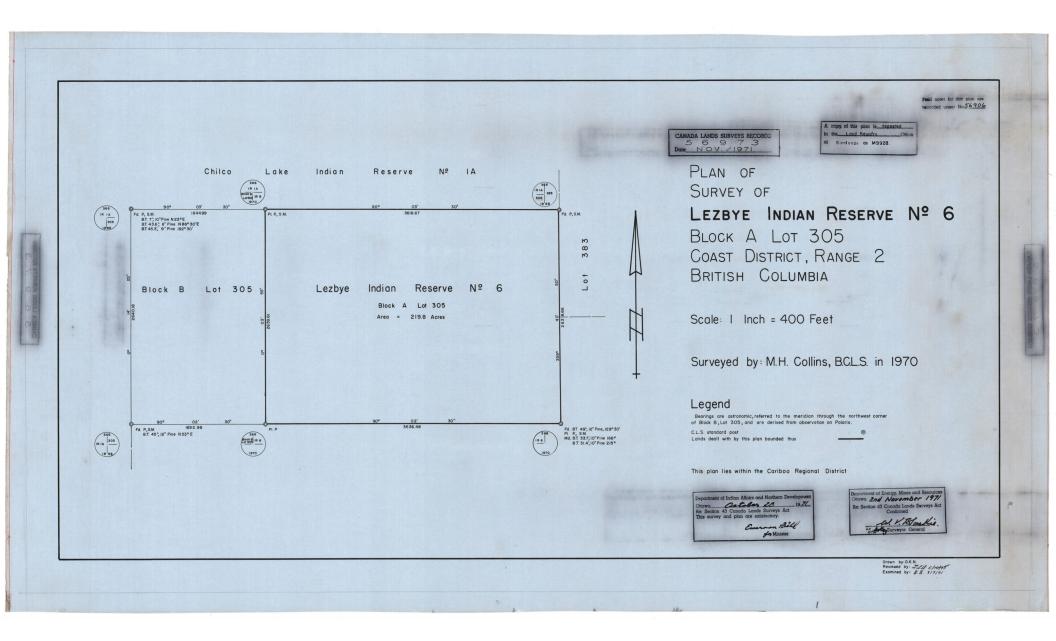






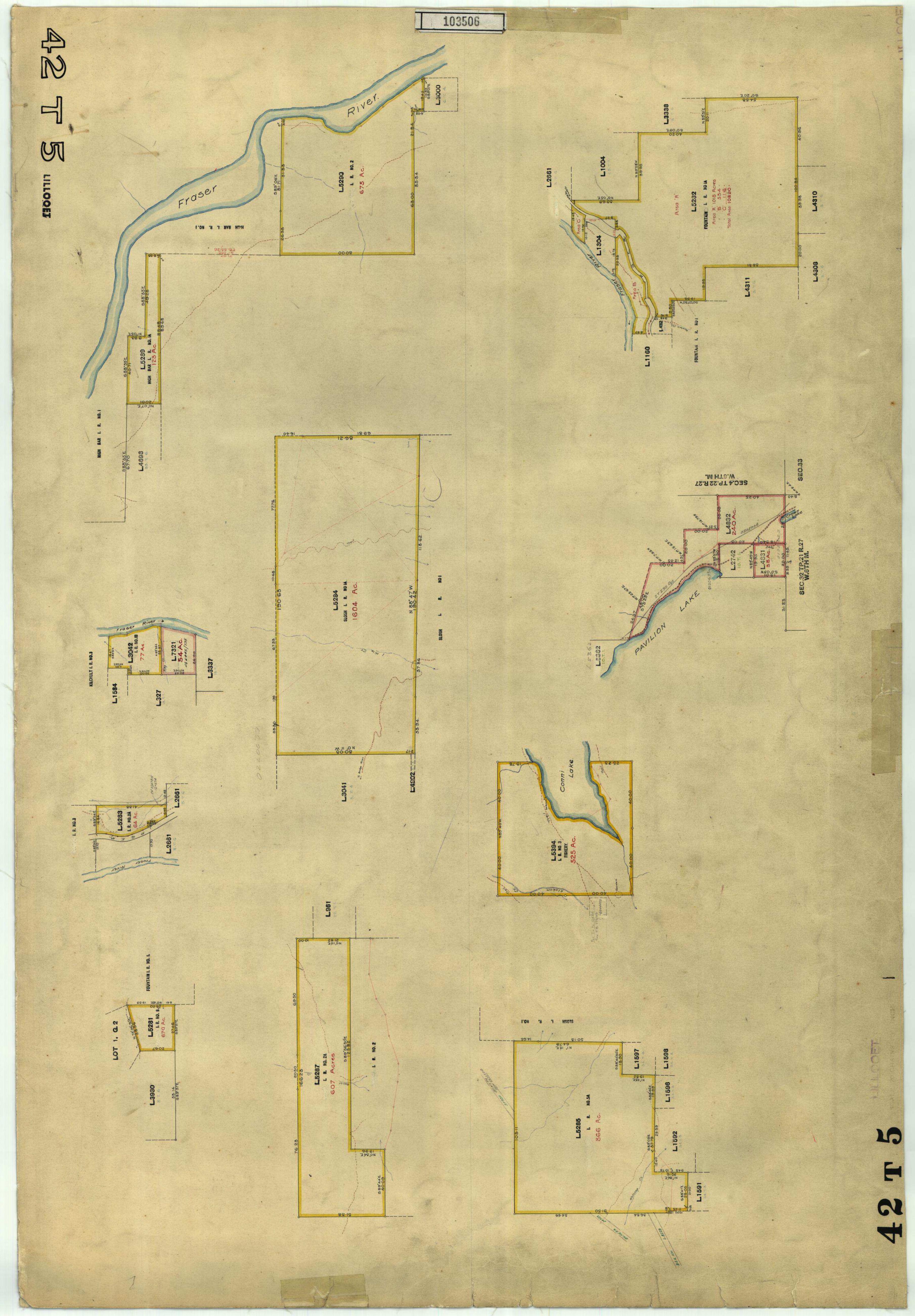


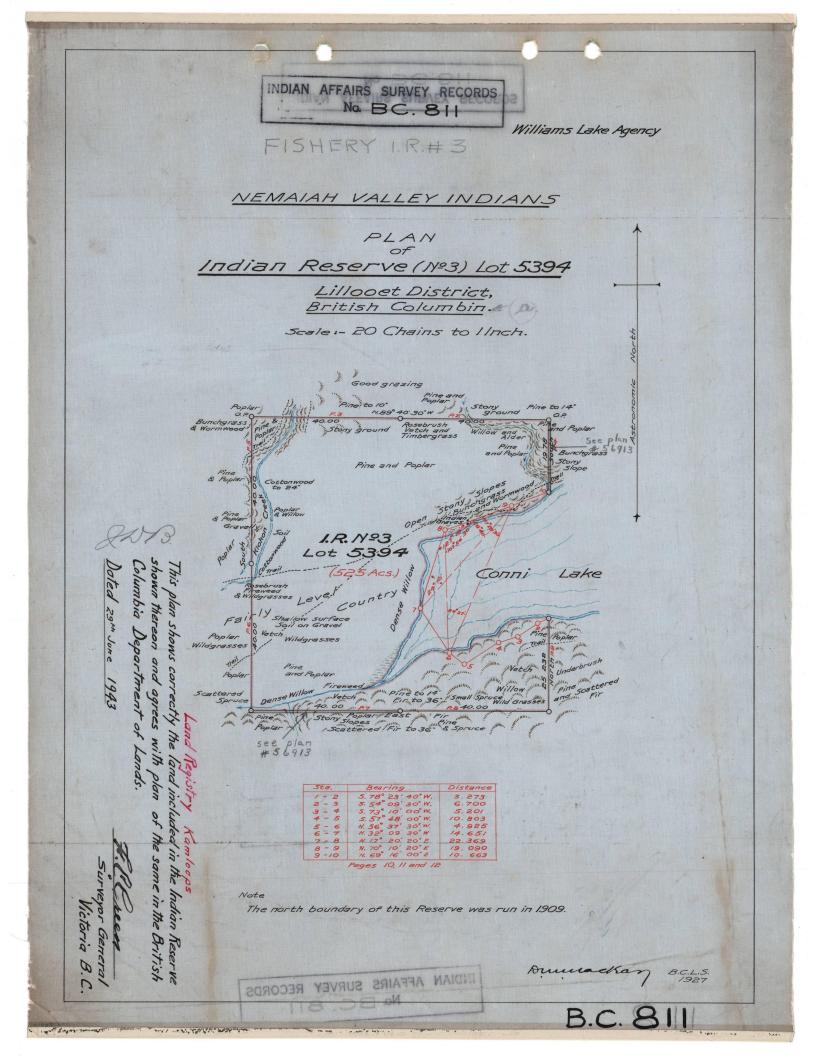


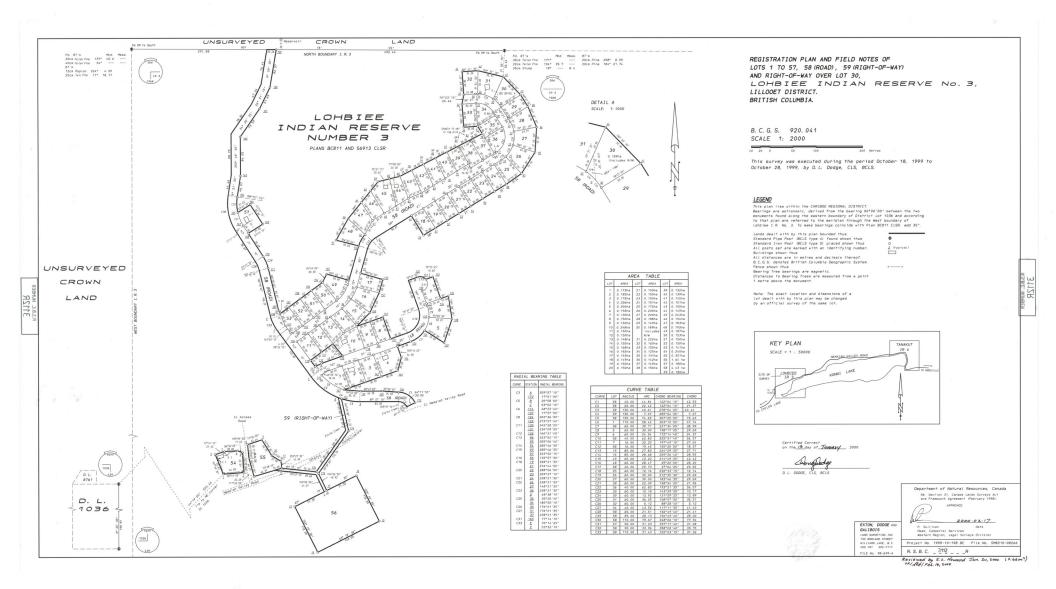


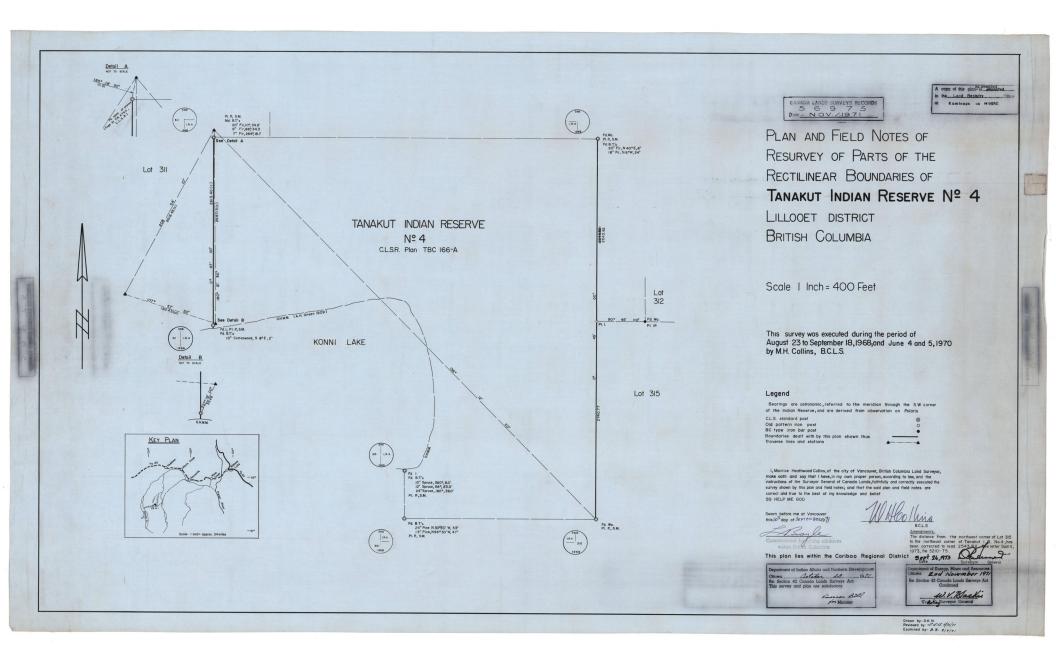
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NOTE This is an uncontrolled mosaic.			The southerly boundary of by the right bank of the t	
PLAN OF LOT 1 LEZBYE INDIAN RESERVE Coast District, Range 2 British Columbia Scale 1:5,000 100 0 150 Based on Plan C25-1M3 1976 in the		400 ⊐ fice	REQUEST Nº REQUEST Nº Approved & Recor MADOM Regional Surveyor Dated. 1 Mar 8	M. B.C.L.S. &C.L.S.
Drawn by W. D	avidson	Checked by		ON









Search Criteria: Primary PIN: 15220630

Primary Parcel							
PIN Subdiv RoW Legal Description Area (Ha) Status Confirmed LT Office				LT Office			
15220630			I.R. NO. 1, BEING CHILCO LAKE, RANGE 2 COAST DISTRICT	80	Active		

	Interest Summary								
PIN	Tantalis ID	File #	Document #	Interest	Sur/Under	Effective Date	Location	Status	Area (Ha)
15220630	1182			Provincial Park					0
15220630	3296			Indian Reserve					0
15220630	803780	0000000		Transfer Of Administration/Control		29-Jul-1938	UNKNOWN	Active	79.86

Search Criteria: Effective Date: 07/29/1938, File Number: 0000000

Legal Description	Images			
	Crown Grant:	No Images Available		

Interest Information			
File #	0000000		
OIC/Ministry Order #	1036/38		
Status	Active		
Status Reason	Disposition In Good Standing		
Area (Ha) / Method	79.86 / Calculated Automatically		
Received Date	11-Nov-1111		
Effective Date	29-Jul-1938		
Expiry Date	31-Dec-9999		

Interest Information			
Туре	Transfer Of Administration/Control		
Subtype	Fed Transf Of Admin, Control & Ben		
Purpose	Miscellaneous Land Uses		
Subpurpose	Other		
Region	Ca - Land Mgmnt - Cariboo Field Office		
Location	Unknown		

Crown Grant Covenants				
Timber Value				
Timber Deferment	Unknown			
Surface/Under				
Resources				
Restrictions				

Interest Holders
CROWN INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA

Land Control Areas		
Indian Reserve:		
National Park:		
Ecolgical Reserve:		
Provincial Park:		

Administrative Areas				
Agriculture Land Reserve:				
Assessment Area:				
Electoral District:				
Land District:				
Land Management Region:				
Land Title District:				
Municipality:				
Regional District:				
School District:				

<u>Tantalis ID: 803780</u>

Primary Survey Parcels

Search Criteria: PIN: 15220630

I.R. NO. 1, BEING CHILCO LAKE, RANGE 2 COAST DISTRICT

Images			
Crown Grant:	No Images Available		
Survey Fieldbook:	No Images Available		
Survey Plan:	No Images Available		
Мар:	Online Cadastre or iMapBC		

Parcel Information			
Number of Subdivisions:	0		
Number of Rights-of-Way:	0		
Area (Ha) / Method:	79.992 / Converted		
Status:	Active		
Confirmed Date:			
Land Title Office:			
Parcel Kind:	Indian Reserve		

Filing Information		
Tube/Tray #:	38TRIR-IR COAST	
Field Book:		
Alternate Filing Location:		
Post Renewal:		
Land Title Office PID:		
LTO Plan #:		

	Land Control Areas
Indian Reserve:	Chilco Lake
National Park:	
Ecolgical Reserve:	
Provincial Park:	Ts'll?Os Park

Administrative Areas		
Agriculture Land Reserve:		
Assessment Area:	Cariboo	
Electoral District:	Cariboo South	
Land District:	Range 2 Coast District	
Land Management Region:	Cariboo Nr	
Land Title District:	Kamloops	
Municipality:	Unknown	

Regional District:	Cariboo
School District:	Cariboo-Chilcotin

	Map References
BCGS Map #	92N050
NTS Map #	92N

Search Criteria: Primary PIN: 6649880

			Primary Parcel				
PIN Subdiv RoW Legal Description Area (Ha) Status Confirmed LT Office					LT Office		
6649880			DISTRICT LOT 1416, I.R. NO. 1A, BEING CHILCO LAKE, RANGE 2 COAST DISTRICT		Active	02- Aug-1934	

				Interest Summ	ary				
PIN	Tantalis ID	File #	Document #	Interest	Sur/Under	Effective Date	Location	Status	Area (Ha)
6649880	1182			Provincial Park					0
6649880	3297			Indian Reserve					0
6649880	803667	0000000		Transfer Of Administration/Control		29-Jul-1938	UNKNOWN	Active	640.82

Search Criteria: Effective Date: 07/29/1938, File Number: 0000000

Legal Description

Images		
Crown Grant:	No Images Available	

Interest Information				
File #	0000000			
OIC/Ministry Order #	1036/38			
Status	Active			
Status Reason	Disposition In Good Standing			
Area (Ha) / Method	640.82 / Calculated Automatically			
Received Date	11-Nov-1111			
Effective Date	29-Jul-1938			
Expiry Date	31-Dec-9999			

	Interest Information
Туре	Transfer Of Administration/Control
Subtype	Fed Transf Of Admin, Control & Ben
Purpose	Miscellaneous Land Uses
Subpurpose	Other
Region	Ca - Land Mgmnt - Cariboo Field Office
Location	Unknown

Crown Grant Covenants		
Timber Value		
Timber Deferment	Unknown	
Surface/Under		
Resources		
Restrictions		

Interest Holders
CROWN INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA

	Land Control Areas
Indian Reserve:	
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas		
Agriculture Land Reserve:		
Assessment Area:		
Electoral District:		
Land District:		
Land Management Region:		
Land Title District:		
Municipality:		
Regional District:		
School District:		

Tantalis ID: 803667

Primary Survey Parcels

Search Criteria: PIN: 6649880

Legal Description

DISTRICT LOT 1416, I.R. NO. 1A, BEING CHILCO LAKE, RANGE 2 COAST DISTRICT

Images				
Crown Grant: No Images Available				
Survey Fieldbook:	No Images Available			
Survey Plan:	View Image(s)			
Map:	Online Cadastre or iMapBC			

Parcel Information			Filing Information		
Number of Subdivisions:	0		Tube/Tray #:	33TR15-COAST	
Number of Rights-of-Way:	0	ted		300/1928 PH	
Area (Ha) / Method:	640.618 / Converted			094	
Status: Active		Alternate Filing Loca		on:	
Confirmed Date:	02-Aug-1934		Post Renewal:		
Land Title Office:		Land Title Office P			
Parcel Kind:	Indian Reserve		LTO Plan #:		

	Land Control Areas		
Indian Reserve:	Chilco Lake		
National Park:			
Ecolgical Reserve:			
Provincial Park:	Ts'll?Os Park		

Administrative Areas		
Agriculture Land Reserve:		
Assessment Area:	Cariboo	
Electoral District:	Cariboo South	
Land District:	Range 2 Coast District	
Land Management Region:	Cariboo Nr	
Land Title District:	Kamloops	

Municipality:	Unknown
Regional District:	Cariboo
School District:	Cariboo-Chilcotin

	Map References
BCGS Map #	92N050
NTS Map #	92N

Search Criteria: Primary PIN: 15221090

			Primary Parcel				
PIN	Subdiv	RoW	Legal Description	Area (Ha)	Status	Confirmed	LT Office
15221090			I.R. NO. 2, BEING GARDEN, RANGE 2 COAST DISTRICT	32.3	Active		

				Interest Summa	ary				
PIN	Tantalis ID	File #	Document #	Interest	Sur/Under	Effective Date	Location	Status	Area (Ha)
15221090	3498			Indian Reserve					0
15221090	803781	0000000		Transfer Of Administration/Control		29-Jul-1938	UNKNOWN	Active	32.16

Search Criteria: Effective Date: 07/29/1938, File Number: 0000000

Legal Description	Images			
	Crown Grant:	No Images Available		

Interest Information				
File #	0000000			
OIC/Ministry Order #	1036/38			
Status	Active			
Status Reason	Disposition In Good Standing			
Area (Ha) / Method	32.16 / Calculated Automatically			
Received Date	11-Nov-1111			
Effective Date	29-Jul-1938			
Expiry Date	31-Dec-9999			

Interest Information	
Туре	Transfer Of Administration/Control
Subtype	Fed Transf Of Admin, Control & Ben
Purpose	Miscellaneous Land Uses
Subpurpose	Other
Region	Ca - Land Mgmnt - Cariboo Field Office
Location	Unknown

Crown Grant Covenants	
Timber Value	
Timber Deferment	Unknown
Surface/Under	
Resources	
Restrictions	

Interest Holders	
CROWN INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA	

	Land Control Areas
Indian Reserve:	
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas	
Agriculture Land Reserve:	
Assessment Area:	
Electoral District:	
Land District:	
Land Management Region:	
Land Title District:	
Municipality:	
Regional District:	
School District:	

<u>Tantalis ID: 803781</u>

Primary Survey Parcels

Search Criteria: PIN: 15221090

Legal Description

I.R. NO. 2, BEING GARDEN, RANGE 2 COAST DISTRICT

Images	
Crown Grant:	No Images Available
Survey Fieldbook:	No Images Available
Survey Plan:	No Images Available
Map:	Online Cadastre or iMapBC

Parcel Information	
Number of Subdivisions:	0
Number of Rights-of-Way:	0
Area (Ha) / Method:	32.32 / Converted
Status:	Active
Confirmed Date:	
Land Title Office:	
Parcel Kind:	Indian Reserve

Filing Information	
Tube/Tray #:	38TRIR-IR COAST
Field Book:	
Alternate Filing Location:	
Post Renewal:	
Land Title Office PID:	
LTO Plan #:	

	Land Control Areas
Indian Reserve:	Garden
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas	
Agriculture Land Reserve:	
Assessment Area:	Cariboo
Electoral District:	Cariboo South
Land District:	Range 2 Coast District
Land Management Region:	Cariboo Nr
Land Title District:	Kamloops
Municipality:	Unknown

Regional District:	Cariboo
School District:	Cariboo-Chilcotin

	Map References
BCGS Map #	92N050
NTS Map #	92N

Search Criteria: Primary PIN: 6649750

	Primary Parcel							
PIN	Subdiv	RoW	Legal Description	Area (Ha)	Status	Confirmed	LT Office	
6649750			DISTRICT LOT 1415, I.R. NO. 2A, BEING GARDEN, RANGE 2 COAST DISTRICT		Active	02- Aug-1934		

	Interest Summary								
PIN	Tantalis ID	File #	Document #	Interest	Sur/Under	Effective Date	Location	Status	Area (Ha)
6649750	3499			Indian Reserve					0
6649750	873551	5406856	515866	Licence		29-Aug-2008	Konni Lake	Active	11.4
6649750	803668	0000000		Transfer Of Administration/Control		29-Jul-1938	UNKNOWN	Active	117.53

Search Criteria: Primary PIN: 6620110

	Primary Parcel						
PIN	Subdiv	RoW	Legal Description	Area (Ha)	Status	Confirmed	LT Office
6620110			DISTRICT LOT 817, I.R. NO. 2A, BEING GARDEN, RANGE 2 COAST DISTRICT		Active	02- Aug-1934	

	Interest Summary								
PIN	Tantalis ID	File #	Document #	Interest	Sur/Under	Effective Date	Location	Status	Area (Ha)
6620110	3499			Indian Reserve					0
6620110	873551	5406856	515866	Licence		29-Aug-2008	Konni Lake	Active	11.4
6620110	803661	0000000		Transfer Of Administration/Control		29-Jul-1938	UNKNOWN	Active	32.37

Search Criteria: Effective Date: 07/29/1938, File Number: 0000000

Legal Description

Images					
Crown Grant:	No Images Available				

Inte	Interest Information					
File #	000000					
OIC/Ministry Order #	1036/38					
Status	Active					
Status Reason	Disposition In Good Standing					
Area (Ha) / Method	117.53 / Calculated Automatically					
Received Date	11-Nov-1111					
Effective Date	29-Jul-1938					
Expiry Date	31-Dec-9999					

	Interest Information				
Туре	Transfer Of Administration/Control				
Subtype	Fed Transf Of Admin, Control & Ben				
Purpose	Miscellaneous Land Uses				
Subpurpose	Other				
Region	Ca - Land Mgmnt - Cariboo Field Office				
Location	Unknown				

	Crown Grant Covenants							
Timber Value								
Timber Deferment	Unknown							
Surface/Under								
Resources								
Restrictions								

Interest Holders				
CROWN INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA				

	Land Control Areas
Indian Reserve:	
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas					
Agriculture Land Reserve:					
Assessment Area:					
Electoral District:					
Land District:					
Land Management Region:					
Land Title District:					
Municipality:					
Regional District:					
School District:					

Tantalis ID: 803668

Primary Survey Parcels

Search Criteria: PIN: 6649750

Legal Description

DISTRICT LOT 1415, I.R. NO. 2A, BEING GARDEN, RANGE 2 COAST DISTRICT

Images				
Crown Grant:	No Images Available			
Survey Fieldbook:	No Images Available			
Survey Plan:	View Image(s)			
Map:	Online Cadastre or iMapBC			

Parc	el Information	Filing Inform	ation
Number of Subdivisions:	0	Tube/Tray #:	33TR15-COAST
Number of Rights-of-Way:	0	Field Book:	300/1928 PH
Area (Ha) / Method:	117.359 / Converted		094
Status:	Active	Alternate Filing Location:	
Confirmed Date:	02-Aug-1934	Post Renewal:	
Land Title Office:		Land Title Office PID:	
Parcel Kind:	Indian Reserve	LTO Plan #:	

	Land Control Areas
Indian Reserve:	Garden
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas	
Agriculture Land Reserve:	
Assessment Area:	Cariboo
Electoral District:	Cariboo South
Land District:	Range 2 Coast District
Land Management Region:	Cariboo Nr
Land Title District:	Kamloops

Municipality:	Unknown
Regional District:	Cariboo
School District:	Cariboo-Chilcotin

	Map References
BCGS Map #	92N050
NTS Map #	92N

Search Criteria: Effective Date: 07/29/1938, File Number: 0000000

Legal Description	Images	
	Crown Grant:	No Images Available

Interest Information		
File #	0000000	
OIC/Ministry Order #	1036/38	
Status	Active	
Status Reason	Disposition In Good Standing	
Area (Ha) / Method	32.37 / Calculated Automatically	
Received Date	11-Nov-1111	
Effective Date	29-Jul-1938	
Expiry Date	31-Dec-9999	

Interest Information	
Туре	Transfer Of Administration/Control
Subtype	Fed Transf Of Admin, Control & Ben
Purpose	Miscellaneous Land Uses
Subpurpose	Other
Region	Ca - Land Mgmnt - Cariboo Field Office
Location	Unknown

Crown Grant Covenants	
Timber Value	
Timber Deferment	Unknown
Surface/Under	
Resources	
Restrictions	

Interest Holders	
CROWN INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA	

	Land Control Areas
Indian Reserve:	
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas		
Agriculture Land Reserve:		
Assessment Area:		
Electoral District:		
Land District:		
Land Management Region:		
Land Title District:		
Municipality:		
Regional District:		
School District:		

Tantalis ID: 803661

Primary Survey Parcels

Search Criteria: PIN: 6620110

Legal Description

DISTRICT LOT 817, I.R. NO. 2A, BEING GARDEN, RANGE 2 COAST DISTRICT

Images		
Crown Grant:	No Images Available	
Survey Fieldbook:	No Images Available	
Survey Plan: View Image(s)		
Map:	Online Cadastre or iMapBC	

Parcel Information			
Number of Subdivisions:	0		
Number of Rights-of-Way:	0		
Area (Ha) / Method:	32.375 / Converted		
Status:	Active		
Confirmed Date:	02-Aug-1934		
Land Title Office:			
Parcel Kind:	Indian Reserve		

Filing Information				
Tube/Tray #:	12TR5-COAST ,33TR15- COAST			
Field Book:	1620/1913 PH 57, 300/1928 PH 094			
Alternate Filing Location:				
Post Renewal:				
Land Title Office PID:				
LTO Plan #:				

Land Control Areas		
Indian Reserve:	Garden	
National Park:		
Ecolgical Reserve:		
Provincial Park:		

Administrative Areas		
Agriculture Land Reserve:		
Assessment Area:	Cariboo	
Electoral District:	Cariboo South	
Land District:	Range 2 Coast District	
Land Management Region:	Cariboo Nr	
Land Title District:	Kamloops	

Municipality:	Unknown
Regional District:	Cariboo
School District:	Cariboo-Chilcotin

Map References		
BCGS Map #	92N050	
NTS Map #	92N	

Search Criteria: Primary PIN: 6171821

Subdivision Parcel							
PIN	RoW	Legal Description	Area (Ha)	Status	Confirmed	LT Office	Defining Document Type
6171821		BLOCK A, DISTRICT LOT 305, RANGE 2 COAST DISTRICT		Active	18- FEB-1909		

Interest Summary									
PIN	Tantalis ID	File #	Document #	Interest	Sur/Under	Effective Date	Location	Status	Area (Ha)
6171821	3895			Indian Reserve					0
6171821	14002	0000000	2291/1093	Crown Grant	S	01-Jan-1969	UNKNOWN	Active	88.74

File Reference: 16287 Declared Value \$N/A

CURRENT AND CANCELLED INFORMATION SHOWN

Title Issued Under	SECTION 172 LAND TITLE ACT			
Land Title District Land Title Office	KAMLOOPS KAMLOOPS			
Title Number From Title Number	D8199 D7203			
Application Received	1969-03-31			
Application Entered	1969-03-31			
Registered Owner in Fee Simple Registered Owner/Mailing Address:	HER MAJESTY THE QUEEN IN RIGHT OF CANADA NO ADDRESS ON FILE FOR THIS OWNER			
Taxation Authority	Cariboo Assessment Area			
Description of Land Parcel Identifier: Legal Description: BLOCK A OF DISTRICT LOT 305 R	011-218-088 ANGE 2 COAST DISTRICT			
Legal Notations SUBJECT TO EXCEPTIONS AND RESERVATIONS AS CONTAINED IN CROWN GRANT DD 7203				
Charges, Liens and Interests	NONE			
Duplicate Indefeasible Title To: Application Number:	ISSUED 1969-04-17 DEPT. OF INDIAN AFFAIRS D8199			
Transfers	NONE			
Pending Applications	NONE			
Corrections				

TITLE SEARCH PRINT

File Reference: 16287 Declared Value \$N/A

LB298255 2009-04-02 08:59:00 TITLE OWNER NAME CORRECTED

Search Criteria: Effective Date: 01/01/1969, File Number: 0000000

Legal Description

BLOCK A, DISTRICT LOT 305, RANGE 2 COAST DISTRICT (Legal Desc populated from related PIN(s))

Images			
Crown Grant:	View Image(s)		

Interest Information	
File #	0000000
OIC/Ministry Order #	
Status	Active
Status Reason	Disposition In Good Standing
Area (Ha) / Method	88.74 / Calculated Automatically
Received Date	11-Nov-1111
Effective Date	01-Jan-1969
Expiry Date	

Interest Information	
Туре	Crown Grant
Subtype	Pre-Tantalis Crown Grant
Purpose	Pre-Tantalis
Subpurpose	Pre-Tantalis
Region	Pre-Tantalis
Location	Unknown

Crown Grant Covenants	
Timber Value	
Timber Deferment	Unknown
Surface/Under	Surface
Resources	
Restrictions	

	Interest Holders
None	

Land Control Areas	
Indian Reserve:	Lezbye
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas	
Agriculture Land Reserve:	
Assessment Area:	Cariboo
Electoral District:	Cariboo South
Land District:	Range 2 Coast District
Land Management Region:	
Land Title District:	Unknown
Municipality:	Unknown
Regional District:	Cariboo
School District:	

Tantalis ID: 14002

Subdivision Survey Parcels

Search Criteria: PIN: 6171821

Legal Description

BLOCK A, DISTRICT LOT 305, RANGE 2 COAST DISTRICT

Images	
Crown Grant: View Image(s)	
Survey Fieldbook:	No Images Available
Survey Plan:	View Image(s)
Map:	Online Cadastre or iMapBC

Parcel Information	
Number of Subdivisions:	0
Number of Rights-of-Way:	0
Area (Ha) / Method:	89.031 / Converted
Status:	Active
Confirmed Date:	18-Feb-1909
Land Title Office:	
Parcel Kind:	
Note:	19921208 LEZBYE IR #6

Filing Information	
Tube/Tray #:	12TR5-COAST
Field Book:	171/1909 PH 022
Alternate Filing Location:	
Post Renewal:	
Land Title Office PID:	
LTO Plan #:	

Land Control Areas	
Indian Reserve:	Lezbye
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas	
Agriculture Land Reserve:	
Assessment Area:	Cariboo
Electoral District:	Cariboo South
Land District:	Range 2 Coast District
Land Management Region:	Cariboo Nr
Land Title District:	Kamloops, Unknown

Municipality:	Unknown
Regional District:	Cariboo
School District:	Cariboo-Chilcotin

Map References						
BCGS Map #	92N050					
NTS Map #	92N					

Search Criteria: Primary PIN: 5916110

Primary Parcel										
PIN	Subdiv	RoW	Legal Description	Area (Ha)	Status	Confirmed	LT Office			
5916110			DISTRICT LOT 5394, I.R. NO. 3, BEING LOHBIEE, LILLOOET DISTRICT		Active	02- Aug-1934				

Interest Summary										
PIN	Tantalis ID	File #	Document #	Interest	Sur/Under	Effective Date	Location	Status	Area (Ha)	
5916110	3903			Indian Reserve					0	
5916110	803549	0000000		Transfer Of Administration/Control		29-Jul-1938	UNKNOWN	Active	213.06	

GATOR Interest Details

Search Criteria: Effective Date: 07/29/1938, File Number: 0000000

Legal Description

Images	
Crown Grant:	No Images Available

Interest Information	
File #	0000000
OIC/Ministry Order #	1036/38
Status	Active
Status Reason	Disposition In Good Standing
Area (Ha) / Method	213.06 / Calculated Automatically
Received Date	11-Nov-1111
Effective Date	29-Jul-1938
Expiry Date	31-Dec-9999

Interest Information	
Туре	Transfer Of Administration/Control
Subtype	Fed Transf Of Admin, Control & Ben
Purpose	Miscellaneous Land Uses
Subpurpose	Other
Region	Ca - Land Mgmnt - Cariboo Field Office
Location	Unknown

Crown Grant Covenants	
Timber Value	
Timber Deferment	Unknown
Surface/Under	
Resources	
Restrictions	

Interest Holders	
CROWN INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA	

Land Control Areas	
Indian Reserve:	
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas	
Agriculture Land Reserve:	
Assessment Area:	
Electoral District:	
Land District:	
Land Management Region:	
Land Title District:	
Municipality:	
Regional District:	
School District:	

Tantalis ID: 803549

Primary Survey Parcels

GATOR Parcel Details

Search Criteria: PIN: 5916110

Legal Description

DISTRICT LOT 5394, I.R. NO. 3, BEING LOHBIEE, LILLOOET DISTRICT

Images	
Crown Grant: No Images Available	
Survey Fieldbook:	No Images Available
Survey Plan:	View Image(s)
Map:	Online Cadastre or iMapBC

Parce	el Information	
Number of Subdivisions:	0	Tu
Number of Rights-of-Way:	0	Fie
Area (Ha) / Method:	212.46 / Converted	Alt
Status:	Active	Po
Confirmed Date:	02-Aug-1934	La
Land Title Office:		LT
Parcel Kind:	Indian Reserve	

Filing Information		
Tube/Tray #:	42TR5-LILLOOET	
Field Book:	284/1928 PH 037	
Alternate Filing Location:		
Post Renewal:		
Land Title Office PID:		
LTO Plan #:		

Land Control Areas	
Indian Reserve:	Lohbiee
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas	
Agriculture Land Reserve:	
Assessment Area:	Cariboo
Electoral District:	Cariboo South
Land District:	Lillooet District
Land Management Region:	Cariboo Nr
Land Title District:	Kamloops

Municipality:	Unknown
Regional District:	Cariboo
School District:	Cariboo-Chilcotin

	Map References
BCGS Map #	920041
NTS Map #	920

GATOR Consolidated Parcel Interest Report

Search Criteria: Primary PIN: 15259930

Date Created: 04-Jul-2022 Created By: GATOR Pin Id: 15259930

			Primary Parcel				
PIN	Subdiv	RoW	Legal Description	Area (Ha)	Status	Confirmed	LT Office
15259930			I.R. NO. 4, BEING TANAKUT, LILLOOET DISTRICT	174.5	Active		

	Interest Summary								
PIN	Tantalis ID	File #	Document #	Interest	Sur/Under	Effective Date	Location	Status	Area (Ha)
15259930	4551			Indian Reserve					0
15259930	803861	0000000		Transfer Of Administration/Control		29-Jul-1938	UNKNOWN	Active	182.95

GATOR Interest Details

Search Criteria: Effective Date: 07/29/1938, File Number: 0000000

Legal Description

Images		
Crown Grant:	No Images Available	

Interest Information			
File #	0000000		
OIC/Ministry Order #	1036/38		
Status	Active		
Status Reason	Disposition In Good Standing		
Area (Ha) / Method	182.95 / Calculated Automatically		
Received Date	11-Nov-1111		
Effective Date	29-Jul-1938		
Expiry Date	31-Dec-9999		

Interest Information		
Туре	Transfer Of Administration/Control	
Subtype	Fed Transf Of Admin, Control & Ben	
Purpose	Miscellaneous Land Uses	
Subpurpose	Other	
Region	Ca - Land Mgmnt - Cariboo Field Office	
Location	Unknown	

Crown Grant Covenants			
Timber Value			
Timber Deferment	Unknown		
Surface/Under			
Resources			
Restrictions			

Interest Holders
CROWN INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA

	Land Control Areas
Indian Reserve:	
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas		
Agriculture Land Reserve:		
Assessment Area:		
Electoral District:		
Land District:		
Land Management Region:		
Land Title District:		
Municipality:		
Regional District:		
School District:		

Tantalis ID: 803861

Primary Survey Parcels

GATOR Parcel Details

Search Criteria: PIN: 15259930

I.R. NO. 4, BEING TANAKUT, LILLOOET DISTRICT

Images		
Crown Grant:	No Images Available	
Survey Fieldbook:	No Images Available	
Survey Plan:	No Images Available	
Map:	Online Cadastre or iMapBC	

Parcel Information				
Number of Subdivisions:	0			
Number of Rights-of-Way:	0			
Area (Ha) / Method:	174.528 / Converted			
Status:	Active			
Confirmed Date:				
Land Title Office:				
Parcel Kind:	Indian Reserve			

Filing Information				
Tube/Tray #:	38TRIR-IR COAST			
Field Book:				
Alternate Filing Location:				
Post Renewal:				
Land Title Office PID:				
LTO Plan #:				

	Land Control Areas
Indian Reserve:	Tanakut
National Park:	
Ecolgical Reserve:	
Provincial Park:	

	Administrative Areas		
Agriculture Land Reserve:			
Assessment Area:	Cariboo		
Electoral District:	Cariboo South		
Land District:	Lillooet District		
Land Management Region:	Cariboo Nr		
Land Title District:	Kamloops		
Municipality:	Unknown		

Regional District:	Cariboo
School District:	Cariboo-Chilcotin

	Map References
BCGS Map #	920041
NTS Map #	92O

GATOR Consolidated Parcel Interest Report

Search Criteria: Primary PIN: 6649910

Date Created: 04-Jul-2022 Created By: GATOR Pin Id: 6649910

	Primary Parcel						
PIN Subdiv RoW Legal Description Area (Ha) Status Confirmed LT Official						LT Office	
6649910			DISTRICT LOT 1417, I.R. NO. 5, BEING TSUNNIA LAKE, RANGE 2 COAST DISTRICT		Active	02- Aug-1934	

	Interest Summary								
PIN	PIN Tantalis ID File # Document # Interest Sur/Under Effective Date Location Status Area (Ha)					Area (Ha)			
6649910 4657 Indian Reserve 0		0							
6649910	803673	0000000		Transfer Of Administration/Control		29-Jul-1938	UNKNOWN	Active	3.32

GATOR Parcel Details

Search Criteria: PIN: 6649910

Legal Description

DISTRICT LOT 1417, I.R. NO. 5, BEING TSUNNIA LAKE, RANGE 2 COAST DISTRICT

Images				
Crown Grant:	No Images Available			
Survey Fieldbook:	No Images Available			
Survey Plan:	View Image(s)			
Map:	Online Cadastre or iMapBC			

Parcel Information			Filing Information		
Number of Subdivisions: 0		Tu	be/Tray #:	33TR15-COAST	
Number of Rights-of-Way: 0		Fie	eld Book:	288/1928 PH	
Area (Ha) / Method: 3.237 / Converted				094	
Status: Active		Alt	ternate Filing Location		
Confirmed Date:	rmed Date: 02-Aug-1934		st Renewal:	Yes	
Land Title Office:		La	nd Title Office PID:		
Parcel Kind: Indian Reserve		LT	O Plan #:		

	Land Control Areas		
Indian Reserve:	Tsunnia Lake		
National Park:			
Ecolgical Reserve:			
Provincial Park:			

Administrative Areas		
Agriculture Land Reserve:		
Assessment Area:	Cariboo	
Electoral District:	Cariboo South	
Land District:	Range 2 Coast District	
Land Management Region:	Cariboo Nr	
Land Title District:	Kamloops	

Municipality:	Unknown		
Regional District:	Cariboo		
School District:	Cariboo-Chilcotin		

	Map References
BCGS Map #	92N060
NTS Map #	92N

GATOR Query Results: Interest Summary

Search Criteria: PIN Number: 6649910, Tenure History: Off

PIN	Tantalis ID	File #	Document #	Interest	Sur/Under	Effective Date	Location	Status	Area (Ha)
6649910	4657			Indian Reserve					0
6649910	803673	0000000		Transfer Of Administration/Control		29-Jul-1938	UNKNOWN	Active	3.32

Records 1 to 2 of 2

First Prev Next Last

GATOR Interest Details

Search Criteria: Effective Date: 07/29/1938, File Number: 0000000

Images				
Crown Grant:	No Images Available			

Interest Information			
File #	0000000		
OIC/Ministry Order #	1036/38		
Status	Active		
Status Reason	Disposition In Good Standing		
Area (Ha) / Method	3.32 / Calculated Automatically		
Received Date	11-Nov-1111		
Effective Date	29-Jul-1938		
Expiry Date	31-Dec-9999		

Interest Information				
Туре	Transfer Of Administration/Control			
Subtype	Fed Transf Of Admin, Control & Ben			
Purpose	Miscellaneous Land Uses			
Subpurpose	Other			
Region	Ca - Land Mgmnt - Cariboo Field Office			
Location	Unknown			

Crown Grant Covenants			
Timber Value			
Timber Deferment	Unknown		
Surface/Under			
Resources			
Restrictions			

Interest Holders
CROWN INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA

	Land Control Areas
Indian Reserve:	Tsunnia Lake
National Park:	
Ecolgical Reserve:	
Provincial Park:	

Administrative Areas			
Agriculture Land Reserve:			
Assessment Area:			
Electoral District:			
Land District:			
Land Management Region:			
Land Title District:			
Municipality:			
Regional District:			
School District:			

Tantalis ID: 803673

Primary Survey Parcels

APPENDIX E

BC ENV SITE REGISTRY



As Of: JUN 05, 2022 BC Online: Site Registry 22/06/16 For: PH43481 KEYSTONE ENVIRONMENTAL LTD. 17:43:12 Folio: 16287 Page 1 1 records selected for 5.0 km from latitude 51 deg, 28 min, 22 sec and Longitude 123 deg, 53 min, 53 sec Site Id Lastupd Address / City 0005388 02DEC16 KONNI LAKE RESORT NEMAIAH VALLEY As Of: JUN 05, 2022 Folio: 16287 22/06/16 17:44:53 Page 1

Area Nil Search

As of JUN 05, 2022, no records from Site Registry fall within 0.5 kilometers of coordinates Latitude 51 degrees, 31 minutes, 34.5 seconds, and Longitude 124 degrees, 9 minutes, 24.2 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

As Of: JUN 05, 2022 Fo. Folio: 16287

Area Nil Search

As of JUN 05, 2022, no records from Site Registry fall within 5.0 kilometers of coordinates Latitude 51 degrees, 25 minutes, 41 seconds, and Longitude 124 degrees, 4 minutes, 27 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

As of: JUN 05, 2022 BC Online: Site Registry 22-06-16 For: PH43481 KEYSTONE ENVIRONMENTAL LTD. 17:43:32 Folio: 16287 Page 1 Detail Report SITE LOCATION Site ID: 5388 Latitude: 51d 28m 47.0s Longitude: 123d 53m 13.6s Victoria File: Regional File: 26250-20/5388 Region: WILLIAMS LAKE, CARIBOO Site Address: KONNI LAKE RESORT Prov/State: BC City: NEMAIAH VALLEY Postal Code: VOL 1X0 Registered: OCT 08, 1998 Updated: DEC 16, 2002 Detail Removed: DEC 12, 2002 Notations: 3 Participants: 7 Associated Sites: 0 Documents: 1 Susp. Land Use: 2 Parcel Descriptions: 6 Location Description: SITE CREATED BY SITE PROFILE, ENTERED 1998-09-16. LAT/LONG VIA BC ENVIRONMENT REFERENCING THE TRANSPORTATION CENTERLINE NETWORK (TCN), NAD83 Record Status: NOT ASSIGNED Fee category: UNRANKED NOTATIONS Notation Type: PRELIMINARY SITE INVESTIGATION REPORT ACCEPTED (WMA 26.2) Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS Initiated: AUG 18, 1999 Approved: SEP 17, 1999 Ministry Contact: BINGS, DAN Notation Participants Notation Roles HOLLAN ENGINEERING (HORSEFLY, B.C.) SUBMITTED BY Note: "REPORT ON PRELIMINARY SITE INVESTIGATION, STAGE 1 AND 2 ON DISTRICT LOT 599, LILLOOET DISTRICT, NEMAIAH VALLEY, B.C." Notation Type: SITE PROFILE RECEIVED Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS Initiated: SEP 16, 1998 Approved: Ministry Contact: MCINTOSH, DOUG Notation Participants Notation Roles BLOOD, STAN SUBMITTED BY Note: NOTATION GENERATED IN SITE PROFILE ON 1998-09-16 BY BMMURPHY - PROFILE SUBMISSION REQUIRED DUE TO SUBDIVISION PROPOSAL Notation Type: SITE PROFILE - FURTHER INVESTIGATION REQUIRED BY THE MINISTRY Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS Initiated: SEP 16, 1998 Approved:

As of: JUN 05, 2022 BC Online: Site Registry 22-06-16 For: PH43481 KEYSTONE ENVIRONMENTAL LTD. 17:43:32 Folio: 16287 Page 2 NOTATIONS Ministry Contact: MCINTOSH, DOUG Note: AUTO INSERTED FROM SITE PROFILE - PRELIMINARY SITE INVESTIGATION REOUIRED SITE PARTICIPANTS Participant: BINGS, DAN Role(s): MAIN MINISTRY CONTACT Start Date: AUG 13, 1999 End Date: NOV 01, 2002 Participant: BLOOD, STAN Role(s): PROPERTY OWNER SITE PROFILE COMPLETOR Start Date: SEP 16, 1998 End Date: Participant: HAMILTON, RODGER Role(s): MAIN MINISTRY CONTACT Start Date: SEP 16, 1998 End Date: Participant: HOLLAN ENGINEERING (HORSEFLY, B.C.) Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR Start Date: AUG 18, 1999 End Date: Participant: HOLLAN, JOHN D. Role(s): PROPERTY INTEREST HOLDER Start Date: AUG 13, 1999 End Date: - - - -Participant: MCINTOSH, DOUG Role(s): ALTERNATE MINISTRY CONTACT Start Date: SEP 16, 1998 End Date: MAR 27, 2002 Participant: RATHBONE AND GOODRICH BC LAND SURVEYORS (WILLIAMS LAKE) Role(s): SITE PROFILE CONTACT Start Date: SEP 16, 1998 End Date: DOCUMENTS Title: REPORT ON PRELIMINARY SITE INVESTIGATION, STAGE 1 AND 2 ON DISTRICT LOT 599, LILLOOET DISTRICT, NEMIAH VALLEY, B.C. Authored: AUG 13, 1999 Submitted: AUG 19, 1999 Participants Role HOLLAN, JOHN D. AUTHOR BLOOD, STAN COMMISSIONER BINGS, DAN REVIEWER SUSPECTED LAND USE Description: PETROL PROD., /PRODUCE WATER STRG ABVEGRND/UNDERGRND TANK Notes: INSERTED FOR SITE PROFILE DATED 1998-09-10 (described on Site

As of: JUN 05, 2022 BC Online: Site Registry 22-06-16 For: PH43481 KEYSTONE ENVIRONMENTAL LTD. 17:43:32 Folio: 16287 Page 3 SUSPECTED LAND USE Profile dated 98-09-10) Description: PETROL PROD., DISPENSE FACILITY, INC. SERV STA./CARDLOT Notes: INSERTED FOR SITE PROFILE DATED 1998-09-10 (described on Site Profile dated 98-09-10) PARCEL DESCRIPTIONS Date Added: SEP 10, 1998 Crown Land PIN#: LTO PID#: 014141906 Crown Land File#: Land Desc: DISTRICT LOT 599 LILLOOET DISTRICT EXCEPT PLAN KAP66021 Date Added: JAN 15, 2000 Crown Land PIN#: LTO PID#: 024671533 Crown Land File#: Land Desc: LOT 1 DISTRICT LOT 599 LILLOOET DISTRICT PLAN KAP66021 Date Added: JAN 15, 2000 Crown Land PIN#: LTO PID#: 024671541 Crown Land File#: Land Desc: LOT 2 DISTRICT LOT 599 LILLOOET DISTRICT PLAN KAP66021 Date Added: JAN 15, 2000 Crown Land PIN#: LTO PID#: 024671550 Crown Land File#: Land Desc: LOT 3 DISTRICT LOT 599 LILLOOET DISTRICT PLAN KAP66021 Date Added: JAN 15, 2000 Crown Land PIN#: Crown Land File#: LTO PID#: 024671568 Land Desc: LOT 4 DISTRICT LOT 599 LILLOOET DISTRICT PLAN KAP66021 Date Added: JAN 15, 2000Crown Land PIN#:LTO PID#: 024671576Crown Land File#: Date Added: JAN 15, 2000 Crown Land PIN#: Land Desc: LOT 5 DISTRICT LOT 599 LILLOOET DISTRICT PLAN KAP66021 CURRENT SITE PROFILE INFORMATION (Sec. III to X) Site Profile Completion Date: SEP 10, 1998 Local Authority Received: SEP 10, 1998 Ministry Regional Manager Received: SEP 16, 1998 Decision: SEP 16, 1998 Decision: INVESTIGATION REQUIRED Site Registrar Received: Entry Date: III COMMERCIAL AND INDUSTRIAL PURPOSES OR ACTIVITIES ON SITE Schedule 2 Reference Description PETROL PROD., DISPENSE FACILITY, INC. SERV STA./CARDLOT F5 F7 PETROL PROD., /PRODUCE WATER STRG ABVEGRND/UNDERGRND TANK AREAS OF POTENTIAL CONCERN Petroleum, solvent or other polluting substance spills to the environment greater than 100 litres?.....NO

As of: JUN 05, 2022 BC Online: Site Registry 22-06-16 For: PH43481 KEYSTONE ENVIRONMENTAL LTD. 17:43:32 Folio: 16287 Page Residue left after removal of piled materials such as chemicals, coal, ore, smelter slag, air quality control system baghouse dust?.....NO Discarded barrels, drums or tanks?.....YES FILL MATERIALS Fill dirt, soil, gravel, sand or like materials from a contaminated site or from a source used for any of the activiities listed under Schedule 2?.....NO Discarded or waste granular materials such as sand blasting grit, asphalt paving or roofing material, spent foundry casting sands, mine ore, waste rock or float?.....NO Dredged sediments, or sediments and debris materials originating from locations adjacent to foreshore industrial activities, or municipal sanitary or stormwater discharges?.....NO WASTE DISPOSAL Materials such as household garbage, mixed municipal refuse, or demolition debris?.....NO Waste or byproducts such as tank bottoms, residues, sludge, or flocculation precipitates from industrial processes or wastewater treatment?.....NO Waste products from smelting or mining activities, such as smelter slag, mine tailings, or cull materials from coal processing?.....NO Waste products from natural gas and oil well drilling activities, such as drilling fluids and muds?.....NO Waste products from photographic developing or finishing laboratories; asphalt tar manufacturing; boilers, incinerators or other thermal facilities (eg. ash); appliance, small equipment or engine repair or salvage; dry cleaning operations (eg. solvents); or automobile and truck parts cleaning or repair?.....NO TANKS OR CONTAINERS USED OR STORED Underground fuel or chemical storage tanks?.....YES Above ground fuel or chemical storage tanks?.....NO SPECIAL (HAZARDOUS) WASTES OR SUBSTANCES PCB-containing electrical transformers or capacitors either at grade, attached above ground to poles, located within buildings, or stored?....NO Waste asbestos or asbestos containing materials such as pipe wrapping, blown-in insulation or panelling buried?.....NO Paints, solvents, mineral spirits or waste pest control products or pest control product containers stored in volumes greater than 205 litres?...NO LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS Government orders or other notifications pertaining to environmental conditions or quality of soil, water, groundwater or other environmental media?.....NO Liens to recover costs, restrictive covenants on land use, or other charges or encumbrances, stemming from contaminants or wastes remaining onsite or from other environmental conditions?.....NO Government notifications relating to past or recurring environmental violations at the site or any facility located on the site?.....NO

As of: JUN 05, 2022	BC Online: Site Registry	22-06-16
	For: PH43481 KEYSTONE ENVIRONMENTAL LTD.	17:43:32
Folio: 16287		Page 5

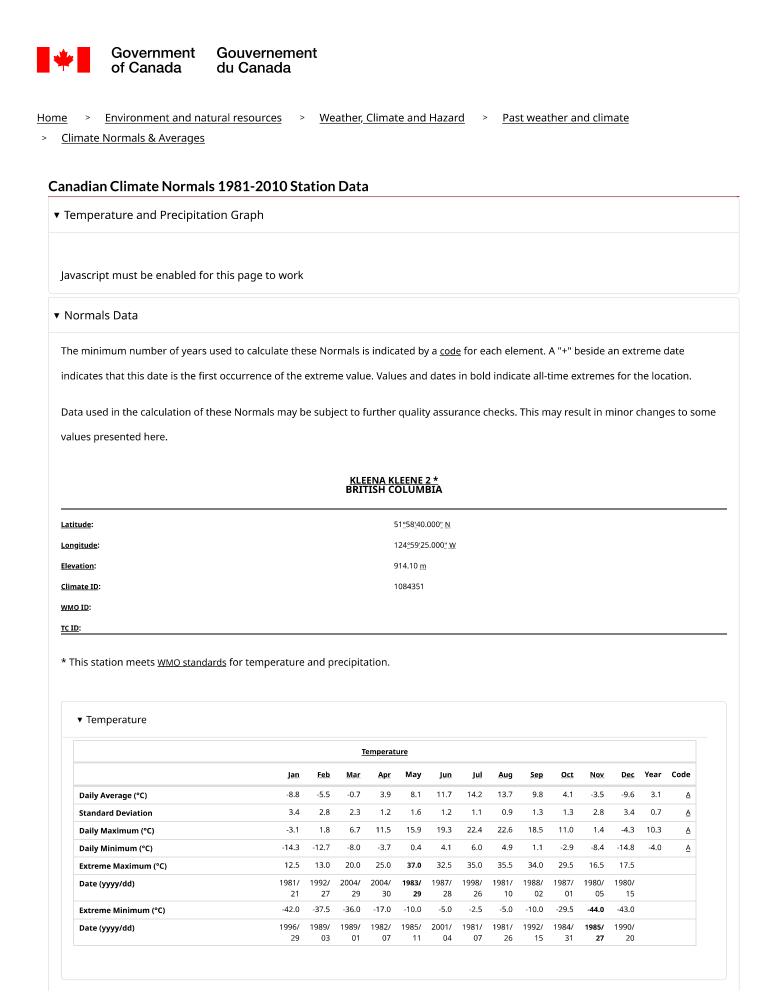
X ADDITIONAL COMMENTS AND EXPLANATIONS

End of Detail Report

APPENDIX F

ENVIRONMENT CANADA CLIMATE NORMALS





Precipitation

<u>Precipitation</u>														
	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Code
Rainfall (mm)	7.3	2.5	2.6	7.7	24.0	35.0	33.9	27.4	21.9	27.8	11.4	3.4	204.7	A
Snowfall (cm)	23.5	12.2	8.0	5.3	0.5	0.0	0.0	0.0	0.2	5.7	30.5	28.0	113.8	A
Precipitation (mm)	30.8	14.6	10.6	13.0	24.5	35.0	33.9	27.4	22.2	33.5	41.9	31.4	318.6	A
Average Snow Depth (cm)	31	32	19	2	0	0	0	0	0	0	9	20	9	C
Median Snow Depth (cm)	32	32	19	0	0	0	0	0	0	0	7	20	9	C
Snow Depth at Month-end (cm)	32	30	9	0	0	0	0	0	0	1	16	27	10	C
Extreme Daily Rainfall (mm)	26.8	12.4	6.8	22.4	18.4	37.8	31.6	25.2	20.4	27.2	20.6	27.2		
Date (yyyy/dd)	1984/	2005/	1997/	1983/	1996/	1992/	1993/	1999/	1984/	1984/	1990/	2005/		
	03	01	18	24	21	29	11	28	16	07	12	24		
Extreme Daily Snowfall (cm)	48.0	19.0	24.0	16.2	3.0	0.0	0.0	0.0	2.8	21.6	63.0	30.2		
Date (yyyy/dd)	1986/	1994/	1982/	1982/	1996/	1981/	1981/	1981/	1992/	1991/	1990/	1993/		
()))),,	07	14	25	02	06	01	01	01	12	15	22	03		
Extreme Daily Precipitation (mm)	48.0	19.0	24.0	22.4	18.4	37.8	31.6	25.2	20.4	27.2	63.0	31.2		
Date (yyyy/dd)	1986/	1994/	1982/	1983/	1996/	1992/	1993/	1999/	1984/	1984/	1990/	1993/		
	07	14	25	24	21	29	11	28	16	07	22	03		
Extreme Snow Depth (cm)	80	65	60	33	3	0	0	0	0	20	107	82		
Date (yyyy/dd)	1991/	1994/	1994/	1991/	1996/	1981/	1981/	1981/	1981/	1991/	1990/	1990/		
	01	17	01	01	07	01	01	01	01	17	24	31		

- Days with Maximum Temperature
- Days with Minimum Temperature
- Days with Rainfall
- Days With Snowfall
- ► Days with Precipitation
- Degree Days
- ► Frost-Free

- Legend
- A = WMO "3 and 5 rule" (i.e. no more than 3 consecutive and no more than 5 total
 B = At least 25 years
 D = At least 15 years
 D = At least 15 years
- Station / Element Metadata

Statistics listed below are provided as a guide to determine the validity of Normals and Extremes calculations. For example, a station with 30

years of record between 1981 and 2010 with no missing years would be a more reliable normal than a station with 15 years of record and 2

missing years. Less than 100% possible observations indicates that out of the total number of observations used, some records were missing.

KLEEN	A KLEENE 2
Province/Territory	BC
Latitude (dd mm):	51 58 <u>N</u>
Country	CAN
Longitude (ddd mm):	124 59 <u>w</u>
Time Zone	PST
Latitude (decimal degrees):	51.98 <u>N</u>
<u>Climate ID</u> :	1084351
Longitude (decimal degrees):	124.99 <u>W</u>
WMO ID:	
<u>Elevation (m)</u> :	914.1
<u>TC ID</u> :	

▼ Temperature

Temperature									
	Begin Year	End Year	Total Number of Years	Missing Years	Total Count of Observations	% of Possible Observations			
Daily Average (°C)	1981	2006	26	1	9402	99.3			
Standard Deviation	1981	2006	26	1	9402	99.3			
Daily Maximum (°C)	1981	2006	26	1	9415	99.5			
Daily Minimum (°C)	1981	2006	26	1	9426	99.6			
Extreme Maximum (°C)	1980	2006			9513	99.6			
Extreme Minimum (°C)	1980	2006			9524	99.7			

Precipitation

Precipitation								
	Begin Year	End Year	Total Number of Years	Missing Years	Total Count of Observations	<u>%</u> of Possible Observations		
Rainfall (mm)	1981	2006	26	0	9465	100		
Snowfall (cm)	1981	2006	26	0	9465	100		
Precipitation (mm)	1981	2006	26	0	9465	100		
Average Snow Depth (cm)	1981	2006	26	1	8654	95		
Median Snow Depth (cm)	1981	2006	26	1	8654	95		
Snow Depth at Month-end (cm)	1981	2006	26	1	292	97.7		
Extreme Daily Rainfall (mm)	1980	2006			9537	99.8		
Extreme Daily Snowfall (cm)	1980	2006			9537	99.8		
Extreme Daily Precipitation (mm)	1980	2006			9537	99.8		
Extreme Snow Depth (cm)	1980	2006			8950	98		

Days with Maximum Temperature

► Days with Minimum Temperature

► Days with Rainfall

 Days with Precipitation 			
 Degree Days 			
► Frost-Free			

Date modified:

2022-05-25

APPENDIX G

PREVIOUS REPORTS

(Attached In Final Report)



APPENDIX H

GENERAL TERMS AND CONDITIONS FOR SERVICES



KEYSTONE ENVIRONMENTAL LTD. GENERAL TERMS AND CONDITIONS FOR SERVICES

All work and/or professional services described in the Proposal or Work Plan prepared by Keystone Environmental Ltd. ("Keystone Environmental") shall be performed in accordance with these General Terms and Conditions. The Proposal or Work Plan stipulates the scope of work/services, schedule, compensation, and any other specified conditions.

1. <u>COMPENSATION</u>

The fees for services provided by Keystone Environmental consists of: (1) an hourly billing rate for any staff member working on the project, except for lump-sum or percent of construction fee basis projects; (2) reimbursement of direct expenses; (3) reimbursement of subcontractor's and other special costs; and (4) use and rental charges for equipment. Invoices will be issued monthly for payment, unless other arrangements have been agreed upon in writing. Invoices are due in 30 days of the invoice date. Subcontractor billings are payable upon presentation. A finance charge of 1.5% per month (19.6% per annum) may be charged on past due accounts. Payment of Keystone Environmental invoices shall be in Canadian currency.

Payment shall be provided by money transfer, cheque, or with prior approval by Keystone Environmental, Master Card or Visa. A surcharge of 3% may be added to payments by MasterCard or Visa if the invoice amount exceeds \$6,000.00. Fees shall be paid in advance if stipulated in the proposal and/or work plan.

Keystone Environmental may, at its sole discretion, withhold work products at any time that invoices are past due and until invoices are paid in full. Keystone Environmental may also, at its sole discretion, stop work at any time invoices are past due.

In the event that Keystone Environmental shall take collection or legal action for the recovery of the payment of outstanding invoices, Keystone Environmental shall be entitled to recover all collection and legal fees and expenses incurred by it with respect to such action.

All time, including traveling hours, spent on the project by Keystone Environmental personnel will be invoiced. Overtime incurred by and paid to personnel may be invoiced at a rate of 1.2 times the hours worked, if so stipulated in the proposal and/or work plan. Unless a lump-sum or percent of construction fee basis is used, the fee estimate presented in the proposal and/or work plan is for budgetary purposes only and is not a fixed lump-sum or maximum fee. The estimated fee does not include GST/HST which will be charged in addition to the professional fees, expenses and disbursements. The estimated fee will not be exceeded without prior written approval from CLIENT. Estimated fees may be exceeded as a result of changed conditions outside the control of Keystone Environmental and/or change in scope of work.

REIMBURSABLE EXPENSES

- (a) The following expenses will be invoiced at cost plus 10% to cover overhead:
 - (i) Travel expenses including airfare, rental vehicles, personal vehicles at \$0.61/km for less than 5,000 kms and \$0.55/km for 5,000 kms and over, subsistence and lodging.
 - (ii) Costs for expendable sampling and field supplies.
 - (iii) All project-related purchases including subcontractor costs, laboratory charges, material fees, duties, deposits, equipment purchases, third party equipment rentals and other outside costs incurred specifically for the project.
- (b) The following expenses will be invoiced at the rates which follow:
 - (i) Field and reproduction equipment in accordance with our Equipment Rate Schedule.
 - (ii) Engineering and specialty software services will be invoiced at \$20.00/connect hour as stipulated in the proposal and/or work plan

Technology & Support fee equal to four percent (4%) of all labour fees will be charged to cover communications costs, including telephone, cellular data, mailing and courier, creating electronic PDF reports, electronic file transfer, project administration and accounting labour, secure electronic professional signatures and seals.



2. INDEPENDENT CONTRACTOR

Keystone Environmental shall be an independent contractor and shall be fully independent in performing the services and shall not act or hold themselves out as an agent, servant, or employee of CLIENT.

3. KEYSTONE ENVIRONMENTAL'S PERFORMANCE

Keystone Environmental shall perform the services with the standard of care that is in accordance with generally accepted professional practices, for services of a similar nature and time.

In the event Keystone Environmental's professional performance, fails to conform to the above stated standard, Keystone Environmental shall, at its discretion and its expense, proceed expeditiously to repertory the nonconforming, or upon the mutual agreement of the parties, refund the amount of compensation paid to Keystone Environmental for such nonconforming work. In no event shall Keystone Environmental be required to bear the cost of gaining access in order to perform its obligations.

4. CLIENT WARRANTY

CLIENT warrants that it will provide to Keystone Environmental all information regarding the site, including underground structures and utilities, facilities, buildings, and land involved with the work and that such information shall be true and correct and that it has title to or will provide right of entry or access to all property necessary to perform the work. The Client shall provide all licenses and permits required for the work, unless otherwise stated in the proposal and/or work plan,

5. <u>INDEMNITY</u>

- a. Subject to the limitations of Section 6 below, Keystone Environmental agrees to indemnify, and hold harmless CLIENT (including its officers, directors, employees and agents) from and against any and all losses, damages, liabilities, and the costs and expenses incident thereto (including reasonable legal fees and reasonable costs of investigation) which any or all of them may hereafter incur, become responsible for or pay out as a result of death or bodily injuries to any person, destruction or damage to any property, private or public, contamination or adverse effects on the environment or any violation or alleged violation of governmental laws, regulations, or orders, to the extent caused by or arising out of: (i) Keystone Environmental's errors or omissions or (ii) negligence on the part of Keystone Environmental in performing services hereunder.
- b. CLIENT agrees to indemnify and hold harmless Keystone Environmental (including its officers, directors, employees and agents) from and against any and all losses, damages, liabilities, and the costs and expenses incident thereto (including legal fees and reasonable costs of investigation) which any or all of them may hereafter incur, become responsible for or pay out as a result of death or bodily injuries to any person, destruction or damage to any property, private or public, contamination or adverse effects on the environment or any violation or alleged violation of governmental laws, regulations, or orders, caused by, or arising out of in whole or in part: (i) any negligence or willful misconduct of CLIENT, (ii) any breach by CLIENT of any warranties or other provisions hereunder, (iii) any condition including, but not limited to, contamination existing at the site, or (iv) contamination of other property arising or alleged to arise from or be related to the site, provided however, that such indemnification shall not apply to the extent any losses, damages, liabilities or expenses result from or arise out of: (i) any negligence or willful misconduct of Keystone Environmental; or(ii) any breach of Keystone Environmental of any warranties hereunder.

6. <u>LIMITATION OF LIABILITY</u>

Keystone Environmental's total liability, whether arising from or based upon breach of professional standard of care, breach of contract, tort, including Keystone Environmental's negligence, strict liability, indemnity or any other cause of basis whatsoever, is expressly limited to the limits of Keystone Environmental's insurance coverage. This provision limiting Keystone Environmental's liability shall survive the termination, cancellation or expiration of any contract resulting from this Proposal and the completion of services thereunder. After three (3) years of completion of Keystone Environmental's services, any legal costs arising to defend third party claims made against Keystone Environmental in connection with the project defined in the Proposal or Agreement will be paid in full by the CLIENT.

7. INSURANCE

Keystone Environmental, during performance of this Agreement, will at its own expense carry Worker's Compensation Insurance within limits required by law; Comprehensive General Liability Insurance for bodily injury and for property damage; Professional Liability Insurance for errors, omissions and negligence; and Comprehensive Automobile Liability Insurance for bodily injury and property damage. At CLIENT'S request, Keystone Environmental shall provide a Certificate of Insurance demonstrating Keystone Environmental's compliance with this section. Such Certificate of Insurance shall provide that said insurance shall not be cancelled until at least ten (30) days after written notice to CLIENT.



8. <u>CONFIDENTIALITY</u>

Each party shall retain as confidential all information and data furnished to it by the other party which relate to the other party's technologies, formulae, procedures, processes, methods, trade secrets, ideas, improvements, inventions and/or computer programs, which are designated in writing by such other party as confidential at the time of transmission and are obtained or acquired by the receiving party in connection with work or services performed subject to this Proposal or Agreement, and shall not disclose such information to any third party.

However, nothing herein is meant to prevent nor shall it be interpreted as preventing either Keystone Environmental or CLIENT (the Parties) from disclosing and/or using said information or data; (i) when the information or data is actually known to the receiving Party before being obtained or derived from the transmitting Party; or (ii) when the information or data is generally available to the public without the receiving Party's fault; or (iii) or (iii) where a written release is obtained by the receiving Party from the transmitting Party; or (iv) as required by law.

9. PROTECTION OF INFORMATION

Keystone Environmental specifically disclaims any warranties expressed or implied and does not make any representations regarding whether any information associated with conducting the work, including the report, can be protected from disclosure in responses to a request by a federal, provincial or local government agency, or in response to discovery or other legal process during the course of any litigation involving Keystone Environmental or CLIENT. Should Keystone Environmental receive such request from a third party, it will immediately advise CLIENT.

10. ASSIGNMENT/SUBCONTRACT

Neither party hereto shall assign this Agreement or any part thereof nor any interest therein without the prior written approval of the other party hereto except as herein otherwise provided. Keystone Environmental shall not subcontract the performance of any work hereunder without the written approval of CLIENT. Subject to the foregoing limitation, the Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of the parties hereto.

11. ESTIMATES

To the extent the work requires Keystone Environmental to prepare opinions of probable cost, for example, opinions of probable cost of construction, such opinions shall be prepared in accordance with generally accepted engineering practice and procedure. However, Keystone Environmental has no control over construction costs, competitive bidding and market conditions, costs of financing, acquisition of land or rights-of-way and Keystone Environmental does not guarantee the accuracy of such opinion of probable cost as compared to actual costs or contractor's bid.

12. DELAYED AGREEMENTS AND OBLIGATIONS

The performance by Keystone Environmental of its obligations under this Agreement depends upon the CLIENT performing its obligations in a timely manner and cooperating with Keystone Environmental to the extent reasonably required for completion of the Work. Delays by CLIENT in providing information or approvals or performing its obligations set forth in this Agreement may result in an adjustment of contract price and schedule.

13. CONSTRUCTION PHASE

To the extent the work is related to or shall be followed by construction work not performed by Keystone Environmental, Keystone Environmental shall not be responsible for the construction means, methods, techniques, sequences or procedures of construction contractors, or the safety precautions and programs incident thereto, and shall not be responsible for the construction contractor's failure to perform the work in accordance with the contract documents, drawings and specifications. Keystone Environmental will not direct, supervise or control the work of the CLIENT'S contractors or the CLIENT'S subcontractors.

14. DOCUMENTATION, RECORDS, AUDIT

Keystone Environmental when requested by CLIENT, shall provide CLIENT with copies of all documents relating to the service(s) of work performed. Keystone Environmental shall retain true and correct records in connection with each service and/or work performed and all transactions related thereto and shall retain all such records for twelve (12) months after the end of the calendar year in which the last service pursuant to this Agreement was performed. CLIENT, at its expense and upon reasonable notice, may from time to time during the term of this Agreement, and at any time after the date the service(s) were performed up to twelve (12) months after the end of the calendar year in which the last service(s) were performed up to twelve (12) months after the end of the calendar year in which the last service(s) were performed, audit records of Keystone Environmental in connection with all costs and expenses which it was invoiced.



15. REPORTS, DOCUMENTS AND INFORMATION

All field data, field notes, laboratory test data, calculations, estimates and other documents prepared by Keystone Environmental in performance of the work shall remain the property of Keystone Environmental. If required as part of the work, Keystone Environmental shall prepare and provide to the CLIENT a report summarizing the work, detail design, specifications and drawings, as the case may be (CLIENT Report), with electronic secure signature and professional seal. CLIENT shall use the report for its internal purposes and only for those purposes consistent with that which the services and work were performed. , Keystone Environmental shall retain an electronic copy of such CLIENT Report which shall be deemed the original and true copy of the report.

The CLIENT Report shall not to be changed in any way without the prior written consent of Keystone Environmental. The Client accepts full responsibility for any changes made to the report without the prior written consent of Keystone Environmental and shall indemnify and hold harmless Keystone Environmental from any claims arising from use of such changed reports.

16. LIMITED USE OF REPORT

Any report prepared as part of the work will be prepared solely for the internal use of CLIENT. Unless otherwise prior to agreed by Keystone Environmental in writing, CLIENT agree that third parties are not to rely upon the report.

17. SAMPLE MANAGEMENT

CLIENT shall be the owner of all samples collected by Keystone Environmental from the project site . Keystone Environmental or its laboratory sub-contractor will store such samples in a professional manner in a secure area for the period of time necessary to complete the project. Upon completion of the project, Keystone Environmental disposes of the samples in a lawful manner.

18. ACKNOWLEDGMENT AND RECOGNITION OF RISK

CLIENT recognizes and accepts the work to be undertaken by Keystone Environmental may involve unknown undersurface conditions and hazards. CLIENT further recognizes that environmental, geologic, hydrological, and geotechnical conditions can and may vary from those encountered by Keystone Environmental at the times and locations where it obtained data and information and that limitations on available data may result in uncertainty with respect to the interpretation of these conditions. CLIENT recognizes that the performance of services hereunder or the implementation of recommendations made by Keystone Environmental in completing the work required may alter the existing site conditions and affect the environment in the site area.

Unknown undersurface conditions, including underground utility services, tanks, pipes, cables and other works (Underground Works) may be present at the site. Keystone Environmental will conduct utility locates to obtain available information regarding the location of Underground Works in accordance with industry practice. Utility locates are not a guarantee of the location of, or existence of, Underground Works and as a result damage to Underground Works may occur. Keystone Environmental relies on utility locates and Client provided "as-built" and record drawings to determine the location and existence of Underground Works. CLIENT recognizes that the use of utility locates is not a guarantee or warranty that Underground Works may not be damaged and acknowledges that Keystone Environmental is not responsible for any damage caused to Underground Works or the repair of such damage or any resulting or related damage and any costs related to such damage.

19. DISPOSAL OF CONTAMINATED MATERIAL

It is understood and agreed that Keystone Environmental is not, and has no responsibility as, a generator, operator or storer of pre-existing hazardous substances or wastes found or identified at work sites. Keystone Environmental shall not directly or indirectly assume title to such hazardous or toxic substances and shall not be liable to third parties.

CLIENT will indemnify and hold harmless Keystone Environmental from and against all incurred losses, damages, costs and expenses, including but not limited to attorneys' fees, arising or resulting from actions brought by third parties alleging or identifying Keystone Environmental as a generator, operator, storer or owner of pre-existing hazardous substances or wastes found or identified at work sites.

20. SUSPENSION OR TERMINATION

In the event the work is terminated or suspended by CLIENT prior to the completion of the services contemplated hereunder, Keystone Environmental shall be paid for: (i) the services rendered to the date of termination or suspension, (ii) the demobilization costs, and (iii) the costs incurred with respect to non-cancelable commitments.



21. **FORCE MAJEURE**

Neither party shall be responsible or liable to the other for default or delay in the performance of any of its obligations hereunder (other than the payment of money for services already rendered) caused in whole or in part by strikes or other labour difficulties or disputes; governmental orders or regulations; war, riot, fire, explosion; acts of God; acts of omissions of the other party; any other like causes; or any other unlike causes which are beyond the reasonable control of the respective party.

In the event of delay in performance due to any such cause, the time for completion will be extended by a period of time reasonably necessary to overcome the effect of the delay. The party so prevented from complying shall within a reasonable time of its knowledge of the disability advise the other party of the effective cause, the performance suspended or affected and the anticipated length of time during which performance will be prevented or delayed and shall make all reasonable efforts to remove such disability as soon as possible, except for labour disputes, which shall be solely within said party's discretion. The party prevented from complying shall advise the other party when the cause of the delay or default has ended, the number of days which will be reasonably required to compensate for the period of suspension and the date when performance will be resumed. Any additional costs or expense accruing or arising from the delaying event shall be solely for the account of the CLIENT.

22. NOTICE

Any notice, communication, or statement required or permitted to be given hereunder shall be in writing and deemed to have been sufficiently given when delivered in person or sent by facsimile, wire, or certified mail, return receipt requested, postage prepaid, to the address of the party set forth in the Authorization for Work. or to such address for either party as the party may be written notice designate.

23.

GOVERNING LAW This Agreement shall be governed by and interpreted pursuant to the laws of the Province of British Columbia.

HEADINGS AND SEVERABILITY 24.

Any heading proceeding the text of sections hereof is inserted solely for convenience or reference and shall not constitute a part of the Agreement and shall not affect the meanings, context, effect or construction of the Agreement. Every part, term or provision of this Agreement is severable from others. Notwithstanding any possible future finding by duly constituted authority that a particular part, term or provision is invalid, void or unenforceable, this Agreement has been made with the clear intention that the validity and enforceability of the remaining parts, terms and provision shall not be affected thereby.

25. ENTIRE AGREEMENT

The terms and conditions set forth herein constitute the entire Agreement and understanding or the parties relating to the provision of work or services by Keystone Environmental to CLIENT, and merges and supersedes all prior agreements, commitments, representation, writings, and discussions between them and shall be incorporated in all work orders, purchase orders and authorization unless otherwise so stated therein. The terms and conditions and details of this proposal and/or work plan may be amended only by written instrument signed by both parties.

