

FINAL REPORT

Government of Yukon Community Services, Land Development

Phase I Environmental Site Assessment Lot 519 and 520 Copper Ridge Whitehorse, Yukon



JUNE 2022

AE Project Number: 2022-8202.001





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EXECUTIVE SUMMARY

Associated Environmental Consultants Inc. (Associated) was retained by the Government of Yukon, Community Services Land Development Branch, in May 2022 to conduct a Phase I Environmental Site Assessment (ESA) of two land parcels located at Lot 520 and Lot 519 in the Copper Ridge Subdivision of the City of Whitehorse, Yukon (the Subject Site), to support the potential development of the Subject Site.

The Subject Site is in a predominantly residential area. Based on available aerial photographs dating back from 1995 to the present day, the Subject Site appears densely vegetated with no signs of development. A current and historical land title search confirmed Lot 519 to be untitled. The registered title owner of Lot 520 since June 2022, is the City of Whitehorse. At the time of the reconnaissance on June 3, 2022, the Subject Site comprised forested vacant land and is used by the public as a recreational walking area and thoroughfare.

An on-site groundwater well was observed in the southwest (on Lot 520). Based on discussions with the City of Whitehorse Water & Waste Services, it is understood that the well is used to assess local groundwater and the performance of the rock pit on Lot 520, which receives surface drainage from the residential properties to the west of the Subject Site. The City of Whitehorse advised that any future development on the Subject Site will need to consider surface water drainage and the incorporation of the monitoring well and rock pit located on Lot 520.

Neighbouring and upgradient land use since 1995 has comprised forested areas up until residential development began.

A fuel storage tank is located at the Continuing Care Facility (60 Lazulite Road, Whitehorse, YT), approximately 160 m away. Based on the distance with no reports of spills, the fuel storage tank is not considered an APEC to the Subject Site.

No on-site or off-site APECs were identified. Based on the Phase I ESA results, there is **low potential** ¹ that current or past land use activities at the Subject Site or on neighbouring properties have resulted in contamination of soil and/or groundwater, alongside vapour risk, at the Subject Site, with respect to Park (PL) and Residential Land Uses (RL) standards. Further investigation (i.e., Phase II Environmental Site Assessment) is not warranted.

This executive summary is subject to the limitations presented in the Disclaimer provided in section 12 of this report.

¹ **High potential** means there is either physical or visual/olfactory or very recent factual evidence of contamination on site. **Moderate potential** means there is evidence of past or current land uses or infrastructure with potential to release contaminant/s into the environment. **Low potential** means there is little or no evidence of sources of contamination.



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LIST OF ABBREVIATIONS

AST aboveground storage tank

APEC area of potential environmental concern

AW CSR groundwater standards for the protection of aquatic life

CSA Canadian Standards Association
CSR Contaminated Sites Regulation

DW CSR groundwater standards for the protection of drinking water

ECCC Environment and Climate Change Canada

EOR Environmental Offenders Registry
ESA Environmental Site Assessment

ERIS Environmental Risk Information Services
FCSI Federal Contaminated Sites Inventory

FST fuel storage tank ID Identification

IW CSR groundwater standards for the protection of irrigation water LW CSR groundwater standards for the protection of livestock water

NPRI National Pollutant Release Inventory
PCOC potential contaminant of concern

PL The CSR soil Standards for Park Land Uses (PL)

PS Public Services

RL CSR soil standards for residential land use

RR Restricted Residential Detached
RS Residential Single Detached
UST underground storage tank

YCSI Yukon Contaminated Sites Inventory

Units & Symbols

°C degrees Celsius

bgs below ground surface

km kilometre
L litre
m metre

m² square metre m³ cubic metre

masl metres above sea level

1 INTRODUCTION

Associated Environmental Consultants Inc. (Associated) was retained by the Government of Yukon, Community Services Land Development Branch in May 2022 to conduct a Phase I Environmental Site Assessment (ESA) at two land parcels located at Lot 520 and Lot 519 in the Copper Ridge Subdivision of the City of Whitehorse, Yukon (the Subject Site) (Figure 1), to support the potential development of the Subject Site.

2 OBJECTIVE

The objective of the Phase I ESA was to determine if areas of potential environmental concern (APECs) and potential contaminants of concern (PCOC) exist for the Subject Site. The potential risk level of soil, vapour, and/or groundwater contamination was qualitatively assessed based on the past, current, or intended land use(s) at the Subject Site and neighbouring properties.

This report describes the methods and results of the Phase I ESA and, in consideration of the results, presents conclusions and recommendations.

3 SCOPE

The Phase I ESA was conducted in accordance with the general requirements of the Yukon *Contaminated Sites Regulation* (CSR) (O.I.C. 2002/171) of the Yukon *Environment Act* (RSV 2002, c.76) and followed the general protocols defined in the Canadian Standards Association (CSA) Z768-01 (R2022) – Phase I ESA standard (CSA 2022).

The scope of work included the following activities:

- Review of records;
- Interviews of individuals with knowledge of current and/or historical activities on the Subject Site and neighbouring properties;
- Visual inspection of the Subject Site and adjacent properties visible from either the Subject Site or public property, and
- Preparation of this Phase I ESA report, which includes a discussion of the risk of soil, groundwater, and vapour contamination at the Subject Site with respect to territorial standards for the current or intended land use.

The scope of work for a Phase I ESA does not include sampling or testing of any kind, including that of soil, groundwater, surface water, sediment, vapour, or building materials.

4 SITE DESCRIPTION

4.1 Location, Zoning and Land Use

The Subject Site comprises two legal lots located in the Copper Ridge Subdivision of Whitehorse, Yukon Territory (Figure 1), one land parcel is zoned Public Services and the second is zoned Parks and Recreation (the City of Whitehorse. 2022) (Table 4-1).

The Subject Site is irregular in shape and is bounded by Lot 518 (zoned Public Services) and Diamond Way to the north, Falcon Drive (road) to the east and south, and residential development to the west. The surrounding land use is predominantly residential (Figure 2).

A copy of the Survey Plan 83103 CLSR YT (dated December 14, 1999) (Government of Canada 2022a.) is enclosed in Appendix A.

Table 4-1
Subject Site Description

	Lot 519 Description	Lot 520 Description
Civic Address	The lot does not have a civic address.	From June 2022: 2121 Second Avenue, Whitehorse, Yukon Y1A 1C2.
Legal Land Description	Lot 519, Parcel ID: 8056308, Copper Ridge Subdivision. 99-0224 LTO YT. Plan number: 83103 CLSR YT.	Lot 520, Parcel ID: 8056309, Copper Ridge Subdivision. 99-0224 LTO YT. Plan number: 83103 CLSR YT.
Size	39,329.26 m ²	20,184.46 m ²
Zoning (land use)	Public Services with special modifications (PSx(c)). The special modification is that only schools, parks and outdoor participant recreation services, community recreation services and religious assemblies are permitted as a principal use, and only accessory buildings/structures are permitted as a secondary use.	Parks and Recreation (PR)
Site Use	Vacant	Vacant

4.1.1 Climate

The Subject Site is within the Upper Yukon-Stikine Basin climatic zone Cordilleran climatic region, characterized by long, cold winters and warm and dry summers (Yukon Ecoregions Working Group 2004). The nearest climate station (Whitehorse Airport – Climate ID: 2101300) is located approximately 2 km east of the Subject Site at an elevation of 706 masl. The station is currently active, and climate data are available for the years 1981 to 2010. The monthly average temperatures range from -15.2°C in January to 14.3°C in July. The mean annual precipitation is 262 mm, with 161 mm falling as rain and the rest as snow (ECCC 2022).

4.1.2 Geology

The bedrock geology of the Subject Site consists of Cretaceous period granodiorite, quartz diorite and diorite (Government of Yukon. 2022a). Depth to bedrock at the Subject Site is unknown; however, the depth to bedrock recorded during the drilling of groundwater wells in the surrounding area indicates that bedrock is at approximately 50 m bgs (Government of Yukon. 2022b.). The surficial geology of the area comprises fluvial deposits consisting of gravel, sand and clayey silt (Government of Yukon. 2022b).

4.1.3 Surface Waterbodies

Surface waterbodies located within a 1 km radius of the Subject Site comprise an unnamed stream, located approximately 560 m to the north (Government of Yukon. 2022b) and inferred up-gradient from the Subject Site.

4.1.4 Groundwater Wells

A search of the Yukon Water Well Registry (Government of Yukon. 2022b.) identified one registered groundwater well located within a 1.5 km radius of the Subject Site. The well is used as a test well and is not for potable water extraction. The Subject Site is not located within water well capture zone or a groundwater aquifer area.

A copy of the search is enclosed in Appendix B.

4.1.5 Topography and Inferred Surface Water and Groundwater Flow

Surface topography can influence the direction of contaminant migration at ground level. The local topography slopes to the east and towards the Yukon River (i.e., east from the Subject Site) (Government of Canada. 2022b.).

Groundwater is a common pathway for contaminant transport. Based on regional topography and the location and flow of surface waterbodies, groundwater beneath the Subject Site is inferred to flow in a generally east direction towards the Yukon River (Figure 2). The inferred groundwater flow direction for the general area is a good approximation; however, localized variations in actual flow direction may exist due to unverified subsurface features, temporal variation, and influence from surface waterbodies. Surveyed groundwater elevation measurements would be required to determine the actual groundwater flow direction. A topographic map is enclosed in Appendix B.

5 RELEVANT STANDARDS

Legislation applicable to contaminated sites was enacted under the *Environmental Act* (RSY 2002, c.76), which includes the CSR (O.I.C. 2002/171). The Subject Site is zoned Public Services (PSx(c)) and Parks and Recreation (PR) (City of Whitehorse 2012), and the immediate surrounding area is zoned predominantly residential; therefore, the CSR Standards for Park (PL) and Residential Land Uses (RL) are applicable for the Subject Site.

5.1 Soil Standards

Generic numerical soil standards (i.e., one value for each type of land use) are listed in CSR Schedule 1 and matrix numerical soil standards (i.e., different values dependent on possible exposure pathways) are listed in Schedule 2. The most stringent applicable matrix standards were used for all site-specific factors and included the following pathways for contamination to be exposed to human or environmental receptors:

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

5.2 Groundwater Standards

The applicable standards for groundwater at the Subject Site are provided in CSR Schedule 3.

Based on the results of the registry search (Government of Yukon. 2022b.) and municipal drinking water being supplied to the area from public groundwater supply wells within the Selkirk Aquifer system, and surface water from Schwatka and Hidden Lakes (over 2 km away), drinking water (DW) standards do not apply at the Subject Site.

Surface waterbodies located within a 1 km radius of the Subject Site comprise one unnamed stream, located approximately 560 m to the north and inferred up-gradient (Government of Yukon. 2022b.); therefore, standards for the protection of Aquatic Life (AW) do not apply.

No agricultural properties are located within a 1.5 km radius of the Subject Site; therefore, standards for the protection of Irrigation Water (IW) and Livestock Water (LW) do not apply.

6 METHODS

6.1 Records Review

The information typically reviewed for a Phase I ESA includes any available records, databases, maps, and reports relevant to the Subject Site and surrounding area (Table 6-1).

Table 6-1
Records Reviewed for Phase I ESA

Record	Purpose
Yukon GeoYukon Digital Online Maps database (Aerial photographs – Yukon Government Library). Google Earth aerial photographs	Aerial photographs provide a visual history of the Subject Site and surrounding area and typically show site features (e.g., buildings) and how the area has developed over time.
Land Zoning	Land zoning information for the Subject Site and surrounding area is obtained from the City of Whitehorse Zoning Bylaw 2012-20 Schedule A Zoning Map. Land zoning is used to determine current use and CSR Standard(s) for the Subject Site.
Land Titles Search	Land Titles indicate the registered owners of the Subject Site over time.
City Directories	Reverse Directories indicate who has operated at an address over time (search by address). Telephone Directories indicate who has operated at an address over time, but the search input is by a business or a person's name.
Yukon Water Well Registry	The Water Well Registry identifies groundwater well records, well water capture zones, and basins.
Yukon Government, Public Registry of Contaminated Sites	The Site Registry provides environmental records for sites in Yukon with known occurrences of soil, groundwater or vapour contamination and documents any remediation efforts.
Environment and Climate Change Canada (ECCC) National Pollutant Release Inventory (NPRI)	The NPRI is a legislated record of pollutant releases (i.e., to air, land and water), disposables, and transfers for recycling. It comprises information reported by facilities and published by ECCC, as per sections 46 to 50 of the <i>Canadian Environmental Protection Act</i> , 1999 (SC 1999, c. 33), as well as emission summaries and trends for key air pollutants based on facility-reported data and emission estimates for other sources, such as motor vehicles, residential heating, forest fires, and agriculture. Data is currently only available for the years 1993 to 2020.
Federal Contaminated Sites Inventory (FCSI)	The FCSI is an online database of contaminated sites, which includes information on all known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations, as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment (Government of Canada 2019).
Environmental Offenders Registry (EOR)	The Environmental Offenders Registry contains information on convictions of corporations obtained under certain federal environmental laws.
Storage Tank Permits	The Yukon Government Fire Marshals Office provides information pertaining to underground storage tank permits for the Subject Site.

Record	Purpose
	ERIS conducted searches of several databases for detailed environmental risk data and records of properties that may present environmental risks. The following reports were obtained from ERIS:
	 Designated Material Permits (DMP)
Facilia and antal Diale	Fuel Storage Tanks (FST)
Environmental Risk Information Services (ERIS)	• Spills (SPL)
	 Scott's Manufacturing Directory (SCT)
	Waste Receivers (REC)
	Relocation Permits (REL)
	 Special Waste Permits (SWP)
Previous Reports (if available)	Previous environmental reports can determine if (or to what degree) environmental work has been conducted on the Subject Site and neighbouring properties.

6.2 Site Interviews

Associated interviewed the following individuals to obtain anecdotal and/or documented accounts of current and past uses of the Subject Site and neighbouring properties:

- Mathieu Marois (Senior Planner with the City of Whitehorse)
- Taylor Eshpeter (Engineering Services Manager with the City of Whitehorse)
- Arcadio Rodriguez (Water and Waste Services Assistant Manager with the City of Whitehorse)

The results of the interviews are discussed in Section 8.

6.3 Site Visit

On June 3, 2022, Associated conducted a reconnaissance of the Subject Site and an overview of the surrounding areas. The purpose of the site visit was to aid in the determination of APECs both on and off the Subject Site.

The site reconnaissance involved a visual assessment of the grounds and buildings and of neighbouring properties visible from the Subject Site or public property. The following, if observed, were examined and noted during the reconnaissance: surface and sub-surface drainage patterns, chemical storage and handling, non-hazardous and hazardous waste, air and water discharges, stockpiling/dumping/landfilling activities, and evidence of contamination (e.g., odours and staining), materials and waste product handling, use, disposal methods and storage vessels (e.g., sumps and aboveground and underground storage tanks).

Results of the site reconnaissance are provided in Section 9, and select site photographs are provided in Appendix C.

7 RECORDS REVIEW

The following sections provide the results of the records review. Indications of any environmental risks are described in Section 10.

7.1 Aerial Photographs and Satellite Imagery

The results of the aerial photograph review are provided in Table 7-1. Aerials for years between the 1920s to 1980s were not available for the Subject Site. However, based on anecdotal information, the development of the area did not begin until the mid-1990s.

Table 7-1
Interpretation of Aerial Photographs

Date of Photograph	Subject Site	Surrounding Area
1995	Undeveloped and forested. A thoroughfare intersects the Subject Site from the southeast to the northwest.	Road infrastructure has been constructed (similar to 2022). Surrounding areas are forested. Residential development is observed to the east of Hamilton Boulevard, approximately 370 m northeast of the Subject Site.
2019	No significant changes.	The area around the road infrastructure has been developed as residential. The Copper Ridge Pump House to the east and retirement home to the north have been constructed.
2020	No significant changes.	No significant changes.
2022	No significant changes.	No significant changes.

Note:

7.2 Current and Historical Land Titles

A current and historical land title search completed on June 8, 2022, confirmed Lot 519 to be untitled. The registered title owner of Lot 520 since June 2022 is the City of Whitehorse. The land title for Lot 520 is provided in Appendix D.

7.3 City Directories

No city or telephone directories were available for review.

7.4 Permitting

The City of Whitehorse External Planning Theme (City of Whitehorse. 2022) was searched, and 0 permits were identified in connection to the Subject Site.

7.5 Previous Environmental Reports

No previous environmental reports were available for review.

7.6 Federal Contaminated Sites Inventory

A search of the FCSI identified 0 contaminated sites under federal jurisdiction within an approximate 250 m radius of the Subject Site (Government of Canada. 2022c.). The FCSI search is enclosed in Appendix E.

7.7 Yukon Contaminated Sites Inventory

Associated reviewed the YCSI database and identified 0 records within an approximate 250 m radius of the Subject Site (Government of Yukon. 2022c.). The YCSI search is enclosed in Appendix F.

^{*}All distances from the Subject Site are approximations.

7.8 National Pollutant Release Inventory

A search of the NPRI identified 0 records within a 250 m radius of the Subject Site (Government of Canada. 2022d.).

7.9 Environmental Offenders Registry

A search of the EOR identified 0 records within a 250 m radius of the Subject Site (Government of Canada. 2022e.).

7.10 Storage Tanks

7.10.1 Storage Tank Permits

Associated contacted the Deputy Fire Marshall, Community Services, on May 25, 2022, to request information pertaining to any former or present USTs on the Subject Site and adjacent properties. Associated received a response on May 25, 2022; 0 records were found. A copy of the email communication is provided in Appendix G.

7.11 Environmental Risk Information Service

Associated submitted a request to ERIS for a review of various databases as they pertain to the Subject Site and surrounding properties. The ERIS Database identified 0 records for the Subject Site and two records for one property located within a 250 m radius of the Subject Site in relation to fuel storage tanks.

The two off-site records are summarized below. A copy of the ERIS report is provided in Appendix H.

7.11.1 Fuel Storage Tanks

A search of the Fuel Storage Tanks (FST) database for the years 1997 to October 2021 returned 2 records for a property located within a 250 m radius of the Subject Site (Table 7-2).

Table 7-2
Fuel Storage Tanks

Company and Location	Permit Details	Permit Date	Direction and Distance from Subject Site ¹	
Continuing Care Facility	Permit for the installation of a commercial fuel tank (permit number 01012).	Issued: May 2001, expired: December 2001	160 m northwest	
60 Lazulite Road, Whitehorse, YT.	Permit for the operation of a commercial fuel tank (permit number 01057).	Issued: December 2001, expired: January 2005	(inferred downgradient)	

Note:

7.12 Third-Party Reports

No third-party reports were obtained for the Subject Site.

¹ Distances are approximations from the closest property boundary.

8 SITE INTERVIEWS

Associated interviewed Mathieu Marois, a Senior Planner with the City of Whitehorse, on June 10, 2022, to obtain anecdotal and/or documented accounts of current and past uses of the Subject Site and neighbouring properties. Information obtained from the interview is included in Section 9.0.

Associated also contacted Taylor Eshpeter (Engineering Services Manager) and Arcadio Rodriguez (Water and Waste Services Assistant Manager) at the City of Whitehorse on June 10, 2022, for information regarding the groundwater well identified on the Subject Site (Lot 520).

8.1 Groundwater Monitoring Well

Associated received a response from the City of Whitehorse Engineering Services Manager on June 17, 2022, and Water & Waste Services on June 18, 2022. Engineering Services did not have any information in relation to the groundwater monitoring well, and Water & Waste Services provided the following information:

- The groundwater monitoring well is used to assess local groundwater and the performance of the nearby rock pit.
- The monitoring well is 8.0 m bgs.
- The rock pit receives surface drainage from the back of the residential buildings located adjacent to the west of the Subject Site.
- Future development on the Subject Site will need to consider surface water drainage and the incorporation of the monitoring well and rock pit.

9 SUBJECT SITE RECONNAISSANCE

Associated conducted a reconnaissance of the Subject Site on June 3, 2022. The reconnaissance was documented with notes and photographs, and the results are discussed below. Select photographs of features noted during the reconnaissance are provided in Appendix C. There were no access limitations during the site visit.

9.1 Site Operations

The Subject Site is currently vacant. The Subject Site is used by the public as a recreational area for walking and as a thoroughfare; dirt trails were observed during the site visit.

9.2 Grounds

The grounds at the Subject Site are described in Table 9-1. Key features observed are shown in Figure 2.

Table 9-1 Observations of Subject Site Grounds

Subject Site Grounds	Comments/Observations
Ground cover	Bare ground and vegetation, including mature trees (forested). Fire pits were observed (photograph 7 and 8 (Appendix C)).
Roads, Parking, Rights of Way	A thoroughfare dirt track is located between Falcon Drive to the south and Copper Ridge Place to the north (photograph 5).
	There are also several smaller dirt trails throughout, which are used for recreation and as thoroughfares.
Overhead and/or underground lines	Overhead and underground utility lines surround the Subject Site.
Potential noise sources	None identified at the time of the site visit.
Vegetation	Vegetation appears to be within seasonal norms.
Visual or olfactory signs of contamination	None observed.
Fill Materials	None observed.
Storage Tanks (aboveground or underground)	No evidence of ASTs or USTs.
Evidence of underground structures	No evidence of underground structures.
Groundwater wells	One groundwater monitoring well was observed the southwest of the Subject Site (on Lot 520), close to Falcon Drive (photograph 2).
Non-hazardous waste generation and handling	Waste is not being generated on the Subject Site.
Hazardous materials/chemical and fuel storage	None observed.
Drains/Sumps/Oil water separators	None observed.
Pits, lagoons	None observed.
Wastewater or other discharges	None observed.
Surface waterbodies, ditches or standing water	A rock pit was observed in the southwest corner of the Subject Site (on Lot 520) (photograph 4). The pit was dry at the time of the site visit. The pit receives and temporarily holds excess stormwater from adjacent residential properties, which infiltrates into the underlying soil.
Drainage	Surface water drainage is through infiltration into underlying soils.

9.3 Buildings and Structures

No buildings or permanent structures were observed on the Subject Site.

9.4 Neighbouring Properties

Properties surrounding the Subject Site are predominantly residential. Table 9-2 lists the neighbouring properties at the time of the site reconnaissance, and Figure 2 shows the locations of neighbouring properties.

Table 9-2 Neighbouring Properties

Direction Relative to Subject Site	Description
	North adjacent: - Vacant vegetated land - Copper Ridge Place (retirement home at 60 Lazulite Road) (zoned (PS) Public Services - (Lot 518)) (photograph 6) - 160 m north - Diamond Way (road)
North (Inferred cross- gradient)	Northeast adjacent: - Falcon Drive (road) - <u>Beyond Falcon Drive</u> : Developed residential (zoned (RS) Residential Single Detached)
	Northwest adjacent: - Developed with residential buildings (zoned RS) - Beyond residential area: Tigereye Crescent (road) and developed residential (zoned RS)
East (Inferred down- gradient)	East adjacent: - Falcon Drive (road) - Beyond Falcon Drive: Developed residential (zoned RS) and Copper Ridge Pump House (photograph 1).
South	South adjacent: - Falcon Drive (road) - Beyond Falcon Drive: Developed residential (zoned (RR) Restricted Residential Detached)
(Inferred cross- gradient)	Southwest adjacent: - Developed residential (zoned RS) and Falcon Drive (road)
	Southeast adjacent: - Developed residential (zoned RS) and Falcon Drive (road)
West (Inferred up-gradient)	West adjacent: - Public right of way (footpath) - Developed with residential buildings (zoned RS) - Beyond residential area: Tigereye Crescent (road) and developed residential (zoned RS) mations from the closest property boundary.

Note: *distances are approximations from the closest property boundary. Zoning information is from the City of Whitehorse. 2022.

10 INDICATIONS OF ENVIRONMENTAL RISK

The potential for soil, groundwater, and/or vapour concentrations exceeding territorial standards is derived from current and historical land uses on the Subject Site. Neighbouring properties can also pose environmental risks based on their current and past uses and their distance and relative position to the Subject Site with respect to the groundwater flow gradient. Upgradient sites are generally associated with higher risk because of the potential for groundwater transport of contaminants to downgradient locations.

The environmental risk at the Subject Site, and associated rationale, is described below.

10.1 Subject Site

The Subject Site is in a predominantly residential area. Based on available aerial photographs dating back to 1995 to the present day, the Subject Site appears forested with no signs of development. A current and historical land title search confirmed Lot 519 to be untitled. The registered title owner of Lot 520 since June 2022 is the City of Whitehorse.

At the time of the site visit on June 3, 2022, the Subject Site was comprised of forested vacant land and is used by the public for recreational walking and thoroughfare.

An on-site groundwater well was observed in the southwest (on Lot 520). The well is not listed on the Water data catalogue (Government of Yukon. 2022d.) or the Groundwater water well registry (Government of Yukon. 2022b) however, based on discussions with the City of Whitehorse Water & Waste Services, it is understood that the well is used to assess local groundwater (flow and level monitoring) and the performance of the rock pit on Lot 520, which receives surface drainage from the residential properties to the west of the Subject Site.

The City of Whitehorse advised that any future development on the Subject Site will need to consider surface water drainage and the incorporation of the monitoring well and rock pit located on Lot 520.

No on-site APECs were identified.

10.2 Neighbouring Properties

The surrounding area has been predominantly residential since 1995, with forested areas.

The fuel storage tank located at the Continuing Care Facility (Copper Ridge Place, 60 Lazulite Road, Whitehorse, YT) is not an APEC to the Subject Site, due to distance and no reports of spills.

No off-site APECs were identified.

11 CONCLUSIONS AND RECOMMENDATIONS

Based on the Phase I ESA results, there is **low potential** ² that current or past land use activities at the Subject Site or on neighbouring properties have resulted in contamination of soil and/or groundwater, alongside vapour risk, at the Subject Site, with respect to Park (PL) and Residential Land Uses (RL) standards. Further investigation (i.e., Phase II Environmental Site Assessment) is not warranted.

12 DISCLAIMER

STANDARD DISCLAIMER FOR CONTAMINATED SITE INVESTIGATIONS, MONITORING AND CONFIRMATION OF REMEDIATION SERVICES

Subject to the following conditions and limitations, the investigation described in this report has been conducted by Associated Environmental Consultants Inc. (Associated) for <u>Government of Yukon, Community Services Land Development Branch</u> (the Client).

- 1. The scope of the investigation described in this report has been limited by the budget set for the investigation in the work program. The scope of the investigation has been reasonable having regard to that budget constraint.
- 2. The investigation described in this report has been limited to the scope of work described in the work program.
- 3. The investigation described in this report has relied upon information provided by third parties concerning the history of the site. Except as stated in this report and subject to the standard of care stated in the contract, we have not made an independent verification of such historical information.
- 4. The investigation described in this report has been made in the context of existing government regulations generally promulgated at the date of this report. Except as specifically noted, the investigation did not take account of any government regulations not in effect at the date of this report.
- 5. The findings and conclusions are valid only for the specific site identified in the report.
- 6. Since site conditions may change over time, the conclusions in the report may not be valid due to a change in site conditions.
- 7. This report is intended for the use of the Client, including all successors and assigns. The material in it reflects Associated's best judgement, in light of the information available to it, at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Associated accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report and makes no representation of fact or opinion of any nature whatsoever to any person or entity other than the Client.

² **High potential** means there is either physical or visual/olfactory or very recent factual evidence of contamination on site. **Moderate potential** means there is evidence of past or current land uses or infrastructure with potential to release contaminant/s into the environment. **Low potential** means there is little or no evidence of sources of contamination.



13 CLOSING

This Phase I ESA report was prepared for Government of Yukon, Community Services Land Development Branch, to determine if APECs and PCOCs exist for the Subject Site. The potential risk level of soil, vapour, and/or groundwater contamination was qualitatively assessed based on the past, current or intended land use(s) at the Subject Site and neighbouring properties.

The services provided by Associated Environmental Consultants Inc. in the preparation of this report were conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty expressed or implied is made.

We trust this completes the assignment to your satisfaction. Please feel free to contact the undersigned if you have any questions.

This report was prepared by:

Associated Environmental Consultants Inc.

The report was reviewed by:

Associated Environmental Consultants Inc.

Gemma Simmons, M.Sc.

Project Manager

Trevor Roste, P.Ag.

Environmental Scientist

14 QUALIFICATIONS OF ASSESSORS

Gemma Simmons, M.Sc.

Role: Environmental Scientist, Project Manager

Experience: Gemma is an Environmental Scientist with over nine years of experience in environmental consulting both overseas and in Canada. Gemma has experience working on and managing a variety of small to large-scale contaminated site projects, from inception through to completion. Past project experience includes environmental and geotechnical site assessments, hazardous building materials assessments, risk assessments, soil and groundwater sampling, earthworks and soil and groundwater remediation.

Trevor Roste, P.Ag.

Role: Environmental Scientist

Experience: Trevor is an Environmental Scientist with 19 years of experience in environmental consulting. He specializes in contaminated sites projects, ranging from preliminary and detailed site investigations, site remediation, risk assessments, soil vapour assessment, and groundwater investigations. Trevor has managed hundreds of contaminated sites projects, ranging from small-scale to large complex sites. His main clients have included several large upstream and downstream oil and gas companies, provincial and municipal governments, commercial business owners, First Nation Bands, and private property owners. The project scopes that he has managed include emergency spill response, preliminary and detailed site investigations, site remediation, risk assessments, soil vapour assessments, background soil and groundwater investigations and site closures. Trevor has a thorough understanding of the BC Contaminated Sites Regulations and the regulatory close process. He has recently assisted with the acquisition of over 15 regulatory closures (Certificates of Compliance or Determinations) of properties across BC. He has also facilitated the acquisition of over 50 regulatory closures (Certificates of Restoration Part 1) of former oil and gas well sites in northeast BC. Trevor is a Professional Agrologist (P.Ag.) with BC Institute of Agrologists (#3139).

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YearPhoto Identification NumberYearPhoto Identification Number2022Google Earth ®2019No ID2020No ID1995No ID

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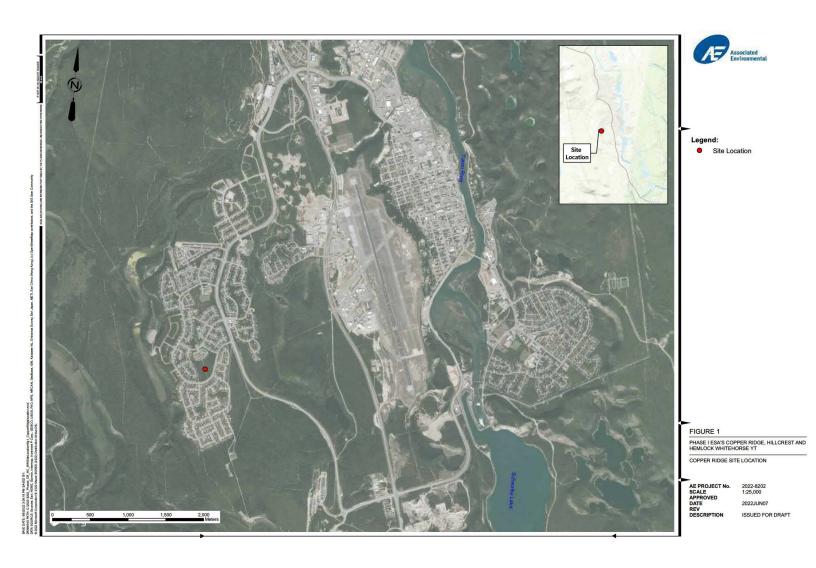
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Yukon Fire Marshal. Email communication May 25 to 27, 2022.

FIGURES

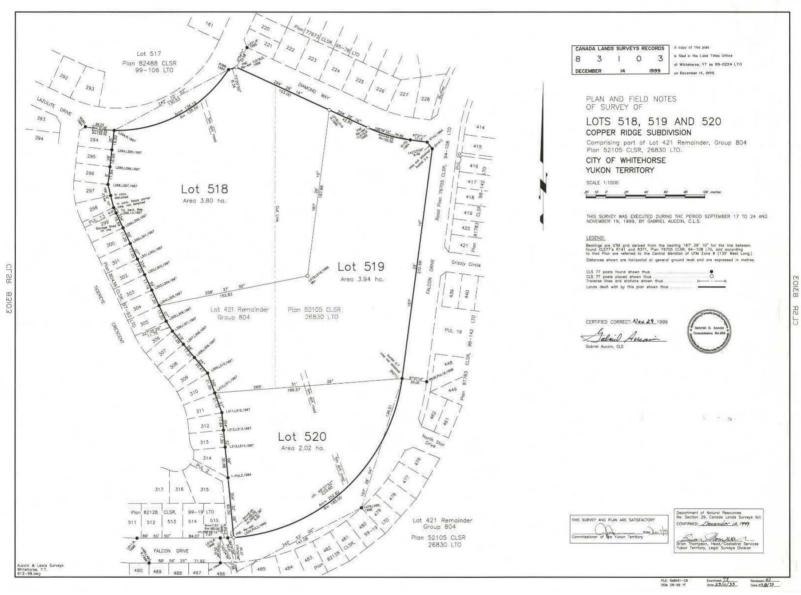
Figure 1: Subject Site Location

Figure 2: Subject Site and Surrounding Land Use





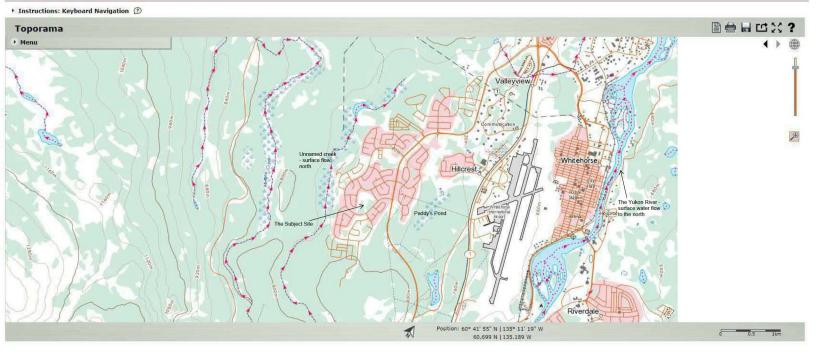
APPENDIX A - SURVEY PLANS

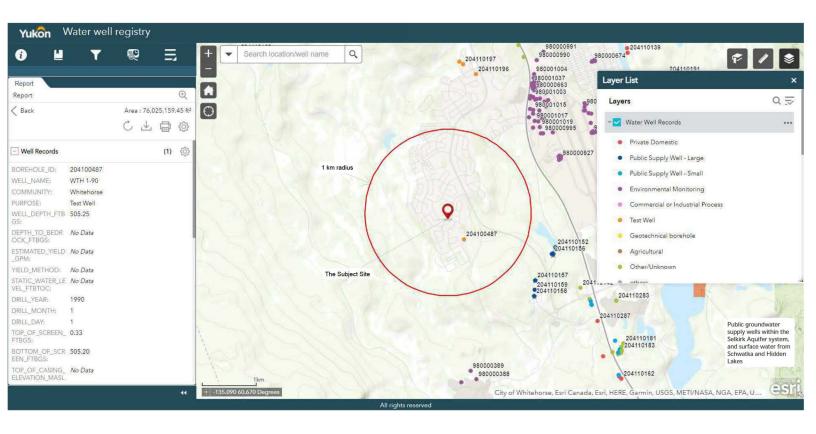


APPENDIX B – TOPOGRAPHIC MAP, SURFACE WATER AND GROUNDWATER INFORMATION

The Atlas of Canada - Toporama







APPENDIX C - PHOTOGRAPHS

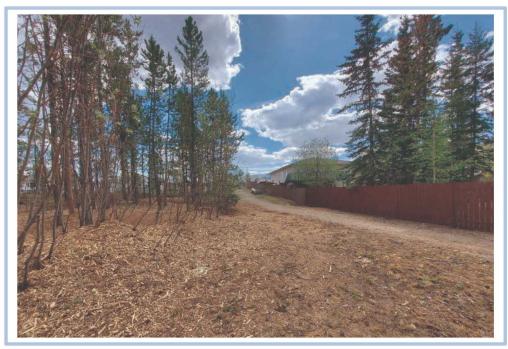


Photograph 1: Pumphouse located on Falcon Drive to the south of the Subject Site (looking southeast) (June 3, 2022).



Photograph 2: a groundwater monitoring well (circled), was observed in the southwest of the Subject Site and close to Falcon Drive in the south. The well was locked. (June 3, 2022).





Photograph 3: a dirt trail in the west is used as a throughfare between Falcon Drive and residential buildings on Tigereye Crescent (June 3, 2022).



Photograph 4: Surface water drainage ditch with outflow pipe (circled) located in the southwest corner of the Subject Site (looking west) – source of water from drainage pipe is unknown (likely from the south) (June 3, 2022).



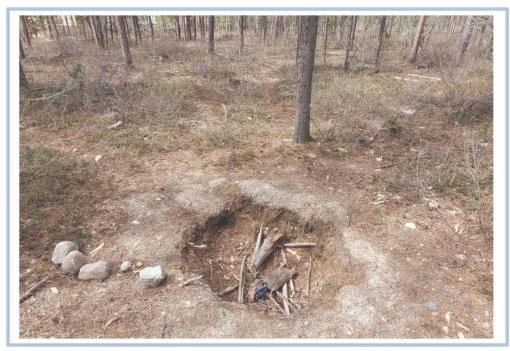


Photograph 5: a throughfare goes though the Subject Site between Falcon Drive and Copper Ridge Place (retirement home), (looking north from the southern boundary of the Subject Site) (June 3, 2022).



Photograph 6: Copper Ridge Place located north of the Subject Site (looking north) (June 3, 2022).





Photograph 7: fire pits were observed on the Subject Site (June 3, 2022).



Photograph 8: empty diesel bottles – possibly used as a fire igniter (June 3, 2022).





Photograph 9: residential properties located along the western boundary of the Subject Site (looking west) (June 3, 2022)



Photograph 10: areas have been cleared, with stacked log piles seen on the Subject Site (June 3, 2022)





Photograph 11: Falcon Drive to the south, with residential buildings and Iron Horse Drive (looking southeast from the corner of the southwest Subject Site boundary) (June 3, 2022)



Photograph 12: view of the eastern portion of the Subject Site and Copper Ridge Place to the north (looking west from Diamond Way) (June 3, 2022)



APPENDIX D - LAND TITLES

CERTIFICATE OF TITLE

Yukon · Canada

FEE SIMPLE

atikstalentalentajantantonipaliateko kantentileatekike

Title #: 100250345 Title Status: Active Parcel Value: \$1.00 Title Value: \$1.00

Last Title Transfer Value: \$1.00 Converted Title #: 2000Y0615 Previous Title #: 2000Y0615

Title Creation Packet: 100210486

As of: 08 Jun 2022 09:58:16.000

Last Amendment Date: 03 Jun 2022 09:15:11.647

Issued: 03 Jun 2022 09:15:11.630 Community: City of Whitehorse

CLSR #: 83103 Grant #: 146732

Parcel Type: Surface Parcel Parcel Class: Unknown

This is to certify that

CITY OF WHITEHORSE

is the registered owner of an estate in fee simple in

Legal Land Description:

Parcel #100170706; or

Lot 520 Copper Ridge, City of Whitehorse, YT, Plan No. 99-0224

Subject to the encumbrances, liens and interests notified by memorandum underwritten or endorsed hereon, or which may hereafter be made in the Register.

Mailing Address:

Owner Name: Address:

CITY OF WHITEHORSE 2121 SECOND Avenue, WHITEHORSE, Yukon Territory, Canada,

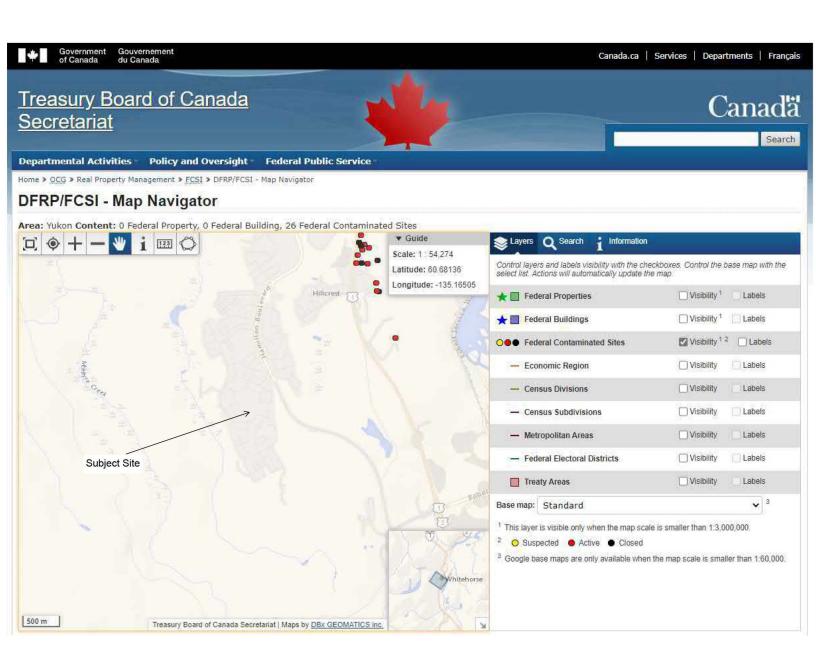
Client #: 100005758 Y1A1C2

Registrar's Notes:

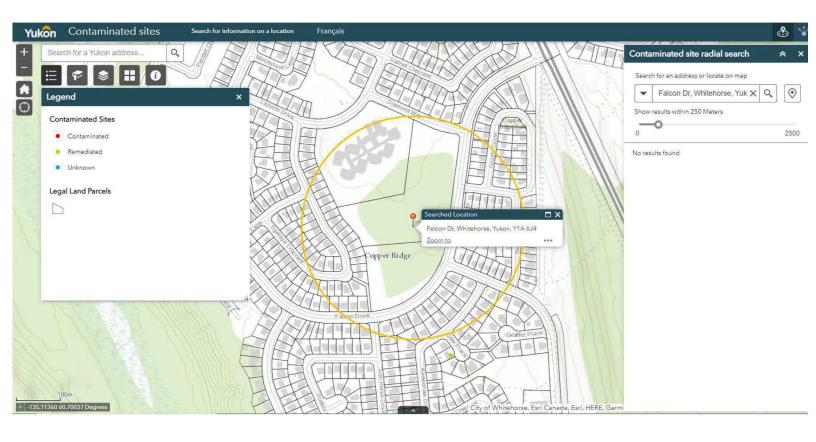
This certificate is to be read subject to the provisions of section 59 of the Land Titles Act, 2015 SY 2015, c.10 and may be affected by sections 11-14 and 17 of the Territorial Lands (Yukon) Act SY 2003, c.17.



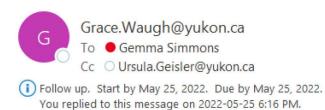
APPENDIX E - FEDERAL CONTAMINATED SITES INVENTORY



APPENDIX F - YUKON CONTAMINATED SITES INVENTORY



APPENDIX G - UNDERGROUND STORAGE TANK PERMITS



Hi Gemma,

I have taken over from Ursula to look into these for you!

I was unable to find any records for both

Lot 519

Parcel IDL 8056308 Plan: 82488 CLSR YT LTO: 99- 0224 LTO YT

and

Lot 520

Parcel ID: 8056309 Plan: 82488 CLSR YT LTO: 99-0224 LTO YT

Thank you! Grace



Grace Sheardown Waugh

Administrative Assistant
Community Services | Fire Marshal's Office
|F 867-667-3165 | Yukon.ca

APPENDIX H - ERIS REPORT



Copper Ridge Infill Site **Project Property:**

Lot 519, Parcel ID: 8056308 and Lot 520,

Parcel ID: 8056309, Copper Ridge

Subdivision. Whitehorse YT

Project No: 2022-8202.001

Report Type: Standard Select Report

Order No: 22053101045

Requested by: Associated Environmental Consultants Inc.

Date Completed: June 2, 2022

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Reliance on information in Report: This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as a database review of environmental records.

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Executive Summary

Property Information:

Project Property: Copper Ridge Infill Site

Lot 519, Parcel ID: 8056308 and Lot 520, Parcel ID: 8056309, Copper Ridge

Order No: 22053101045

Subdivision. Whitehorse YT

Project No: 2022-8202.001

Coordinates:

Latitude: 60.6979085

Longitude: -135.1080608
UTM Northing: 6,729,144.64
UTM Easting: 494,100.02

UTM Zone: 8V

Elevation: 2,536 FT

773.00 M

Order Information:

 Order No:
 22053101045

 Date Requested:
 May 31, 2022

Requested by: Associated Environmental Consultants Inc.

Report Type: Standard Select Report

Historical/Products:

Aerial Photographs Aerials - National Collection

ERIS Xplorer <u>ERIS Xplorer</u>

Land Title Search Current Land Title Search

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Within 0.25 km	Total
AIR	Air Emission Permits	N	-	-	-
AUWR	Automobile Wrecking & Supplies	N	-	-	-
CDRY	Dry Cleaning Facilities	N	(-)	æ	-
СНМ	Chemical Register	N)(-)	æ	-
CNG	Compressed Natural Gas Stations	N	(-)	æ	-
CS	Contaminated Site Inventory	N	, = ;	×	*
DMP	Designated Material Permits	Υ	0	0	0
EHS	ERIS Historical Searches	N	(=)	×	-
EIIS	Environmental Issues Inventory System	N	(=)	×	-
FCS	Contaminated Sites on Federal Land	N	(=)	×	-
FRST	Federal Identification Registry for Storage Tank Systems	N	-	_	~
FST	(FIRSTS) Fuel Storage Tanks	Y	0	2	2
GEN	Waste Generators	N	-	-	_
GHG	Greenhouse Gas Emissions from Large Facilities	N		-	-
HIS	Historic Sites Inventory	N	_	-	
IAFT	Indian & Northern Affairs Fuel Tanks	N		-	-
LTF	Land Treatment Facilities	N	4-	-	-
MINE	Canadian Mine Locations	N	-	-	-
MNR	Mineral Occurrences	N	-	-	-
NATE	National Analysis of Trends in Emergencies System (NATES)	Ν	-	-	-
NDWD	National Defence & Canadian Forces Waste Disposal Sites	N	-	-	-
NEBI	National Energy Board Pipeline Incidents	N		-	-
NEBT	National Energy Board Wells	N		-	-
NEES	National Environmental Emergencies System (NEES)	N		-	-
NPCB	National PCB Inventory	N		-	-
NPRI	National Pollutant Release Inventory	Ν	1-1	-	=
ODS	Ozone Depleting Substances & Other Halocarbons	Ν		-	-
OGWE	Oil and Gas Wells	N	-	-	-
PCFT	Parks Canada Fuel Storage Tanks	N	-	-	-
PES	Pesticide Register	N	-	-	-
REC	Waste Receivers	Y	0	0	0
REL	Relocation Permits	Y	0	0	0
RST	Retail Fuel Storage Tanks	N	-	E	H
SCT	Scott's Manufacturing Directory	Y	0	0	0
SPL	Spills	Y	0	0	0
SWP	Special Waste Permits	Y	0	0	0

Database	Name	Searched	Project Property	Within 0.25 km	Total	
WDS	Waste Disposal Sites	Υ	0	0	0	
YOGW	Yukon Oil and Gas Wells	N		_	-	
		3				_
		Total:	0	2	2	

Executive Summary: Site Report Summary - Project Property

Map DB Company/Site Name Address Dir/Dist (m) Elev diff Page Key (m) Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
1	FST	YTG - Property Management	Continuing Care Facility (60 Lazulite Road) Whitehorse YT	NW/161.0	-3.03	12
<u>1</u> .	FST	Keith's Plumbing & Heating Ltd.	Continuing Care Facility (60 Lazulite Road) Whitehorse YT	NW/161.0	-3.03	12

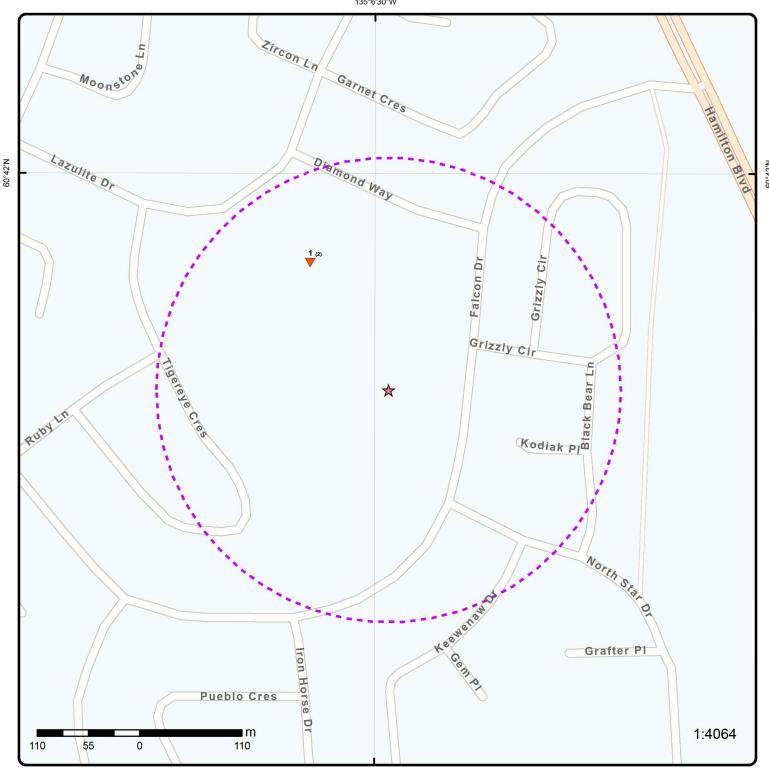
Executive Summary: Summary By Data Source

FST - Fuel Storage Tanks

A search of the FST database, dated 1997-Oct 2021 has found that there are 2 FST site(s) within approximately 0.25 kilometers of the project property.

Lower Elevation	<u>Address</u>	Direction	Distance (m)	Map Key
Keith's Plumbing & Heating Ltd.	Continuing Care Facility (60 Lazulite Road) Whitehorse YT	NW	161.02	1
YTG - Property Management	Continuing Care Facility (60 Lazulite Road) Whitehorse YT	NW	161.02	1

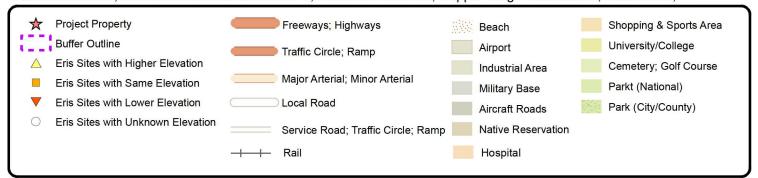




Map: 0.25 Kilometer Radius

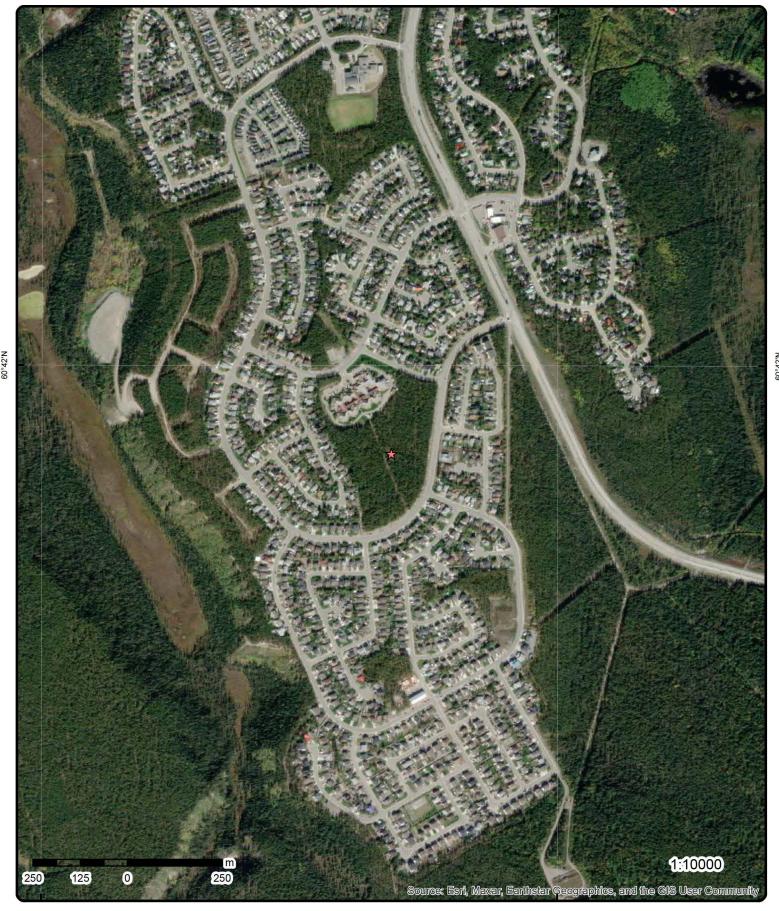
Order Number: 22053101045

Address: Lot 519, Parcel ID: 8056308 and Lot 520, Parcel ID: 8056309, Copper Ridge Subdivision.,



ERI

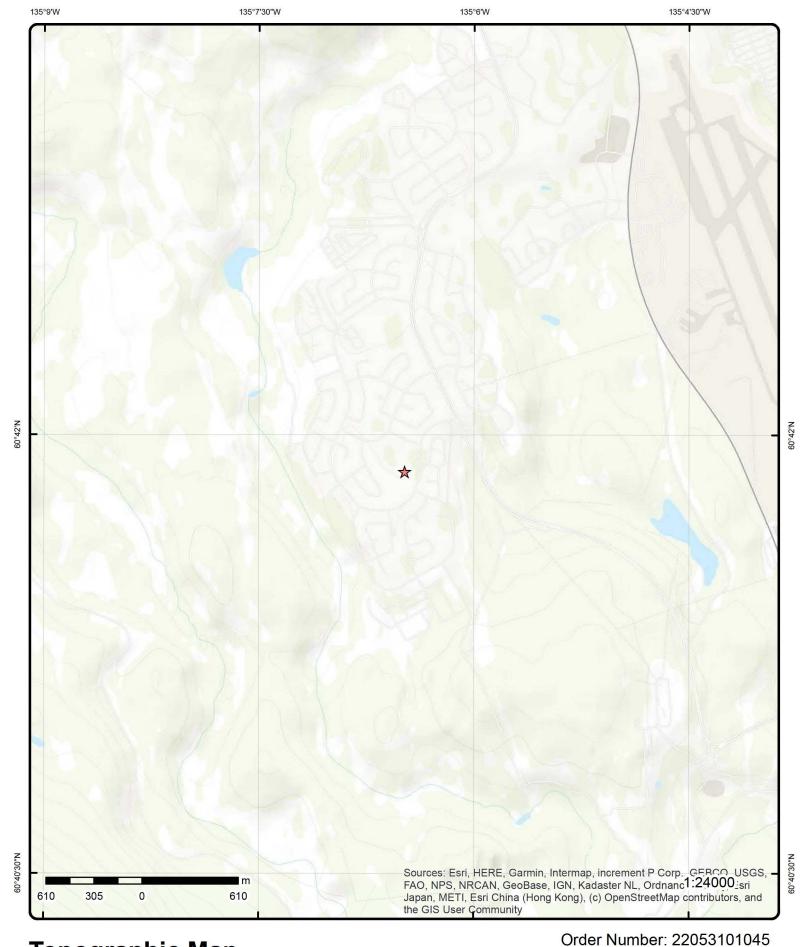
135°6′W



Aerial Year: 2020 Order Number: 22053101045

Address: Lot 519, Parcel ID: 8056308 and Lot 520, Parcel ID: 8056309, Copper





Topographic Map

Address: Lot 519, Parcel ID: 8056308 and Lot 520, Parcel ID: 8056309, Copper

ERIS

Detail Report

Map Key	Numbe Recore		Direction/ Distance (m)	Elev/Diff (m)	Site		DB
1	1 of 2	۸	IW/161.0	770.0 / -3.03	YTG - Property Mana Continuing Care Fac Whitehorse YT	agement cility (60 Lazulite Road)	FST
Permit No: Permit Statu		01057 Issued			Inspection Status:		
Permit Type		Operate			Inspection Date: Inspection By:		
Permit Expir		1/31/2005			inspection ву. Fee:	255	
Permit Issue		12/6/2001			RENEXP:	200	
App Receive		12/0/2001			Contact:	Nick Barnett	
Permit Rece					Phone:	867-667-3588	
Tank Type:					Source Year:		
Tank Size:		Not provided			File Type:	Commercial Fuel Tanks	
Product:		Not provided			Update Type:		
Legal Desc:		Lot 518; Plar	1 99-0224				
Column 1:							
Extra:							
Record Soul	rce.						
1	2 of 2	۸	IW/161.0	770.0 / -3.03	Keith's Plumbing & Continuing Care Fac Whitehorse YT	Heating Ltd. cility (60 Lazulite Road)	FST
Permit No:		01012			Inspection Status:		
Permit Statu	is:	Issued			Inspection Date:		
Permit Type		Install			Inspection By:		
Permit Expir		12/31/2001			Fee:	255	
Permit Issue	ed:	5/14/2001			RENEXP:		
App Receive	ed:				Contact:	Keith Tegart	
Permit Rece	ived:				Phone:	867-668-6611	
Tank Type:					Source Year:		
Tank Size:		Not provided			File Type:	Commercial Fuel Tanks	
Product:		Not provided			Update Type:		
Legal Desc:		Lot 518; Plar	า 99-0224				
Column 1:							
Extra:							
Record Soul	rce:						

Unplottable Summary

Total: 0 Unplottable sites

DB Company Name/Site Name Address City Postal

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. **Note:** Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.

Air Emission Permits:

The Department of Renewable Resources maintains a database of companies/organizations who have acquired a permit under the "Air Emissions Regulation", for the operation of the following types of activities. These include the manufacturing of asphalt; production and exploration of oil and natural gas; quarrying, crushing and screening of stone/clay/ shale /coal/ minerals; processing or handling of coal; equipment capable of generating/burning/using heat energy; use of incinerators; the use of equipment for incineration of special waste; electrical generating facilities; and the storage/other handling of solid, liquid or gaseous materials. The database provides information pertaining to the permit number, expiry date, status and the type of permit.

Government Publication Date: 1998- May 31, 2021

Automobile Wrecking & Supplies:

Private AUWR

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 1999-Sep 30, 2021

<u>Dry Cleaning Facilities:</u> Federal CDRY

List of dry cleaning facilities made available by Environment and Climate Change Canada. Environment and Climate Change Canada's Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations (SOR/2003-79) are intended to reduce releases of tetrachloroethylene to the environment from dry cleaning facilities.

Government Publication Date: Jan 2004-Dec 2019

<u>Chemical Register:</u> Private CHM

This database includes a listing of locations of facilities within the Province or Territory that either manufacture and/or distributes chemicals.

Government Publication Date: 1999-Sep 30, 2021

Compressed Natural Gas Stations:

Private

CNG

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 2012 -Apr 2022

Contaminated Site Inventory:

Territorial

CS

Yukon INAC Contaminated Sites Inventory is an inventory of sites of potential environmental concern compiled by Indian and Northern Affairs Canada. These sites on this inventory may or may not be contaminated and some might also be sites with solid waste/debris, old mining structures, etc. Inclusion on this list should not be taken as confirmation of contamination. Similarly, sites not included on this list should not be assumed to be free of contamination. For information on any of the sites listed below, contact the Environmental Programs Branch.

Government Publication Date: 1998-Nov 2020

Designated Material Permits:

Territorial

DMP

Order No: 22053101045

The Designated Material Regulations, under the Yukon Environment Act, mandates that anyone who is a retailer or depot operator of "designated materials" must obtain a permit. Where a depot operator has acquired a Solid Waste permit and it addresses the deport location, a designated materials permit is not required. As of May 2004, only tires are considered "designated materials". The provincial inventory provides information on the registered facility, location, permit number, status and expiry date.

Government Publication Date: Jul 2003-May 31, 2021

ERIS Historical Searches: Private EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Mar 31, 2022

Environmental Issues Inventory System:

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Government Publication Date: 1992-2001*

Contaminated Sites on Federal Land:

Federal

FIIS

FCS

Federal

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government. Includes fire training sites and sites at which Per- and Polyfluoroalkyl Substances (PFAS) are a concern.

Government Publication Date: Jun 2000-Apr 2022

Federal Identification Registry for Storage Tank Systems (FIRSTS):

Federal FRS

A list of federally regulated Storage tanks from the Federal Identification Registry for Storage Tank Systems (FIRSTS). FIRSTS is Environment and Climate Change Canada's database of storage tank systems subject to the Storage Tank for Petroleum Products and Allied Petroleum Products Regulations. The main objective of the Regulations is to prevent soil and groundwater contamination from storage tank systems located on federal and aboriginal lands. Storage tank systems that do not have a valid identification number displayed in a readily visible location on or near the storage tank system may be refused product delivery.

Government Publication Date: May 31, 2018

Fuel Storage Tanks:

The Yukon Department of Renewable Resources maintains an inventory of fuel storage tanks within the Territory. The tanks are registered to the department pursuant to Storage Tank Regulations, Environment Décret 1996/194 with permits. The Storage Tank Regulations came into effect on January 1, 1997. The regulations include requirements for the storage of hazardous substances, including petroleum products, pursuant to Part 10 of the Environment Act. This database applies to new tanks that are being installed or constructed; and existing tanks that undergo major renovations after January 1, 1997. Fuel storage tanks not found in this database include: those that have a capacity of 4,000 litres or less and are used to supply comfort heating systems; tanks that are used to store crude oil, and tanks used for aboveground storage of hazardous substances (other than petroleum products) with a capacity of less than 2000 litres.

Government Publication Date: 1997-Oct 2021

Waste Generators: Territorial GEN

List of waste generators included in waste manifest data made available by Environment Yukon.

Government Publication Date: 1997-Nov 2019

Greenhouse Gas Emissions from Large Facilities:

Federal

GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO2 eq).

Government Publication Date: 2013-Dec 2019

Historic Sites Inventory:

Territorial HIS

The Heritage Branch of the Yukon government maintains an inventory of historic sites within the Territory. The database provides information on history, condition, ownership, location, resource type, and date of construction. Please note that even though the inventory was initiated in 1987, the database does contain records where the date of construction of a historic site was previous to 1895. The list of historic sites is no longer available from the Yukon government.

Government Publication Date: 1987-Aug 2002*

Indian & Northern Affairs Fuel Tanks:

Federal

IAFT

Order No: 22053101045

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

<u>Land Treatment Facilities:</u>
Territorial LTF

The Yukon's Contaminated Sites Regulation mandates that permits must be acquired for the construction and operation of Land Treatment Facilities - for the purpose of restoring and rehabilitating contaminated soil, sediment, snow or other similar media. The provincial inventory provides information on the registered facility, location, permit number, status and expiry date.

Government Publication Date: 2002-May 31, 2021

Canadian Mine Locations:

Private MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Government Publication Date: 1998-2009*

Mineral Occurrences:

Territorial MNR

The Yukon Geology Program maintains an inventory of 2577 separate mineral occurrences in the Yukon, which document metallic, industrial mineral and coal deposits. Information within the database pertains to owner/operator, year, name, claim name, status, deposit type, mining district, tectonic element and commodity.

Government Publication Date: 1900-Feb 2022

National Analysis of Trends in Emergencies System (NATES):

Federal NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

Government Publication Date: 1974-1994*

National Defence & Canadian Forces Waste Disposal Sites:

deral NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

Government Publication Date: 2001-Apr 2007*

National Energy Board Pipeline Incidents:

Federal NFR

Locations of pipeline incidents from 2008 to present, made available by the Canada Energy Regulator (CER) - previously the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008-Jun 30, 2021

National Energy Board Wells:

Federal

NEBT

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES):

Federal

IEES

Order No: 22053101045

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets 'or Trends' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003*

National PCB Inventory: Federal NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory:

Federal

NPRI

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-May 2017

Ozone Depleting Substances & Other Halocarbons:

Territorial

ODS

The Yukon's Ozone Depleting Substances & Other Halocarbon (ODS) Regulations regulate the handling, use and sale of Ozone Depleting Substances (ODS) in the Yukon. The release of ODS's are prohibited, with certain exemptions found in s.2 (2) of the Regulations. Ozone depleting substances are considered to be CFC's, Halons, Chlorocarbon compounds and Hydro chlorofluorocarbons. Other Halocarbons refer to Hydrofluorocarbons and Perfluorocarbons. The provincial inventory provides information on the registered facility, location, permit number, status and expiry date.

Government Publication Date: 1998- May 31, 2021

Oil and Gas Wells:

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Feb 28, 2022

Parks Canada Fuel Storage Tanks:

Federal

PCFT

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Pesticide Register: Territorial PES

This is a database of individuals who apply for a "service", "vendor" or "usage" license for those specific pesticides and fertilizers that require a permit. The database is maintained by the Department of Renewable Resources, and provides information pertaining to the permit number, expiry date, status and the type of permit.

Government Publication Date: 1998-May 31, 2021

Waste Receivers: Territorial REC

The Department of Renewable Resources maintains a "Waste Manifest" which details information regarding waste transfers from generating facilities to registered Receivers. The provincial inventory provides information on the waste receiving facility name, location, physical state (solid/liquid), waste type, amount/quantity received and the degree of danger.

Government Publication Date: 1997-Nov 2019

Relocation Permits:

The Yukon's Contaminated Sites Regulation mandates that permits must be acquired in order to move contaminated material from one site to another. The provincial inventory provides information on the registered facility, location, permit number, permit type, and status.

Government Publication Date: May 2004- May 2021

Retail Fuel Storage Tanks:

Private

RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999-Sep 30, 2021

Scott's Manufacturing Directory:

Private

SCT

Order No: 22053101045

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Spills: Territorial SPI

Environment Canada maintains an inventory of known spills that have occurred throughout the Yukon and are reported under the Yukon Spills Regulations. The database identifies spill source, substance discharged, amount of discharge, reason for spill and approximate location of occurrence within the Yukon.

Government Publication Date: 1972-2000

Special Waste Permits: Territorial SWP

The Special Waste Regulations, under the Yukon Environment Act, mandate that anyone who generates, stores, handles, mixes, transports, disposes or releases special wastes is to acquire a "Special Waste" permit. Permits are required for both special waste generators and special waste facilities. The provincial inventory provides information on the generating/waste receiving facility, location, permit number, permit type (generator, facility), status and types of waste generated/received.

Government Publication Date: 1998-May 2021

Waste Disposal Sites:

Territorial WDS

This inventory pertains to active, regulated waste disposal sites within the Yukon, where registered sites hold a permit for acceptance of different forms of solid waste. This database provides information in regard to permit number, type of waste accepted, status and permit type. Please note that references within the database to SPW and AER, are in regard to the Special Waste Regulation and Air Emissions Regulation respectively.

Government Publication Date: 2000-May 31, 2021

Yukon Oil and Gas Wells:

Territorial YOGW

The Yukon Oil and Gas Resources Branch is responsible for maintaining a database of all oil and gas wells drilled in the Yukon. All well locations were provided by the National Energy Board and verified through branch field inspections. The database details information on well owner/operator, well name, location, drill date, well id, status, elevation, class, and depth of the well.

Order No: 22053101045

Government Publication Date: Apr 1957-Mar 2022

Definitions

<u>Database Descriptions:</u> This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

<u>Detail Report</u>: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

<u>Distance:</u> The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

<u>Direction:</u> The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

<u>Elevation:</u> The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

<u>Map Key:</u> The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

<u>Unplottables:</u> These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.