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*GLOBAL PERSPECTIVE.
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REPORT

Town of Claresholm Abe Tinney, CAO, Planning Manager

Phase I Environmental Site Assessment Area Structure Plan

Alberta Road, West of Highway 2 and East of 8th St



AUGUST 2023



Platinum
member

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EXECUTIVE SUMMARY

The Town of Claresholm retained Associated Environmental Consultants Inc. (Associated) to conduct a Phase 1 Environmental Site Assessment (ESA) at lands legally defined as Portion Block 7, Plan 7410624; Linc 0032892564 and Lot 5, Block 8, Plan 0715848 (the Site). The Phase 1 ESA was initiated to support the Town’s Area Structure Plan to develop approximately 38 acres.

The assessment followed the general protocols defined in the *Canadian Standards Association (CSA) Z768-01-R2022 – Phase I Environmental Site Assessment (CSA 2022)* and was conducted in general accordance with the procedures and practices contained in the *Alberta Environmental Site Assessment Standard (AEP 2016)* adhering to the *Alberta Environmental Protection and Enhancement Act (RSA 2000, c. E-12)*.

The scope of work in the Phase 1 ESA included reviewing relevant historical documents and photographs, and visually inspecting the Site and surrounding areas for signs of contamination or areas of potential environmental concern.

The Site was inspected on July 18, 2023. The vegetation on Site was generally healthy, except for an area of stressed vegetation in the north portion of the Site, and a small area of distressed vegetation in the south of the Site. These north and south impacted areas are suspected to be associated with an excavated borrow pit, and a former parking/storage area, respectively.

Based on the Phase 1 ESA results, no APECs were identified on Site and two APECS were identified in the surrounding area. Table E-1 summarizes off-Site APECs with associated PCOCs.

Table E-1 Summary of Off-Site APECs

APEC	Item/Location	Description	PCOCs
1	Brandt Agriculture	Agricultural Machinery dealership (circa 1979) with past and ongoing equipment repair and maintenance. North of Site (~30 m)	PHC PAH Metals Salinity
2	Davis Chevrolet Buick GMC	Car Dealership (circa 2004). Presence of a fuel storage tank and waste storage area and practices) associated with vehicle repairs South of the Site (~40 m)	PHC PAH Metals Salinity

Notes: APEC – area of potential environmental concern; PCOC – potential contaminant of concern; PHC – petroleum hydrocarbons; PAH – polycyclic aromatic hydrocarbon; VOC – volatile organic compounds

Based on the Phase 1 ESA results, there is a **low to moderate**¹ potential that current or past activities at the Site and at neighbouring properties have led to soil, vapour, and/or groundwater contamination. The Site reconnaissance, which included an inspection, supports this conclusion.

¹**High potential** means there is physical, visual, olfactory, or recent factual evidence of contamination on Site. **Moderate potential** means there is evidence or knowledge of past or current land uses or infrastructure with the potential to release contaminants into the environment. **Low potential** means there is little or no evidence of sources of contamination.

Based on the information gathered during this Phase I ESA, there are no onsite APECs that warrant further, standalone investigation. The area of stressed vegetation in the north is thought to be associated with natural levels of salinity/sodicity parameters uncovered during a borrow pit excavation, and does not represent an APEC for the Site, however there may be benefit in sampling the area to evaluate the levels of sodicity/salinity in the soil which may have an effect on the suitability of the soils for reuse at the Site. The area of stressed vegetation in the south section of the Site is expected to present a low environmental risk to the Site, based on its limited size and lack of apparent cause. Soil sampling of these impact areas could be completed in conjunction with construction activities if deemed necessary.

Regarding the off-Site APECs, there is a moderate potential for possible groundwater contamination to migrate towards the Site, but this represents a low risk to on-site human and environmental receptors. If future development at the Subject Site involves deep excavations and/or installation of domestic wells, investigations of soil, soil vapour and groundwater quality combined with possible soil and/or water treatment would be warranted.

Lastly, based on likelihood of encountering natural background salinity in shallow soils, salinity soil management would be required during future development, especially if new vegetation is planned and/or materials are to be hauled offsite.

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LIST OF ABBREVIATIONS

AER	Alberta Energy Regulator
AMWI	Alberta Merged Wetland Inventory
APEC	Areas of potential environmental concern
ASP	Area Structure Plan
ATS	Alberta Township System
ESA	Environmental Site Assessment
ESAR	Environmental Site Assessment Repository
MDP	Municipal Development Plan
NPRI	National Pollutant Release Inventory
PCOC	Potential contaminants of concern
SAR	Sodium Adsorption Ratio
SCC	Safety Codes Council
WWID	Water Wells Information Database

1 INTRODUCTION

The Town of Claresholm (the Client) retained Associated Engineering Ltd. (Associated) to complete a Phase 1 Environmental Site Assessment (ESA) for lands defined as Portion Block 7, Plan 7410624; Linc 0032892564 and Lot 5, Block 8, Plan 0715848[the Site] as part of an Area Structure Plan (ASP). The ESA was initiated to support the Town's ASP as it properly conceptualizes the approximately 38 acres of mixed development within Claresholm, thus ensuring sustained economic growth for the community. The Town intends to develop the land in accordance with the current Municipal Development Plan (MDP). which anticipates zoning commercial development along Highway 2, with residential uses adjacent.

1.1 Objective

The objective of the Phase 1 ESA was to determine if areas of potential environmental concern (APECs) and potential contaminants of concern (PCOCs) are present at the Site, in preparation for developing the Site as part of the ASP.

1.2 Scope

The assessment followed the general protocols defined in the *Canadian Standards Association (CSA) Z768-01-R2022 - Phase I Environmental Site Assessment (CSA 2022)* and was conducted in general accordance with the procedures and practices contained in the *Alberta Environmental Site Assessment Standard (AEP 2016)* adhering to the *Alberta Environmental Protection and Enhancement Act (RSA 2000, c. E-12)*.

The following methods were used to evaluate the level of environmental risk associated with the Subject Site:

- A review of historical documents related to the property, including historical land titles, regional and/or municipal property records, and other relevant publications, to assess the history of the Subject Site and neighbouring properties;
- A review of previous environmental reports;
- Interviews to obtain anecdotal or documented accounts of current and past uses of the Subject Site and neighbouring properties;
- A search of available environmental databases and records;
- A search of applicable government resources; and
- A Site inspection conducted by Associated on July 18, 2023.

The scope of work for this Phase I ESA did not include sampling or testing of soil, groundwater, surface water, sediment, vapour, or building materials. As a result, potential environmental concerns related to undocumented historical use or unknown buried debris remain as possibilities, as an extensive investigation of these materials was beyond the scope of this project. For this reason, the potential exists for adverse environmental conditions to be encountered in locations not specifically investigated. In addition, this Phase I ESA provides a judgement on whether hazardous building materials (HBMs) are likely present (based on the age of the buildings) but does not include a formal HBM survey.

2 LOCATION AND LAND USE

2.1 Location

The Site is approximately 38 acres, including a Portion of Block 7, Plan 7410624; Linc 0032892564 and Lot 5, Block 8, Plan 0715848 (GoA 2023). These lands are situated west of Highway 2 and Alberta Road, and east of 8 Street W in Claresholm, AB. The Site boundaries are shown on **Figure 1-1, Appendix A**.

2.2 Current Land Use

The Site is currently a vacant undeveloped lot. The Site is currently zoned C2 – Highway Commercial on the eastern and northern boundaries, and the southwestern areas of the Site are zoned Country Residential (Claresholm 2009).

2.3 Historic Land Use

The Site was acquired for cattle farming in the 1970s, as part of a larger land purchase. Portions of the original land parcel were developed for commercial and residential use, but the Site remained undeveloped. The current owner acquired the Site in 2003, and has used it for horse pasture, highway advertising (billboards) and as a source of fill material for other sites (Wilson 2023. Pers. comm.) since that time.

2.4 Adjacent Land Use

Occupants of adjacent properties, their operations, land use zoning and any potential APECs observed are summarized in **Table 2-1**.

Table 2-1 Adjacent Land Use

Direction from Site	Land Use Zoning ¹	Operations	Potential APECs
North	Service Industrial	Farm equipment dealership	Mechanical equipment repair
East	N/A – Lands not within the Town of Claresholm Boundaries	Agricultural	None
South	Highway Commercial	Commercial (e.g. meat processing and car dealership)	None
Southwest	Country Residential	Residential	None
West	Agricultural Transitional	Agricultural use, with oil and gas well approximately 300 m west of Site boundary.	Oil and gas operations

¹Land use zoning based on *Town of Claresholm Land Use Districts Map, Bylaw No. 1525*.

3 PHYSICAL SETTING

3.1 Regional Setting

The Site is located within the Mixedgrass Natural Region (NRC 2006), which is characterized by predominantly drought-tolerant grasses like blue grama and needle-and-thread grass, with June grass and western wheat grass also common. Arid winds, high summer temperatures and low precipitation resemble adaptations native vegetation in this

sub area exhibit, such as deep roots, shorter life cycles, and dormancy in dry periods. The 2022 Annual Crop Inventory (AAFC 2022) indicates the Site contains two dominant vegetation cover types; pasture/forages, native grass or grassland, and three minor vegetation types; canola/rapeseed (*Brassica napus*), barley (*Hordeum vulgare*), and water. These coverages were verified in the field as the Site largely consisted of tame pasture, with distinct native grass patches throughout.

3.2 Climate

The nearest climate station, Claresholm Waterworks, is located approximately 2.7 km south of the Site, at an elevation of 1,008 metres above sea level (masl). This station is currently active and climate normal data are available from 1981 to 2010. The climate is characterized by cold, dry, winters and warm, dry summers. Daily average temperatures range from a minimum of -5.6°C in January, to a maximum of 17.6°C in July. The mean annual precipitation in this region is 424.2 mm, with 316.1 mm falling as rain and the remainder falling as snow (ECCC 2023).

3.3 Topography

The regional topography slopes gently south-southeast. Locally, the Site is relatively flat and gently slopes to the south (Figure 1-1, Appendix A).

3.4 Hydrology

Locally surface water follows local topography to the south, toward ditches and municipal sewer systems. Willow Creek is the closest surface water body to the Site, located approximately 7.6 km west (GoA 2023).

3.5 Soils and Surficial Geology

A review of the Alberta Soil Inventory Database (AGRASID 2023) indicates soils at the Site are from the Whitney series, Regosolic Dark Brown Chernozem on a medium textured till loam, silt loam, and very fine sandy loam parent material (Agrasid Polygon 6136 WNY4/U1). The soils in the area drain well and consist largely of two distinct soil horizons (A and C). The field assessment identified exposed soils expressing elevated clay coarse-grained rock material, primarily situated on the northern and southeastern portion of the Site.

Surficial geology at the Site consists of moraine deposits, consisting of glacially deposited till with a mixture of clay, silt, and sand, with minor pebbles, cobbles, and boulders (Fenton et. Al. 2013). Salinity can affect 5 to 14.9 % of surface soils in the area of Claresholm and is predominantly found in slopes, seeps, drainageways and water channels (Bower 1965). Contact salinity, which occurs where permeable water-bearing surface layers such as sands and gravels overlie less permeable layers like silts and clays, dominates in sandy, gently rolling areas of Central Alberta and Claresholm (Kwiatkowski, 1995).

According to the nearest water well drilling report with complete information, the soil consisted of the following: brown till and clay from surface to 4.27 metres below ground surface (mbgs) underlain by sandstone from 4.27 mbgs to 37.49 mbgs. Alternating layers of shale and sandstone were observed from 37.49 to 54.86 mbgs. (AEP 2022b).

3.6 Bedrock Geology

The bedrock geology of the region consists of non-marine olive brown mudstone interbedded with fine to coarse-grained sandstone and siltstone of the Porcupine Hills Formation (Prior et Al. 2013).

3.7 Hydrogeology

Localized groundwater beneath the Site is inferred to flow to the south following surface topography. The inferred groundwater flow direction is a good approximation, but the actual direction would require field verification as there may be localized variation in groundwater flow direction.

3.8 Receiving Environments

3.8.1 Surface Water

Surface water runoff in the vicinity of the Site is controlled by topography and municipal stormwater drainage. Surface water runoff to the north, east, and west is controlled by topographic grade and drains to the local environment. Surface water runoff to the south is controlled by municipal stormwater drainage. Within the Site, surface water is controlled by topographic grade, which slopes to the south, toward the commercial development.

The closest water body to the Site is Willow Creek, approximately 7.6 km west.

3.8.2 Wetlands

A desktop review of the Alberta Merged Wetland Inventory (AMWI) (AEP 2020) found no wetland cover within the Site. Associated conducted a desktop wetland delineation to determine if any wetlands not identified in the AMWI were present. The methodology adhered to the Alberta Wetland Identification Directive (GoA 2015); however, the precipitation analysis was modified. The delineation consisted of analyzing topographic and vegetation signatures observed in temporal, representative images based on precipitation analysis to determine wetland ecological boundaries

Imagery obtained from the Aerial Photographic Record System (AEP 2021), Hexagon's HxDR catalogue (Hexagon 2023), and Sentinel Hub (Sinergise Ltd. 2023) from 1957, 1962, 1966, 1974, 1979, 1983, 1985, 1992, 1999, 2005, 2009, 2012, 2015, 2019, 2020, and 2021 was used for this Phase 1 ESA. Each year and month from 1960 to 2022 were assessed for relative wetness and classified as wet, normal, or dry. Classification for each period was completed as follows: wet if precipitation was greater than the 70th percentile, normal if precipitation was between the 30th and 70th percentile, and dry if precipitation was less than the 30th percentile. Precipitation data was obtained from the Alberta Climate Information Service's Interpolated Weather Data Since 1901 for Alberta Townships (ACIS 2020). Images were selected to have a variation of wet and dry years, and were interpreted for changes in topography, vegetation patterns, and evidence of soil saturation or inundation. The seasonal precipitation data was considered when delineating approximate boundaries in ArcMap.

Based on the wetland historical photos and dataset review, no regulated wetlands were identified on Site.

3.8.3 Groundwater Including Domestic Wells

A review of the Alberta Water Wells Information Database (WWID) indicates a total of nine water wells (seven domestic and two domestic and stock) are located within 500 m of the Site. According to the WWID, the closest well to the Site is 151 m away. Refer to Section 4.4.

4 RECORDS REVIEW

4.1 Historical Land Titles

Below is a review of the historic land titles available for the two land parcels that comprise the Site. Land title records for the Site are provided in **Appendix B**.

4.1.1 Linc 0032892564 and Lot 5, Block 8, Plan 0715848

The current listed owners purchased this parcel in 2015. No prior owners are listed on the title. Thirteen total instruments are listed on the title, including four caveats, two utility rights-of-way, two easements, and four restrictive covenants.

4.1.2 Plan 7410624, Block 7

The current listed owners purchased this parcel in 2007, as part of a subdivision plan. No prior owners are listed on the title. Eleven total instruments are listed on the title, including four caveats, two easements, and four restrictive covenants.

4.2 As-Built Drawings

No as-built drawings for the Site were available for review.

4.3 Aerial Photographs

Aerial photographs/imagery were used to analyze the land use history of the Site and neighbouring properties. The analysis of aerial photographs for the Site is summarized in chronological order in **Table 4-1**. Aerial photographs are provided in **Appendix C**.

Table 4-1 Aerial Photograph Analysis

Aerial Photo Number (Date)	Site	Surrounding Area
C-1 (1922)	Undeveloped	Area to the north and west is all grassland with a small farm area in the northwest. The farm has one large building and two small dirt roads that run diagonally through the property, with one main road to the south. West and south of the Project Site is all grassland. The Project Site is 100% empty grasslands with a small lake visible in the south. A main road runs along the east side of the Site.
C-2 (1962)	Undeveloped	The small farm in the north is more developed. Roads on the farm are more defined. Area to the west, south and east of the Site remain unchanged.
C-3 (1966)	Undeveloped	Area to the north not visible in the aerial photo. The area surrounding the Site remains unchanged. The area around the lake in the south appears to have been turned into farmland.
C-4 (1974)	Undeveloped	Farm in the north added a building. Everything remains unchanged except for a new farm that was added to the south, near the lake. A

Aerial Photo Number (Date)	Site	Surrounding Area
		<p>large building is visible with small roads and some trees along the road. A property line and trees are visible on the southern boundary of the Site.</p>
C-5 (1979)	Undeveloped	<p>Farm in the north has expanded with a larger building, gravel / paved ground, with parked cars or machinery. This is the first indication of the agricultural machinery dealership. The area surrounding the Site is still mostly empty field. The lake to the south has got smaller/ dried out. The farm near the lake has expanded the property line to the west. More pronounced sections are visible on the property, with a couple of unknown small objects/ structures added. The main road on the east of the Site has expanded.</p>
C-6 (1983)	Undeveloped	<p>The farm in the north remains unchanged. The area surrounding the Site is still mostly empty field. The lake in the south appears dry. The farm near the lake added two small buildings on the west side. The farm's property line of trees appears to have expanded to include the lake.</p>
C-7 (1985)	Undeveloped	<p>More gravel/paved ground is visible on the farm in the north. The surrounding area remains unchanged. The farm area in the south is more defined by a line of trees surrounding the property.</p>
C-8 (1992)	Undeveloped	<p>Farm to the north remains unchanged. The farm in the south shows more development, with two additional small buildings and a disturbed area in the southwest corner. The land on Site is lighter in colour/ disturbed. The main road along the east of the Site appears to have widened.</p>
C-9 (1999)	Undeveloped	<p>The farm in the north appears to have more parked vehicles. The land on Site is no longer disturbed, grass has grown in. The farm in the south is more developed with a new building in the southwest corner. Main highway along the east now has two distinct lanes.</p>
C-10 (2005)	Partially developed with billboards along eastern property line and cleared of vegetation in the south and southeast.	<p>The land on Site shows a large, disturbed patch with a small road leading south and east. The farm/residential area in the south has added more buildings on the north side and the parking lot has expanded northwards as well with a large new building. A disturbed area is seen north of the large new building.</p>
C-11 (2009)	Partially developed	<p>The farm in the north remains unchanged. The land on Site appears undisturbed, except for a strip in the southeast along the highway where grass was removed. The outline of the lake is no longer visible. The farm area is more developed, with distinct roads and</p>

Aerial Photo Number (Date)	Site	Surrounding Area
		lines of trees. A new building and large, paved parking lot were added to the east of the farm. The highway along the east remains unchanged. The area in the southwest of the site is now developed with 7 residential lots.
C-12 (2012)	Partially developed	The farm in the north has more parked vehicles/ farming equipment along the eastern property line. A new building attachment was added to the main building in the middle of the property. The disturbed patch on Site remains unchanged however the road leading south has faded. The residential area in the south has become more developed with property lines being more pronounced, a couple more buildings being added, and a smaller parking lot in the east. The highway remains unchanged.

4.4 Water Well Records

The WWID was searched for water well receptors within 500 m of the Site. The locations shown on the WWID may not be representative of the physical location of the well, because the record is shown to be at the centre of the legal subdivision or quarter section if no GPS coordinates are provided in the water well report. As such well records shown at the intersection of the ATS grid adjacent to the search area are potentially located within the 500 m radius. Nine water wells (nine domestic, two domestic & stock) are potentially located within 500 m of the Site. Table 4-2 summarizes the possible existing wells, including exclusive identification numbers, LSD of each well, use, and total depth. Available static water levels indicate a local groundwater depth of approximately 3.0 mbgs. The approximate distance and direction of the Site indicates the placement of the Well ID location on the map. Locations at the intersection of ATS gridlines are indicated as 'unknown' in parentheses. Field verification of the wells is required to determine the physical location in relation to the Site, status, and current use. Water well records and an illustration of the search area are provided in **Appendix D**.

Table 4-2 Alberta Environment and Parks Water Wells Potentially Within 500 M Radius of the Site

Well Identification	LSD	Date Completed	Use	Total Depth (m)	Approximate Distance and Direction from Site
140558	SW-35-12-27-4	1965-08-01	Domestic	36.58	338 m south
140559	SW-35-12-27-4	N/A	Domestic	39.62	338 m south
140560	NW-35-12-27-4	N/A	Domestic	44.20	151 m east
293425	14-35-12-27-4	2000-04-11	Domestic	42.67	515 m east
293426	14-35-12-27-4	2000-04-10	Domestic	42.67	334 m east

Well Identification	LSD	Date Completed	Use	Total Depth (m)	Approximate Distance and Direction from Site
293427	14-35-12-27-4	2000-04-20	Domestic	54.86	581 m east
1770104	4-2-13-27-4	2009-05-06	Domestic & Stock	73.15	338 m north
1770105	4-2-13-27-4	2009-05-05	Domestic & Stock	54.86	270 m north
1770291	1-3-13-27-4	N/A	Domestic	N/A	151 m northwest

4.5 Environmental Site Assessment Repository

The ESAR is a database of facilities with recorded scientific and technical information or facilities for which an application for a reclamation certificate has been submitted to the province. It should be noted that data obtained from an ESAR search does not imply that a facility is or ever was contaminated (AEP 2022c).

A search on ESAR returned two reports for the area south of the Site. Both reports were conducted by Millennium EMS Solutions Ltd. According to the Semi-Annual Groundwater Monitoring Volker Stevin Highway Maintenance Yards CMA 26 Program done in Fall 2022 and Spring 2022, groundwater elevations exhibited upward trends at all monitoring well locations at the Site. The groundwater direction is predominantly to the east and chloride concentrations exhibited weak upward trends in all monitoring wells; MW-03 exhibited the highest chloride concentration identified at this well since 2006. Although sodium concentrations were relative to Tier 1 guidelines, they increased at monitoring wells MW-01 and MW-04, while MW-03 exhibited a mild downward trend consistent with results since 2015.

The calculated SAR values for samples of groundwater remained consistent with historical results. The SAR values varied between 9.6 and 16.5. MW-01, MW-02, and MW-04 exhibited a faint upward trend, whereas MW-03 exhibited a weak downward trend.

4.6 Storage Tank Information

The Safety Codes Council (SCC) is responsible for services related to aboveground and underground storage tank management in Alberta, including historical records of tanks registered in the province of Alberta or that were previously inventoried. While this database is incomplete, a search for pertinent information is still worthwhile.

Based on a query of the SCC tank database no storage tanks were identified to be present at the Site (SCC 2023).

The search results are provided in **Appendix F**.

4.7 Alberta Energy Regulator Incident Report Database

The Alberta Energy Regulator (AER) is a database of facilities with recorded scientific and technical information or facilities for which an application for a reclamation certificate has been submitted to the province. A OneStop review conducted within a 1 km buffer zone identified no known results.

Based on the review of the AER database and OneStop, no environmental concerns were identified.

The search results are provided in **Appendix F**.

4.8 ABACUS Datagraphics Database Results

The ABADATA database was searched within a 1 km radius of the Site. The findings are discussed below, and the search results are provided in **Appendix G**.

4.8.1 Complaints

A complaint was reported on May 19, 2001, within LSD 09-34-012-27 W4, 300 m west of the Site, associated with CNRL EASTM 9-34-12-27 oil and gas well. The source of the complaint was unknown and was reportedly caused by conversion, and concerns were for human health and operational impact – flare. The complaint was located 300 m to the west of the subject Site.

Since the location of the complaint was 300 m west and cross-gradient of the Site, no areas of potential environmental concern were identified.

4.8.2 Pipelines

The search identified two pipelines licensed by Canadian Natural Resources Limited in 2002 and 2004. Both pipelines are Z245.1 operating at 719 psi, 3,591 grade, with 0 mol/lmol of H₂S. The pipelines are located 300 m west and 200 m northeast at their closest points, and do not cross the Site boundaries.

Since the two pipelines were located a minimum of 300 m to the west and 200 m to the northeast no areas of potential environmental concern were identified.

4.8.3 Oil and Gas Wells

The search identified two oil and gas wells within the search area. CNRL EASTM 9-34-12-27 (Licence # 0252580) is located 300 m west of the Site, and CNRES CLARESHOLM 4-2-13-27 (Licence # 0290486) is located 200 m northeast.

Since the two oil and gas wells were located 300 m to the west and 200 m to the northeast of the Site, no areas of potential environmental concern were identified.

4.9 National Pollutant Release Inventory

The National Pollutant Release Inventory (NPRI) is Canada's public release, disposal, and transfer inventory. It monitors over 320 pollutants from over 7,000 Canadian facilities. Factories producing a variety of products, mines, oil and gas operations, power plants, and sewage treatment plants are among the facilities required to file reports.

The information that facility owners and operators are required to disclose to the inventory helps Canadians comprehend pollutant releases in their communities, encourages actions to reduce pollution, and enables progress monitoring. The NPRI compiles information on pollution from facilities, such as: releases from facilities to air, water, or land; disposals at facilities or other locations; transfers to other locations for treatment and recycling; and transfers from facilities to other locations for treatment and recycling.

A NPRI review identified no known releases within a 1 km radius of the Site. Therefore, there is a low potential that land use activities causing in pollutant releases have resulted in contamination of soil, soil vapour, and/or groundwater at the Site.

The search results are provided in **Appendix F**.

4.10 Previous Reports

Previous environmental reports pertaining to the Site were requested from the current land owners, Jan and Les Wilson. There were no reports commissioned for the subject Site however the owner provided one report for an adjacent property. Pertinent details from this report is summarized below:

Phase I ESA, Phase I Environmental Site Assessment: 11 Alberta Road, Claresholm, Alberta (AMEC 2006)

In 2006, AMEC Earth and Environmental (AMEC) completed a Phase 1 Environmental Site Assessment for the property located at 11 Alberta Road, Claresholm, Alberta. From the assessment AMEC concluded the following:

- The assessment was completed on the northern portion of Lot 10 in July 2006
- The site was stripped of vegetation and other surficial soils
- No buildings were present
- No fuel storage tanks, groundwater wells, on-site dups or landfills were identified
- There was no pertinent information regarding the current Site
- No further action was recommended (AMEC).

5 INTERVIEWS

Associated contacted the current landowners, Jan and Les Wilson, for information regarding the Site, their use of the land, any environmental issues noted by them, and any history associated with the Site. According to their correspondence, the previous owners used the Site as a portion of their cattle farming operations. The current owners took over title in 2004, and have used the land for cattle pasture, highway advertising (billboards) and as a source of fill material for other sites. The current property owners have not imported any fill material to the Site however noted that during the twinning of Highway 2 some mixed fill was brought onto the Site and exchanged for clay, in an area adjacent to the service road. The owner had that fill removed from Site during commercial development to the south of the Site. Reportedly, Meadow Creek Sausage and Meat Ltd was developed in 2013/2014 and the Ford car dealership in 2004/2005.

The owner noted no buried tanks, and has not commissioned any environmental investigations for the Site.

Copies of the landowner communication and the provided report are included in **Appendix I**.

6 SITE VISIT

6.1 Exterior Observations

The general topography of the Project area is flat, with a gentle slope to the southeast. The area is unpaved, and some stockpiles and a depression (borrow pit) were observed. Surface water drains into a ditch leading to the road. Vegetation on Site is generally healthy, except for an area of stressed vegetation in the north portion of the Site, and a small area of distressed vegetation in the south of the Site.

The area of stressed vegetation in the north of the Site is lower in elevation than the surrounding land, and is bordered by earth berms. The appearance is consistent with a borrow pit excavation, and could potentially be the source of clay removed from Site, as discussed in **Section 5**. A white coloured layer covering the soil was observed on the property in the north, which is assumed to be causing stressed vegetation. The white coloured layer observed on Site appears consistent with the description of sodic and/or saline soils (McKenzie and Woods 2010), and may be the contact salinity layer referenced in **Section 3.5**. Sodic soils have high levels of sodium in the layer of soil beneath the topsoil which can result in reduced plant growth, plant toxicity, and changes to the soil structure that reduce water infiltration. (McKenzie and Woods 2010) The owner stated this area sometimes pools rain runoff which has leached up small amounts of native salinity (Wilson, pers. Comm., 2023), but no assessment has taken place to assess the salinity or sodicity levels at the Site. Based on the information provided from the site visit, the information provided in Section 3.5, and Section 5, it is believed that the stressed vegetation in the north is the result of naturally occurring background salinity/sodicity that was uncovered during the borrow pit excavation. The stressed vegetation does not represent an APEC for the site, however the soil changes referenced above reduce water retention in sodic soils and may have an effect on the ability to achieve proper compaction, impacting their reuse on Site. Soil sampling of the stressed vegetation area for salinity parameters may be performed in conjunction with pre-construction activities (i.e. Geotechnical investigation) to assess the soils.

The area of distressed vegetation in the south of the Site in the former Parking/Storage Area just north of (Meadow Creek Sausage and Meat Ltd., is relatively small with no readily apparent cause. The grass within a small area (1.5 M²) was yellow and the ground surface appeared saturated. The adjacent grasses were green and thriving. Based on the size of the APEC it is believed to represent a low environmental risk and does not warrant further investigation prior to beginning construction. The contractor should be advised of the small area of stressed vegetation at the Site, and soil sampling of the APEC may be completed in conjunction with construction activities, if deemed necessary. Associated does recommend caution while excavating in the area, and examining for signs of contamination in the subsurface soils.

Photographs of the Site and distressed vegetation areas, are included in **Appendix J**.

There are currently no buildings or structures on the Site.

6.2 Neighbouring Properties

The property to the north belongs to an agricultural machinery dealership (Brandt Agriculture), and is approximately 30 m away from the boundary of the Site. The building on the property is a vehicle and equipment repair workshop composed of steel, concrete, and metal sheets. The heating fuel source is natural gas and cooling is by air conditioning. Mechanical equipment on the property includes hydraulic lifts, vehicle hoists, and farming machinery. Fuels and other hazardous materials are possibly stored on Site. The interior of the building was not inspected. This property represents an Area of Environmental Risk to the Site (**APEC 1**).

The properties on the southern boundary are used for residential and commercial purposes. Meadow Creek Sausage and Meat is situated approximately 5m south of the Site. It is a one-story building comprised of a steel frame, concrete flooring and metal sheet roofing. The building uses natural gas for heating and air conditioning for cooling. Onsite staff confirmed that the business uses the municipal sewage system and potable water supply. A drain entering a drainage channel was observed from the back of the building. The second commercial building on the southern boundary is a Tim Hortons, situated approximately 13 m south of the Site. The building is mostly concrete, with some tile flooring. Heating and cooling are by natural gas and air conditioning, and fibreglass was used for insulation. This building also uses the municipal sewage system and potable water supply. The third commercial building is a preowned vehicle dealership (Davis Chevrolet Buick GMC). It is situated approximately 40 m, south of the Site and is composed of a steel frame, concrete flooring, and metal roofing. The building uses natural gas for heating and air conditioning for cooling. Mechanical equipment on Site includes hydraulic lifts and vehicle hoists. Visible stains were observed on the property. Above ground storage area was also observed as well as a hazardous waste collection in the back. This property represents an Area of Environmental Risk to the Site (APEC 2)

7 INDICATORS OF ENVIRONMENTAL RISK

The potential for soil vapour, surface water, and/or groundwater at the Site to be contaminated depends on current and past land use(s) at the Site. Neighbouring properties can also pose environmental risk based on their current and past uses, and on their distance and relative position to the Site with respect to groundwater flow gradient. Upgradient facilities are generally associated with higher risk because of the potential for groundwater transport of contaminants to downgradient locations.

7.1 Site

Based on the Phase I ESA results, there is **low** (low², moderate, high) potential that current or past activities at the Site have led to soil, vapour, and/or groundwater contamination. The Site reconnaissance, which included an inspection, supports this conclusion.

7.2 Neighbouring Properties

Past and present land uses at neighbouring properties, the positions of these properties relative to the Site, and their respective distances from the Site indicate **moderate** potential for environmental risk to the Site via groundwater migration. As the focus of this Phase I is to evaluate potential on-Site sources of contamination that may impact the ASP, the APECs listed in Table 7-1 below are presented for information purposes only. Any intrusive assessment recommended by Associated would be limited to the Site boundaries. The risks presented by the neighbouring APECs would be evaluated at the Site boundaries and not within the APECs themselves.

Table 7-1 Areas of Potential Environmental Concern at Neighbouring Properties

APEC	Item/Location	Description	PCOC
1	Brandt Agriculture	Agricultural Machinery dealership (circa 1979) with past and ongoing equipment repair and	PHC PAH

² **High potential** means there is either physical or visual/olfactory evidence 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.

APEC	Item/Location	Description	PCOC
		maintenance. North of Site (~ 30 m)	Metals Salinity
2	Davis Chevrolet Buick GMC	Car Dealership (circa 2004). Presence of a fuel storage tank and waste storage area and practices associated with vehicle repairs. South of the Site (~ 40 m)	PHC PAH Metals Salinity

8 CONCLUSIONS AND RECOMMENDATIONS

A Phase I ESA was completed for the Site in July 2023. Associated reviewed historical records, searched provincial databases, and inspected the property to assess the potential risk of contamination.

Based on the Phase I ESA results, there is a **low to moderate** potential that current or past activities at the Site and at neighboring properties have led to significant soil, vapour and/or groundwater contamination. The Site reconnaissance, which included an inspection, supports this conclusion. On and off-Site APECs are presented in Section 7 and illustrated in Appendix A.

Based on the information gathered during this Phase I ESA, there are no onsite APECs that warrant further, standalone investigation. The area of stressed vegetation in the south section of the Site is expected to present a low environmental risk to the Site, based on its limited size and lack of apparent cause, and is thought to be associated with the former parking/storage area. The area of stressed vegetation in the north is thought to be associated with natural levels of salinity/sodicity parameters uncovered during a borrow pit excavation, and does not represent an APEC for the Site, however there may be benefit in sampling the area to evaluate the levels of sodicity/salinity in the soil which may have an effect on the suitability of the soils for reuse at the Site. Soil sampling of these impact areas could be completed in conjunction with construction activities at the Site.

Regarding the off-Site APECs, there is a moderate potential for possible groundwater contamination to migrate towards the Site. Records show that local groundwater is approximately 3.0 metres below ground surface suggesting a low risk to human health and soil invertebrates and plants at the Subject Site. If future development at the Subject Site involves deep excavations and/or installation of domestic wells, investigations of soil, soil vapour, and groundwater quality, combined with possible soil and/or water treatment, would be warranted.

Lastly, based on likelihood of encountering natural background salinity in shallow soils, salinity soil management would be required during future development, especially if new vegetation is planned and/or materials are to be hauled offsite.

If additional information becomes available and is deemed pertinent to this ESA, Associated requests notification of such for amendment of this report.

9 QUALIFICATIONS OF ASSESSORS

The qualifications of the environmental professional(s) and personnel conducting the Site reconnaissance and

interviews are presented below in short biographies. Resumes are available upon request.

Mark Beker, B.Sc.,

Role: Environmental Scientist

Experience: Mark is an environmental scientist specializing in contaminated sites with over a decade of experience, specializing in downstream oil and gas. He has completed assessment and remediation programs in Alberta, Saskatchewan, Manitoba, and Atlantic Canada. Mark has also completed numerous soil vapour sampling and human health risk assessments related to light-end hydrocarbon and volatile organic compound exposure.

Rob Kupchanko, P.Ag.

Role: Senior Reviewer

Experience: Rob is a Senior Environmental Scientist with 29 years of experience in consulting and a background in environmental earth sciences, hydrology, and natural resource management. Since 2003, Rob has led Associated's contaminated sites practice and is the National Discipline Leader. Rob has managed or led more than 500 contaminated sites investigations in Alberta, British Columbia, Saskatchewan, and northern Canada, and has directed the remediation of a wide range of industrial and commercial properties. Rob has completed several senior reviews and performed technical advisory roles for several Phase I and II ESA projects across western Canada. Rob is a practising Professional Agrologist with the Alberta Institute of Agrologists.

CLOSURE

This report was prepared for the Town of Claresholm Abe Tinney, CAO, Planning Manager as part of the Area Structure Plan, conceptualizing the development of approximately 38 acres of land within the Town of Claresholm.

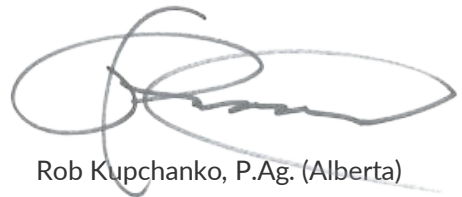
The services provided by Associated Engineering Alberta Ltd. in the preparation of this report were conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practising under similar conditions. No other warranty expressed or implied is made.

Respectfully submitted,

Associated Engineering Alberta Ltd.



Mark Beker, B.Sc.
Environmental Scientist



Rob Kupchanko, P.Ag. (Alberta)
National Discipline Leader,
Contaminated Sites

PERMIT STAMP

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Town of Claresholm
Abe Tinney, CAO, Planning Manager

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APPENDIX A – FIGURES



\AE\CAD\DATA\WORKING\LET\2023-3708-00\GIS\ABC\MAP\H\DR\GEO\AE\2023708_FIG1-1_PROJ.LOC_230725.MXD
 IMAGERY: ESRI DIGITAL GLOBE, GEOEYE, LCUBED, USDA FSA, USGS, AEX, GETMAPPING, ROAD: STATISTICS CANADA, 2019; ATS GRID: AITALIS LTD., 2005

LEGEND

- Site Boundary
- Base Data
- Highway



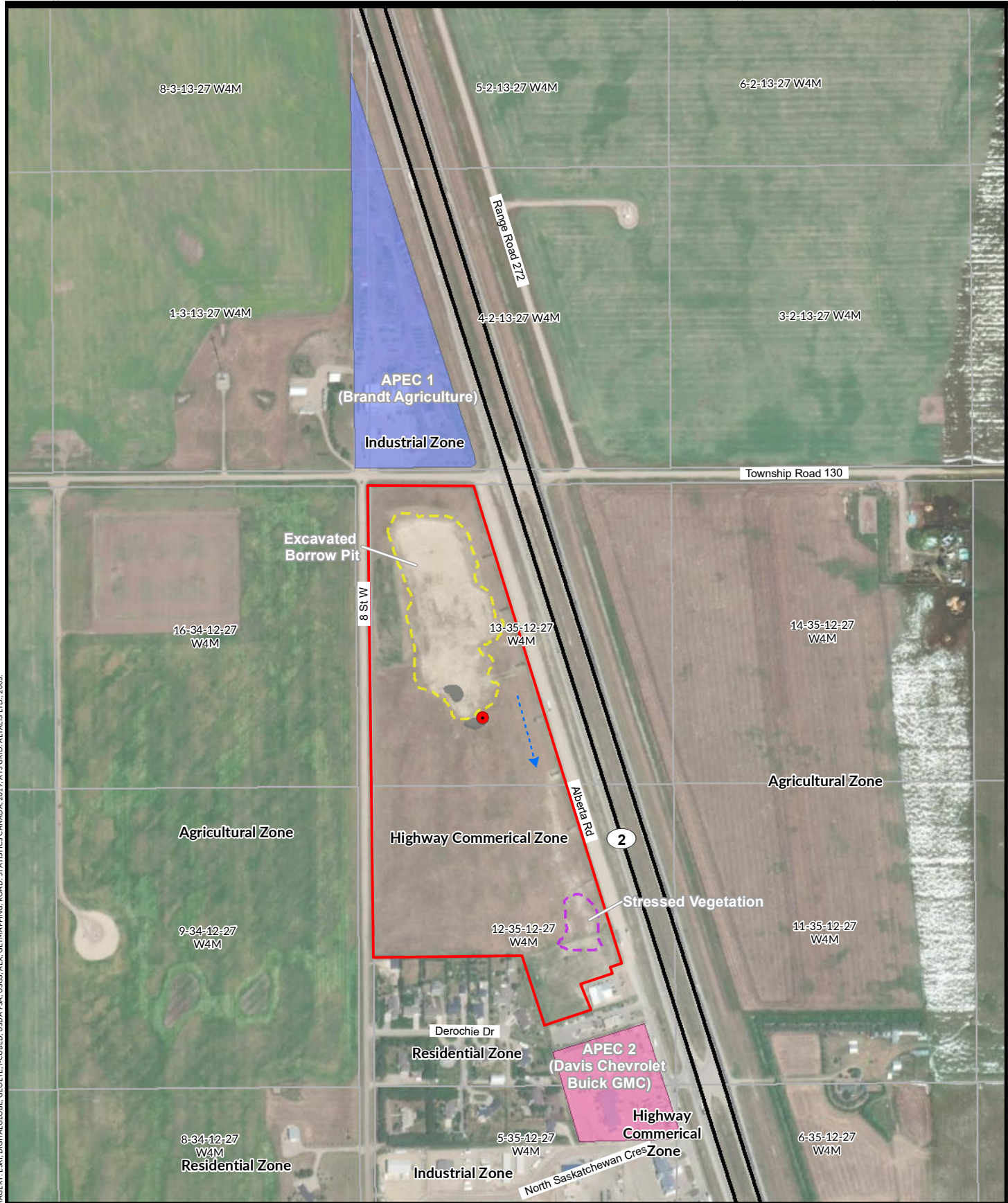
AE PROJECT NO. 2023-3708-00
 SCALE 1:3500
 COORD. SYSTEM NAD 1983 UTM ZONE 12N
 DATE 2023-07-25
 REV 00
 DRAWN BY HS
 CHECKED BY WL
 DESCRIPTION ISSUED FOR REPORT

**FIGURE 1-1
PROJECT LOCATION**

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
ASSESSMENT





\\\AE\CAD\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDRO\GDE\AE2\023708_FIG2-1_SITE\PECS_230725.MXD
 IMAGERY: ESRI DIGITAL GLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, ROAD: STATISTICS CANADA, 2015; ATS GRID: ALTA LIS, LTD., 2005.



LEGEND	
	Concrete Pour Refuse
	Inferred Groundwater Flow Direction
	Excavated Borrow Pit
	Gravel Pile
	Site Boundary
	Stressed Vegetation
Base Data	
	Highway
Area Of Potential Environmental Concern (APEC)	
	Agricultural Machinery Dealer (APEC 1)
	Car Dealership (APEC 2)



AE PROJECT NO.	2023-3708-00
SCALE	1:7000
COORD. SYSTEM	NAD 1983 UTM ZONE 12N
DATE	2023-08-16
REV	00
DRAWN BY	HS
CHECKED BY	WL
DESCRIPTION	ISSUED FOR REPORT

**FIGURE 2-1
ON AND OFF SITE APECS**

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
ASSESSMENT

APPENDIX B – LAND TITLES



HISTORICAL LAND TITLE CERTIFICATE
CURRENT TITLE WITH HISTORICAL DATA

S
LINC SHORT LEGAL TITLE NUMBER
0035 491 075 0715848;8;5 151 218 754

LEGAL DESCRIPTION

PLAN 0715848
BLOCK 8
LOT 5
CONTAINING 1.1790 HECTARES (2.91 ACRES) MORE OR LESS
EXCEPTING THEREOUT:

PLAN	NUMBER	HECTARES	ACRES	MORE OR LESS
SUBDIVISION	1213513	0.202	0.50	

EXCEPTING THEREOUT ALL MINES AND MINERALS

ATS REFERENCE: 4;27;12;35;NW
ESTATE: FEE SIMPLE

MUNICIPALITY: TOWN OF CLARESHOLM

REFERENCE NUMBER: 121 320 423 +1

REGISTERED OWNER(S)
REGISTRATION DATE (DMY) DOCUMENT TYPE VALUE CONSIDERATION

151 218 754 26/08/2015 TRANSFER OF LAND \$40,000 \$40,000

OWNERS

HERITAGE STATION CAR WASH INC.
OF 1100 FRONTENAC AVE SW
CALGARY
ALBERTA T2T 1B6

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION
NUMBER DATE (D/M/Y) PARTICULARS

011 239 157 21/08/2001 CAVEAT
RE : UTILITY RIGHT OF WAY
CAVEATOR - FORTISALBERTA INC.
320-17 AVE SW

ENCUMBRANCES, LIENS & INTERESTS

PAGE 2

151 218 754

REGISTRATION

NUMBER DATE (D/M/Y) PARTICULARS

CALGARY
ALBERTA T2S2V1
(DATA UPDATED BY: CHANGE OF NAME 041457277)

041 340 442 09/09/2004 UTILITY RIGHT OF WAY
GRANTEE - THE TOWN OF CLARESHOLM.
P.O. BOX 1000
CLARESHOLM
ALBERTA T0K0T0
AS TO PORTION OR PLAN:0413177

041 375 588 01/10/2004 RESTRICTIVE COVENANT

041 457 277 02/12/2004 CHANGE OF NAME
RE: FORTISALBERTA INC.
320-17 AVE SW
CALGARY
ALBERTA T2S2V1
AFFECTS INSTRUMENT: 011239157
AFFECTED PARTY: UTILICORP NETWORKS CANADA
(ALBERTA) LTD.

051 080 492 10/03/2005 RESTRICTIVE COVENANT

051 087 062 16/03/2005 RESTRICTIVE COVENANT

051 089 047 17/03/2005 RESTRICTIVE COVENANT

081 434 158 20/11/2008 MORTGAGE
MORTGAGEE - THE TORONTO DOMINION BANK.
69 SHAWVILLE BLVD SE
CALGARY
ALBERTA T2Y3P3
ORIGINAL PRINCIPAL AMOUNT: \$100,000

091 137 087 20/05/2009 CAVEAT
RE : RESTRICTIVE COVENANT

091 137 090 20/05/2009 CAVEAT
RE : RESTRICTIVE COVENANT

131 133 802 10/06/2013 EASEMENT
AS TO PORTION OR PLAN:PORTION
OVER AND FOR BENEFIT OF: SEE INSTRUMENT

131 164 911 11/07/2013 UTILITY RIGHT OF WAY
GRANTEE - THE TOWN OF CLARESHOLM.
AS TO PORTION OR PLAN:PORTION

131 164 916 11/07/2013 EASEMENT

(CONTINUED)

REGISTRATION

NUMBER DATE (D/M/Y) PARTICULARS
-----AS TO PORTION OR PLAN: PORTION
OVER AND FOR BENEFIT: SEE INSTRUMENT

151 238 256 15/09/2015 MORTGAGE
MORTGAGEE - THE TORONTO DOMINION BANK.
915-17 AVE SW
CALGARY
ALBERTA T2T0A4
ORIGINAL PRINCIPAL AMOUNT: \$200,000

151 263 367 09/10/2015 DISCHARGE OF MORTGAGE 081434158

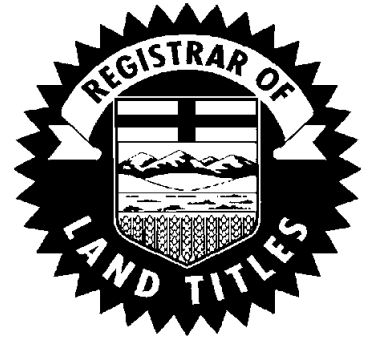
151 294 255 13/11/2015 CAVEAT
RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL
GOVERNMENT ACT
CAVEATOR - THE TOWN OF CLARESHOLM.
P.O. BOX 1000, CLARESHOLM
ALBERTA T0L0T0

TOTAL INSTRUMENTS: 016

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN
ACCURATE REPRODUCTION OF THE CERTIFICATE OF
TITLE REPRESENTED HEREIN THIS 27 DAY OF JUNE,
2023 AT 02:22 P.M.

ORDER NUMBER: 47638072

CUSTOMER FILE NUMBER:



END OF CERTIFICATE

THIS ELECTRONICALLY TRANSMITTED LAND TITLES PRODUCT IS INTENDED
FOR THE SOLE USE OF THE ORIGINAL PURCHASER, AND NONE OTHER,
SUBJECT TO WHAT IS SET OUT IN THE PARAGRAPH BELOW.

THE ABOVE PROVISIONS DO NOT PROHIBIT THE ORIGINAL PURCHASER FROM
INCLUDING THIS UNMODIFIED PRODUCT IN ANY REPORT, OPINION,
APPRAISAL OR OTHER ADVICE PREPARED BY THE ORIGINAL PURCHASER AS
PART OF THE ORIGINAL PURCHASER APPLYING PROFESSIONAL, CONSULTING
OR TECHNICAL EXPERTISE FOR THE BENEFIT OF CLIENT(S).



HISTORICAL LAND TITLE CERTIFICATE
CURRENT TITLE WITH HISTORICAL DATA

S
LINC SHORT LEGAL TITLE NUMBER
0032 892 564 7410624;7 071 582 073 +3

LEGAL DESCRIPTION

PLAN 7410624
BLOCK 7
CONTAINING 36.8 HECTARES (90.98 ACRES) MORE OR LESS
EXCEPTING THEREOUT:

PLAN	NUMBER	HECTARES	(ACRES)	MORE OR LESS
SUBDIVISION	8210390	13.12	32.43	
ROAD	9310163	0.066	0.16	
SUBDIVISION	9611995	1.13	2.79	
SUBDIVISION	0413176	5.622	13.89	
SUBDIVISION	0714860	0.809	2.00	
SUBDIVISION	0715848	1.83	4.52	

EXCEPTING THEREOUT ALL MINES AND MINERALS
AND THE RIGHT TO WORK THE SAME

ATS REFERENCE: 4;27;12;35;W
ESTATE: FEE SIMPLE

MUNICIPALITY: TOWN OF CLARESHOLM

REFERENCE NUMBER: 071 494 040 +1

REGISTERED OWNER(S)					
REGISTRATION	DATE (DMY)	DOCUMENT	TYPE	VALUE	CONSIDERATION
071 582 073	29/11/2007	SUBDIVISION	PLAN		

OWNERS

CLARESHOLM LAND CORPORATION.
OF 1100 FRONTENAC AVENUE S.W
CALGARY
ALBERTA T2T 1B6

ENCUMBRANCES, LIENS & INTERESTS

PAGE 2

071 582 073 +3

REGISTRATION

NUMBER	DATE (D/M/Y)	PARTICULARS
751 003 609	15/01/1975	UTILITY RIGHT OF WAY GRANTEE - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED. "DISCHARGED EX 20 FT STRIP BY 761123940"
011 239 157	21/08/2001	CAVEAT RE : UTILITY RIGHT OF WAY CAVEATOR - FORTISALBERTA INC. 320-17 AVE SW CALGARY ALBERTA T2S2V1 (DATA UPDATED BY: CHANGE OF NAME 041457277)
041 340 441	09/09/2004	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF CLARESHOLM. P.O. BOX 1000, CLARESHOLM ALBERTA T0L0T0
041 340 839	09/09/2004	MORTGAGE MORTGAGEE - JACKIE VERNON DEROCHIE MORTGAGEE - MARJORIE GERALDINE DEROCHIE BOTH OF: P.O.BOX 1176 CLARESHOLM ALBERTA T0L0T0 ORIGINAL PRINCIPAL AMOUNT: \$380,000
041 375 588	01/10/2004	RESTRICTIVE COVENANT
041 457 277	02/12/2004	CHANGE OF NAME RE: FORTISALBERTA INC. 320-17 AVE SW CALGARY ALBERTA T2S2V1 AFFECTS INSTRUMENT: 011239157 AFFECTED PARTY: UTILICORP NETWORKS CANADA (ALBERTA) LTD.
051 080 492	10/03/2005	RESTRICTIVE COVENANT
051 087 062	16/03/2005	RESTRICTIVE COVENANT
051 089 047	17/03/2005	RESTRICTIVE COVENANT
061 455 239	02/11/2006	MORTGAGE MORTGAGEE - CORNERSTONE FINANCIAL LTD. 3107 VERCHERES STREET SW CALGARY

(CONTINUED)

ENCUMBRANCES, LIENS & INTERESTS

PAGE 3

REGISTRATION

071 582 073 +3

NUMBER	DATE (D/M/Y)	PARTICULARS
		ALBERTA T2T3R6 ORIGINAL PRINCIPAL AMOUNT: \$520,000
071 494 041	03/10/2007	CAVEAT RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL GOVERNMENT ACT CAVEATOR - THE TOWN OF CLARESHOLM. P.O. BOX 1000, CLARESHOLM ALBERTA T0L0T0
071 494 042	03/10/2007	CAVEAT RE : DEFERRED RESERVE CAVEATOR - THE TOWN OF CLARESHOLM. 3105 - 16TH AVENUE NORTH LETHBRIDGE ALBERTA T1H5E8
111 034 470	10/02/2011	CAVEAT RE : AMENDING AGREEMENT CAVEATOR - CORNERSTONE FINANCIAL LTD. 3107 VERCHERES STREET SW CALGARY ALBERTA T2T3R6 AGENT - DONALD E HOMER
121 323 320	10/12/2012	DISCHARGE OF CAVEAT 071494041
131 014 050	15/01/2013	DISCHARGE OF CAVEAT 041340441
151 284 851	30/10/2015	CAVEAT RE : AMENDING AGREEMENT CAVEATOR - JACKIE VERNON DEROCHIE PO BXO 1176 CLARESHOLM ALBERTA T0L0T0 CAVEATOR - MARJORIE GERALDINE DEROCHIE PO BOX 1176 CLARESHOLM ALBERTA T0L0T0 AGENT - L PATRICK LANNAN

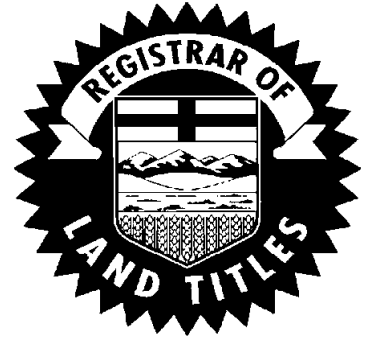
TOTAL INSTRUMENTS: 016

(CONTINUED)

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN
ACCURATE REPRODUCTION OF THE CERTIFICATE OF
TITLE REPRESENTED HEREIN THIS 27 DAY OF JUNE,
2023 AT 02:22 P.M.

ORDER NUMBER: 47638072

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PART OF THE ORIGINAL PURCHASER APPLYING PROFESSIONAL, CONSULTING
OR TECHNICAL EXPERTISE FOR THE BENEFIT OF CLIENT(S).



LAND TITLE CERTIFICATE

S
LINC SHORT LEGAL TITLE NUMBER
0035 491 075 0715848;8;5 151 218 754

LEGAL DESCRIPTION

PLAN 0715848
BLOCK 8
LOT 5
CONTAINING 1.1790 HECTARES (2.91 ACRES) MORE OR LESS
EXCEPTING THEREOUT:

PLAN	NUMBER	HECTARES	ACRES	MORE OR LESS
SUBDIVISION	1213513	0.202	0.50	

EXCEPTING THEREOUT ALL MINES AND MINERALS

ATS REFERENCE: 4;27;12;35;NW
ESTATE: FEE SIMPLE

MUNICIPALITY: TOWN OF CLARESHOLM

REFERENCE NUMBER: 121 320 423 +1

REGISTERED OWNER(S)
REGISTRATION DATE (DMY) DOCUMENT TYPE VALUE CONSIDERATION

151 218 754 26/08/2015 TRANSFER OF LAND \$40,000 \$40,000

OWNERS

HERITAGE STATION CAR WASH INC.
OF 1100 FRONTENAC AVE SW
CALGARY
ALBERTA T2T 1B6

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION
NUMBER DATE (D/M/Y) PARTICULARS

011 239 157 21/08/2001 CAVEAT
RE : UTILITY RIGHT OF WAY
CAVEATOR - FORTISALBERTA INC.
320-17 AVE SW

ENCUMBRANCES, LIENS & INTERESTS

PAGE 2

151 218 754

REGISTRATION

NUMBER DATE (D/M/Y) PARTICULARS

CALGARY

ALBERTA T2S2V1

(DATA UPDATED BY: CHANGE OF NAME 041457277)

041 340 442 09/09/2004 UTILITY RIGHT OF WAY
GRANTEE - THE TOWN OF CLARESHOLM.
P.O. BOX 1000
CLARESHOLM
ALBERTA T0K0T0
AS TO PORTION OR PLAN:0413177

041 375 588 01/10/2004 RESTRICTIVE COVENANT

051 080 492 10/03/2005 RESTRICTIVE COVENANT

051 087 062 16/03/2005 RESTRICTIVE COVENANT

051 089 047 17/03/2005 RESTRICTIVE COVENANT

091 137 087 20/05/2009 CAVEAT
RE : RESTRICTIVE COVENANT

091 137 090 20/05/2009 CAVEAT
RE : RESTRICTIVE COVENANT

131 133 802 10/06/2013 EASEMENT
AS TO PORTION OR PLAN:PORTION
OVER AND FOR BENEFIT OF: SEE INSTRUMENT

131 164 911 11/07/2013 UTILITY RIGHT OF WAY
GRANTEE - THE TOWN OF CLARESHOLM.
AS TO PORTION OR PLAN:PORTION

131 164 916 11/07/2013 EASEMENT
AS TO PORTION OR PLAN:PORTION
OVER AND FOR BENEFIT: SEE INSTRUMENT

151 238 256 15/09/2015 MORTGAGE
MORTGAGEE - THE TORONTO DOMINION BANK.
915-17 AVE SW
CALGARY
ALBERTA T2T0A4
ORIGINAL PRINCIPAL AMOUNT: \$200,000

151 294 255 13/11/2015 CAVEAT
RE : DEVELOPMENT AGREEMENT PURSUANT TO MUNICIPAL
GOVERNMENT ACT
CAVEATOR - THE TOWN OF CLARESHOLM.
P.O. BOX 1000, CLARESHOLM
ALBERTA T0L0T0

(CONTINUED)

REGISTRATION

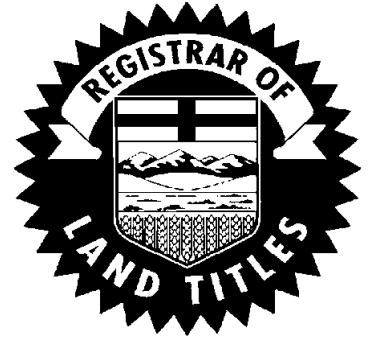
NUMBER DATE (D/M/Y) PARTICULARS

TOTAL INSTRUMENTS: 013

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN
ACCURATE REPRODUCTION OF THE CERTIFICATE OF
TITLE REPRESENTED HEREIN THIS 12 DAY OF JUNE,
2023 AT 02:59 P.M.

ORDER NUMBER: 47491145

CUSTOMER FILE NUMBER:



END OF CERTIFICATE

THIS ELECTRONICALLY TRANSMITTED LAND TITLES PRODUCT IS INTENDED
FOR THE SOLE USE OF THE ORIGINAL PURCHASER, AND NONE OTHER,
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THE ABOVE PROVISIONS DO NOT PROHIBIT THE ORIGINAL PURCHASER FROM
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PART OF THE ORIGINAL PURCHASER APPLYING PROFESSIONAL, CONSULTING
OR TECHNICAL EXPERTISE FOR THE BENEFIT OF CLIENT(S).



LAND TITLE CERTIFICATE

S
LINC SHORT LEGAL TITLE NUMBER
0032 892 564 7410624;7 071 582 073 +3

LEGAL DESCRIPTION

PLAN 7410624
BLOCK 7
CONTAINING 36.8 HECTARES (90.98 ACRES) MORE OR LESS
EXCEPTING THEREOUT:

PLAN	NUMBER	HECTARES	(ACRES)	MORE OR LESS
SUBDIVISION	8210390	13.12	32.43	
ROAD	9310163	0.066	0.16	
SUBDIVISION	9611995	1.13	2.79	
SUBDIVISION	0413176	5.622	13.89	
SUBDIVISION	0714860	0.809	2.00	
SUBDIVISION	0715848	1.83	4.52	

EXCEPTING THEREOUT ALL MINES AND MINERALS
AND THE RIGHT TO WORK THE SAME

ATS REFERENCE: 4;27;12;35;W
ESTATE: FEE SIMPLE

MUNICIPALITY: TOWN OF CLARESHOLM

REFERENCE NUMBER: 071 494 040 +1

REGISTERED OWNER(S)					
REGISTRATION	DATE (DMY)	DOCUMENT	TYPE	VALUE	CONSIDERATION

071 582 073 29/11/2007 SUBDIVISION PLAN

OWNERS

CLARESHOLM LAND CORPORATION.
OF 1100 FRONTENAC AVENUE S.W
CALGARY
ALBERTA T2T 1B6

ENCUMBRANCES, LIENS & INTERESTS

PAGE 2

071 582 073 +3

REGISTRATION

NUMBER	DATE (D/M/Y)	PARTICULARS
751 003 609	15/01/1975	UTILITY RIGHT OF WAY GRANTEE - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED. "DISCHARGED EX 20 FT STRIP BY 761123940"
011 239 157	21/08/2001	CAVEAT RE : UTILITY RIGHT OF WAY CAVEATOR - FORTISALBERTA INC. 320-17 AVE SW CALGARY ALBERTA T2S2V1 (DATA UPDATED BY: CHANGE OF NAME 041457277)
041 340 839	09/09/2004	MORTGAGE MORTGAGEE - JACKIE VERNON DEROGHIE MORTGAGEE - MARJORIE GERALDINE DEROGHIE BOTH OF: P.O.BOX 1176 CLARESHOLM ALBERTA T0L0T0 ORIGINAL PRINCIPAL AMOUNT: \$380,000
041 375 588	01/10/2004	RESTRICTIVE COVENANT
051 080 492	10/03/2005	RESTRICTIVE COVENANT
051 087 062	16/03/2005	RESTRICTIVE COVENANT
051 089 047	17/03/2005	RESTRICTIVE COVENANT
061 455 239	02/11/2006	MORTGAGE MORTGAGEE - CORNERSTONE FINANCIAL LTD. 3107 VERCHERES STREET SW CALGARY ALBERTA T2T3R6 ORIGINAL PRINCIPAL AMOUNT: \$520,000
071 494 042	03/10/2007	CAVEAT RE : DEFERRED RESERVE CAVEATOR - THE TOWN OF CLARESHOLM. 3105 - 16TH AVENUE NORTH LETHBRIDGE ALBERTA T1H5E8
111 034 470	10/02/2011	CAVEAT RE : AMENDING AGREEMENT CAVEATOR - CORNERSTONE FINANCIAL LTD. 3107 VERCHERES STREET SW CALGARY ALBERTA T2T3R6

(CONTINUED)

REGISTRATION

NUMBER DATE (D/M/Y) PARTICULARS

AGENT - DONALD E HOMER

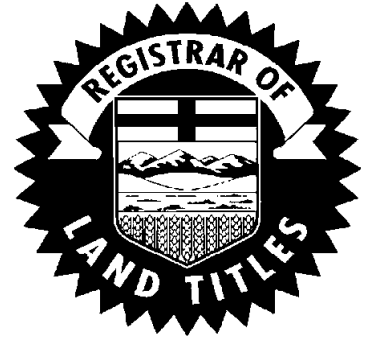
151 284 851 30/10/2015 CAVEAT
RE : AMENDING AGREEMENT
CAVEATOR - JACKIE VERNON DEROCHIE
PO BXO 1176
CLARESHOLM
ALBERTA T0L0T0
CAVEATOR - MARJORIE GERALDINE DEROCHIE
PO BOX 1176
CLARESHOLM
ALBERTA T0L0T0
AGENT - L PATRICK LANNAN

TOTAL INSTRUMENTS: 011

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN
ACCURATE REPRODUCTION OF THE CERTIFICATE OF
TITLE REPRESENTED HEREIN THIS 12 DAY OF JUNE,
2023 AT 11:03 A.M.

ORDER NUMBER: 47485785

CUSTOMER FILE NUMBER:



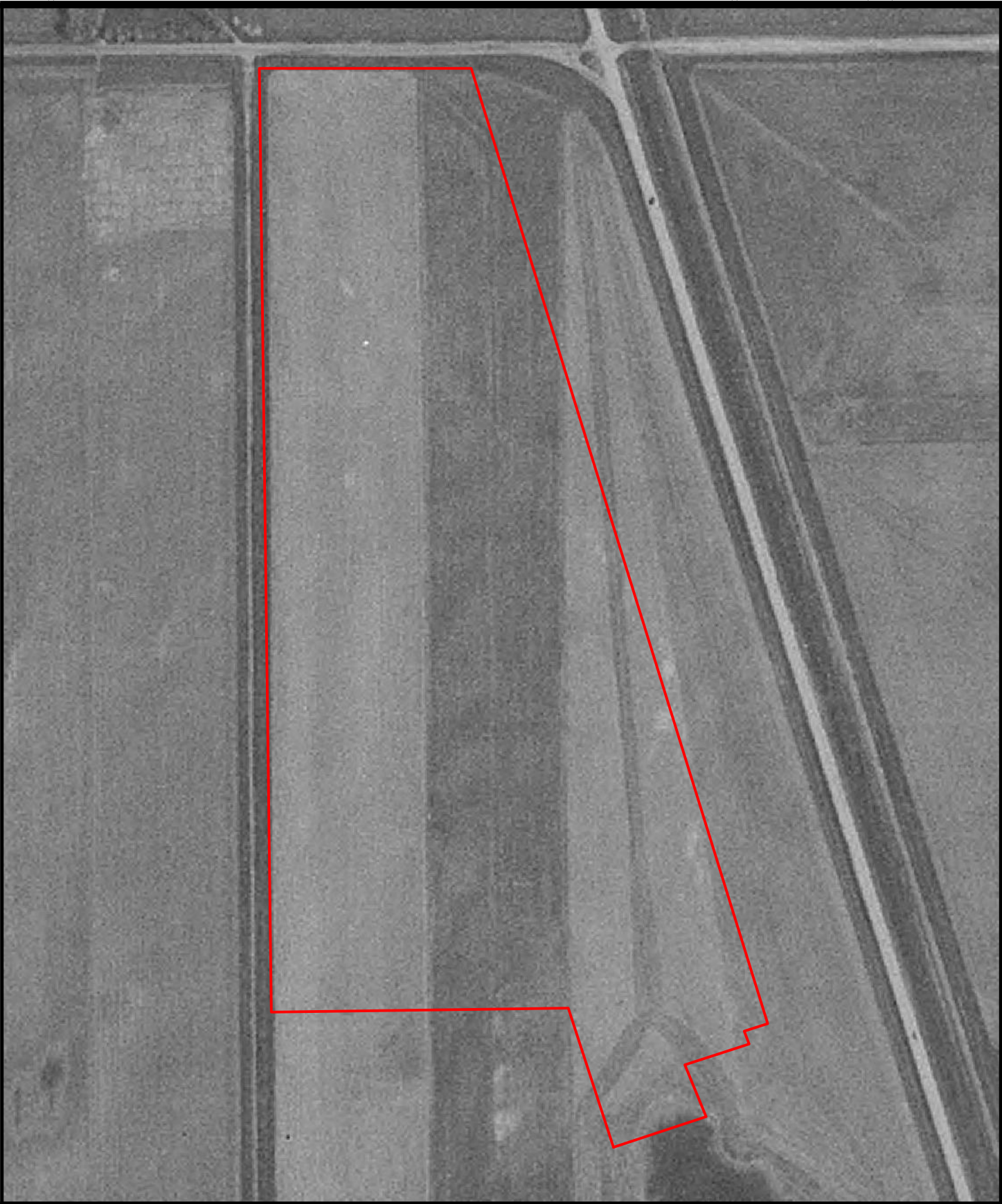
END OF CERTIFICATE

THIS ELECTRONICALLY TRANSMITTED LAND TITLES PRODUCT IS INTENDED
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THE ABOVE PROVISIONS DO NOT PROHIBIT THE ORIGINAL PURCHASER FROM
INCLUDING THIS UNMODIFIED PRODUCT IN ANY REPORT, OPINION,
APPRAISAL OR OTHER ADVICE PREPARED BY THE ORIGINAL PURCHASER AS
PART OF THE ORIGINAL PURCHASER APPLYING PROFESSIONAL, CONSULTING
OR TECHNICAL EXPERTISE FOR THE BENEFIT OF CLIENT(S).

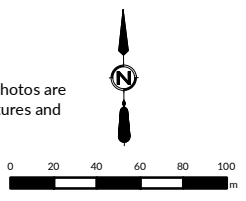
APPENDIX C – AERIAL PHOTOGRAPHS

\\AE\CAL\DATA\WORKING\LETI_2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-1_AERIALPHOTO_05_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND
 Site Boundary

Background imagery and/or historical airphotos are georeferenced to local landmarks and features and may not be located exactly as depicted



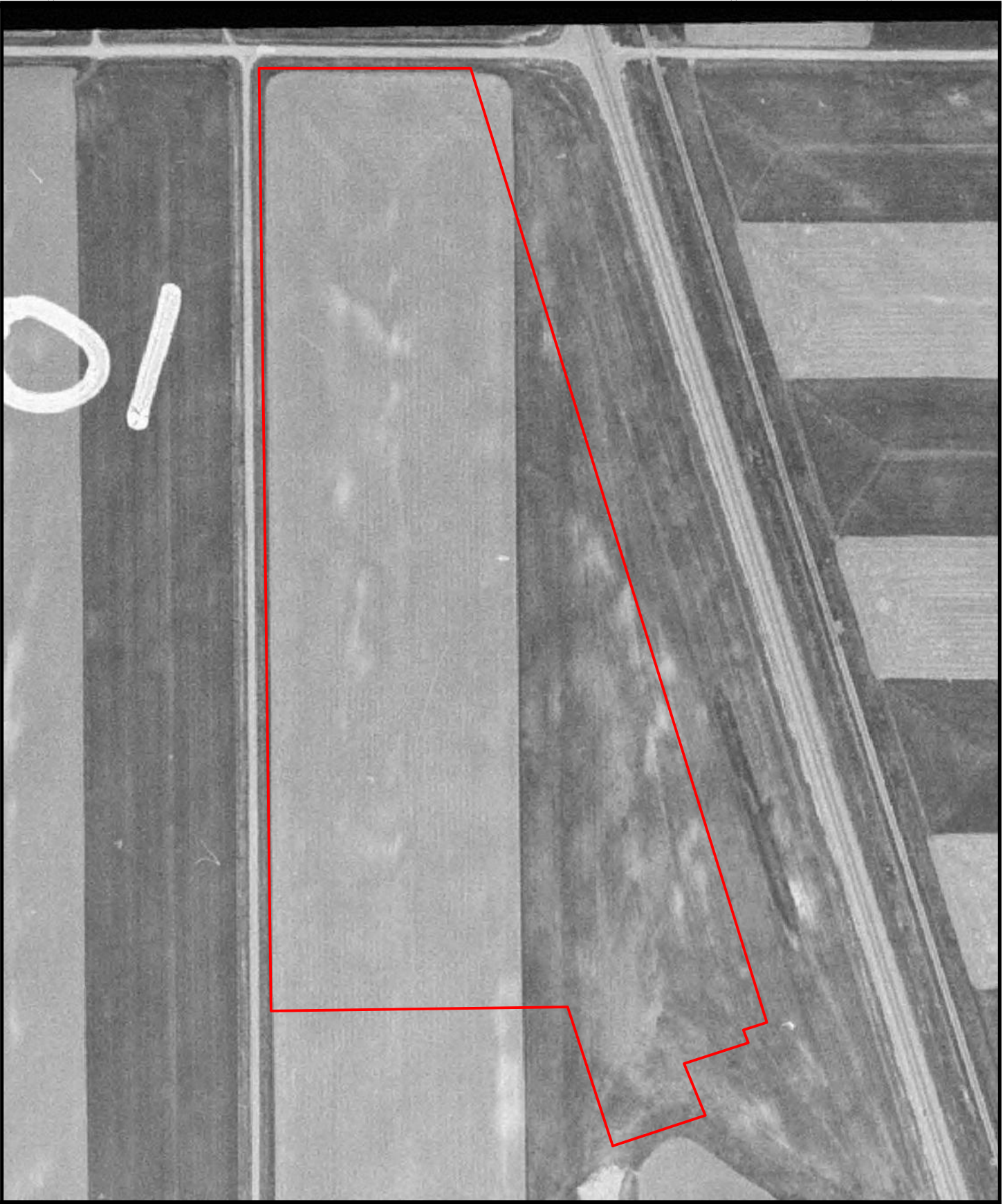
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 SCALE 1:3500
 COORD. SYSTEM NAD 1983 UTM ZONE 12N
 DATE 2023-07-25
 REV 00
 DRAWN BY HS
 CHECKED BY WL
 DESCRIPTION ISSUED FOR REPORT

FIGURE C-1
HISTORICAL AIR PHOTO - 1922

 TOWN OF CLARESHOLM
 AREA STRUCTURE PLAN

 ENVIRONMENTAL SITE
 ASSESSMENT

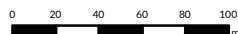
\\AE\CAL\DATA\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-3_AERIALPHOTO_5_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND

 Site Boundary

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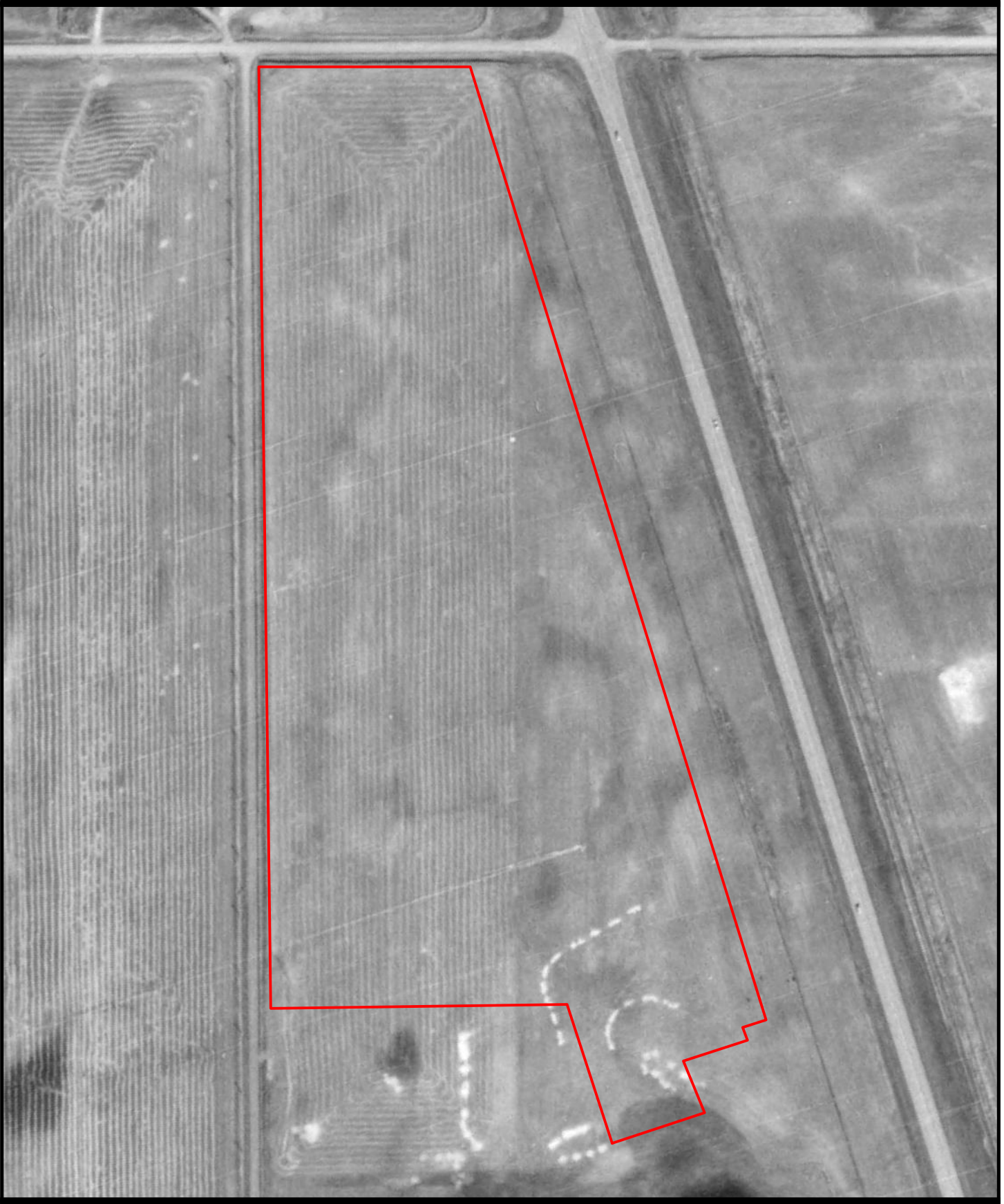
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SCALE 1:3500
COORD. SYSTEM NAD 1983 UTM ZONE 12N
DATE 2023-07-25
REV 00
DRAWN BY HS
CHECKED BY WL
DESCRIPTION ISSUED FOR REPORT

**FIGURE C-3
HISTORICAL AIR PHOTO - 1966**

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

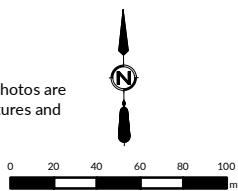
ENVIRONMENTAL SITE
ASSESSMENT

\\AE\CALDATA\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-4_AERIALPHOTO_5_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND
 Site Boundary

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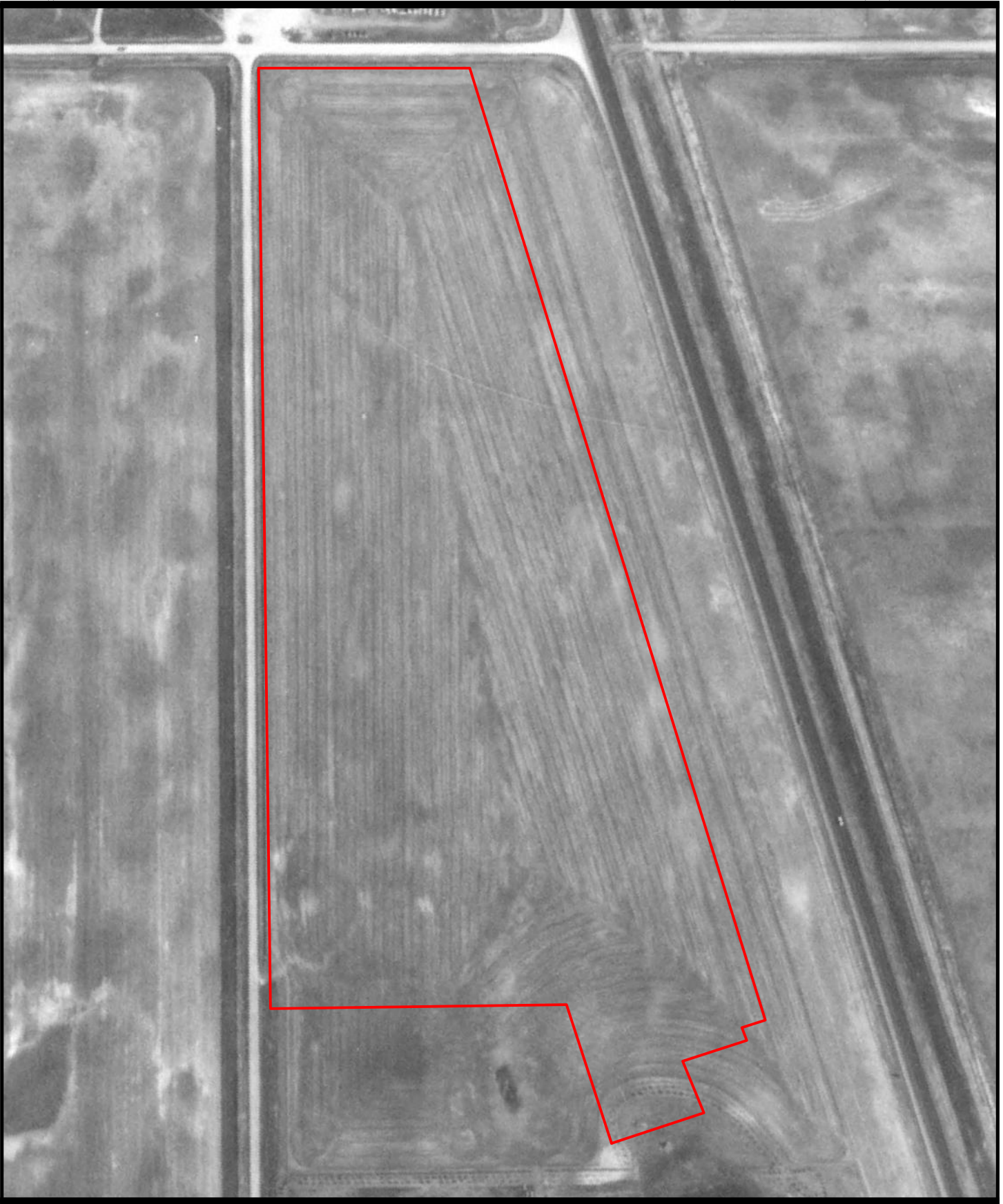
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COORD. SYSTEM	NAD 1983 UTM ZONE 12N
DATE	2023-07-25
REV	00
DRAWN BY	HS
CHECKED BY	WL
DESCRIPTION	ISSUED FOR REPORT

FIGURE C-4
HISTORICAL AIR PHOTO - 1974

TOWN OF CLARESHOLM
 AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
 ASSESSMENT

\\AE\CALDATA\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-5_AERIALPHOTO_5_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND

 Site Boundary

Background imagery and/or historical airphotos are georeferenced to local landmarks and features and may not be located exactly as depicted



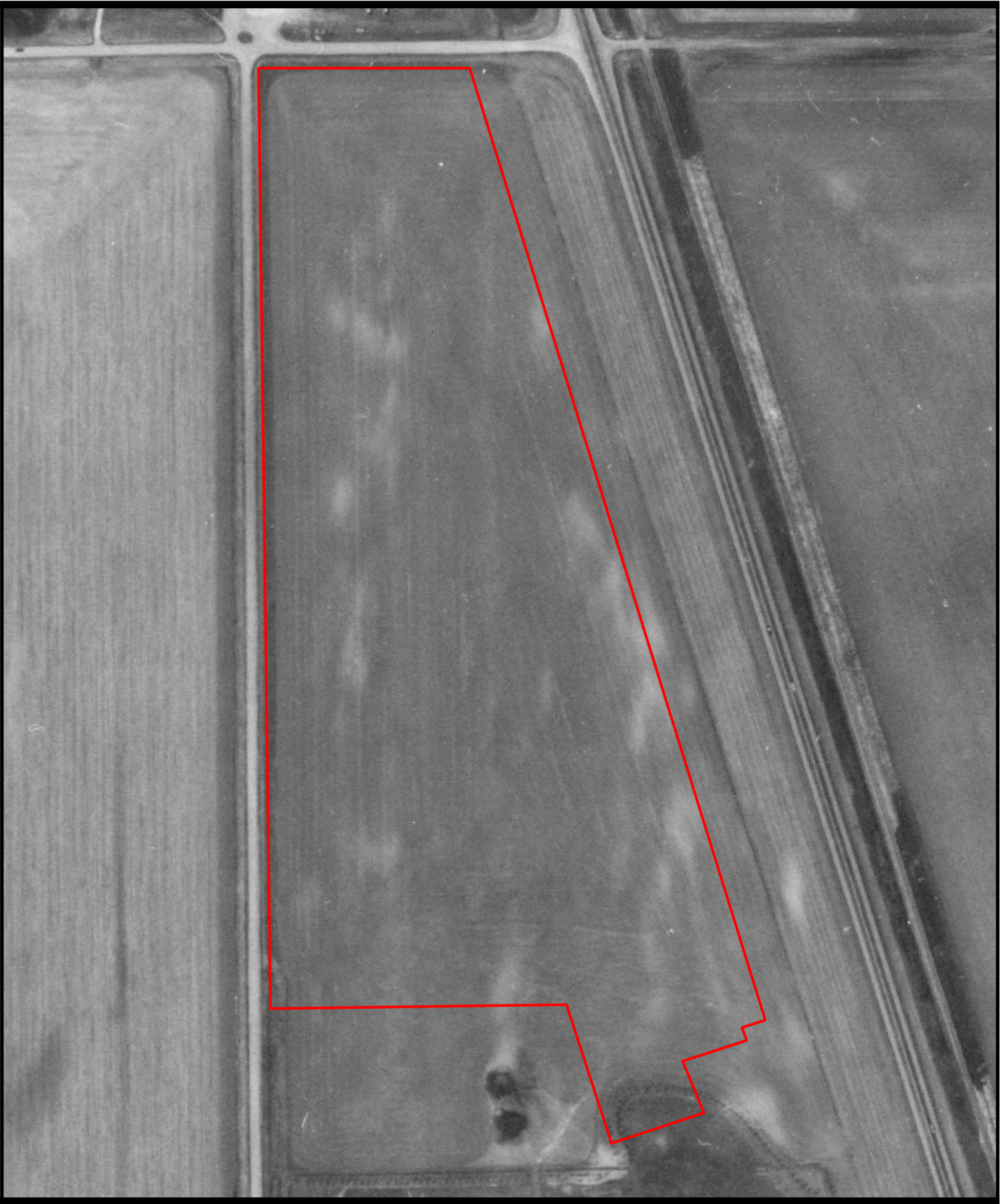
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SCALE 1:3500
COORD. SYSTEM NAD 1983 UTM ZONE 12N
DATE 2023-07-25
REV 00
DRAWN BY HS
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**FIGURE C-5
HISTORICAL AIR PHOTO - 1979**

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
ASSESSMENT

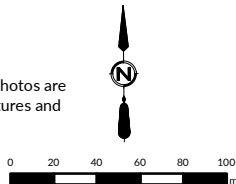
\\AE.CA\DATA\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-6_AERIALPHOTO_5_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND

 Site Boundary

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COORD. SYSTEM NAD 1983 UTM ZONE 12N
DATE 2023-07-25
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**FIGURE C-6
HISTORICAL AIR PHOTO - 1983**

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
ASSESSMENT

\\AE.CA\DATA\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-7_AERIALPHOTO_5_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND

Site Boundary

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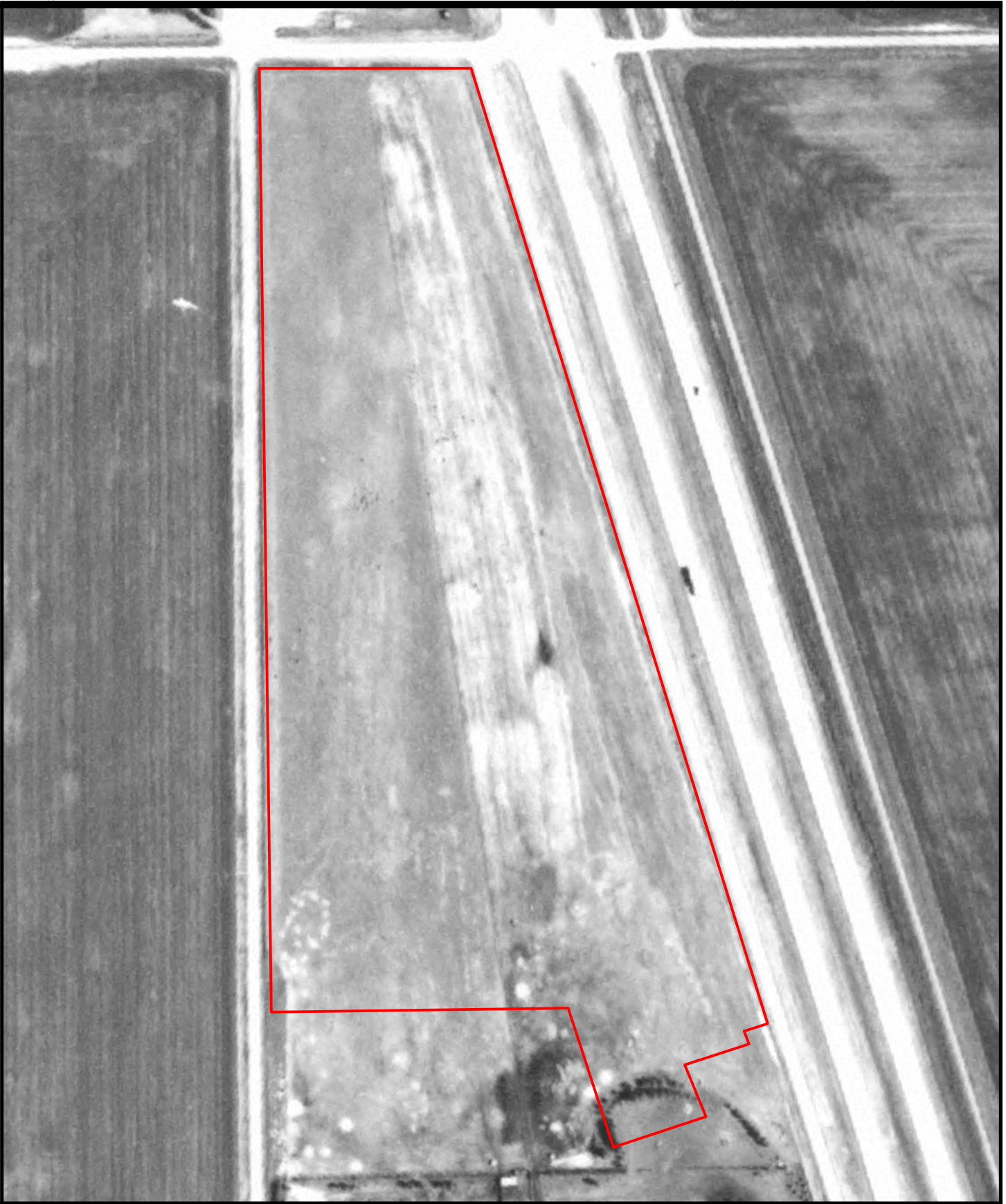
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COORD. SYSTEM	NAD 1983 UTM ZONE 12N
DATE	2023-07-25
REV	00
DRAWN BY	HS
CHECKED BY	WL
DESCRIPTION	ISSUED FOR REPORT


**FIGURE C-7
HISTORICAL AIR PHOTO - 1985**

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

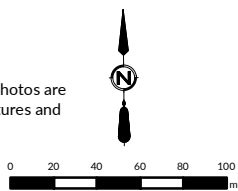
ENVIRONMENTAL SITE
ASSESSMENT

\\AE.CA\DATA\WORKING\LETI\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-8_AERIALPHOTO_5_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND
 Site Boundary

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AE PROJECT NO. 2023-3708-00
SCALE 1:3500
COORD. SYSTEM NAD 1983 UTM ZONE 12N
DATE 2023-07-25
REV 00
DRAWN BY HS
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DESCRIPTION ISSUED FOR REPORT

FIGURE C-8
HISTORICAL AIR PHOTO - 1992

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
ASSESSMENT

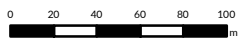
\\AE.CA\DATA\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-9_AERIALPHOTOS_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND

Site Boundary

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AE PROJECT NO.	2023-3708-00
SCALE	1:3500
COORD. SYSTEM	NAD 1983 UTM ZONE 12N
DATE	2023-07-25
REV	00
DRAWN BY	HS
CHECKED BY	WL
DESCRIPTION	ISSUED FOR REPORT

**FIGURE C-9
HISTORICAL AIR PHOTO - 1999**

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
ASSESSMENT

\\AE\CAD\DATA\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-10_AERIALPHOTOS_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND

 Site Boundary

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SCALE 1:3500
COORD. SYSTEM NAD 1983 UTM ZONE 12N
DATE 2023-08-03
REV 00
DRAWN BY HS
CHECKED BY WL
DESCRIPTION ISSUED FOR REPORT

**FIGURE C-10
HISTORICAL AIR PHOTO - 2005**

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
ASSESSMENT



Claresholm

\\AE.CA\DATA\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-11_AERIALPHOTOS_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND

Site Boundary

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AE PROJECT NO. 2023-3708-00
 SCALE 1:3500
 COORD. SYSTEM NAD 1983 UTM ZONE 12N
 DATE 2023-08-03
 REV 00
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**FIGURE C-11
 HISTORICAL AIR PHOTO - 2009**

TOWN OF CLARESHOLM
 AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
 ASSESSMENT

\\AE\CA\DATA\WORKING\LET\2023-3708-00\GIS\ARCMAP\HYDROGED\AEZ\023708_FIG-C-12_AERIALPHOTO_05_230725.MXD
IMAGERY: GOVERNMENT OF ALBERTA, 2023.



LEGEND

Site Boundary

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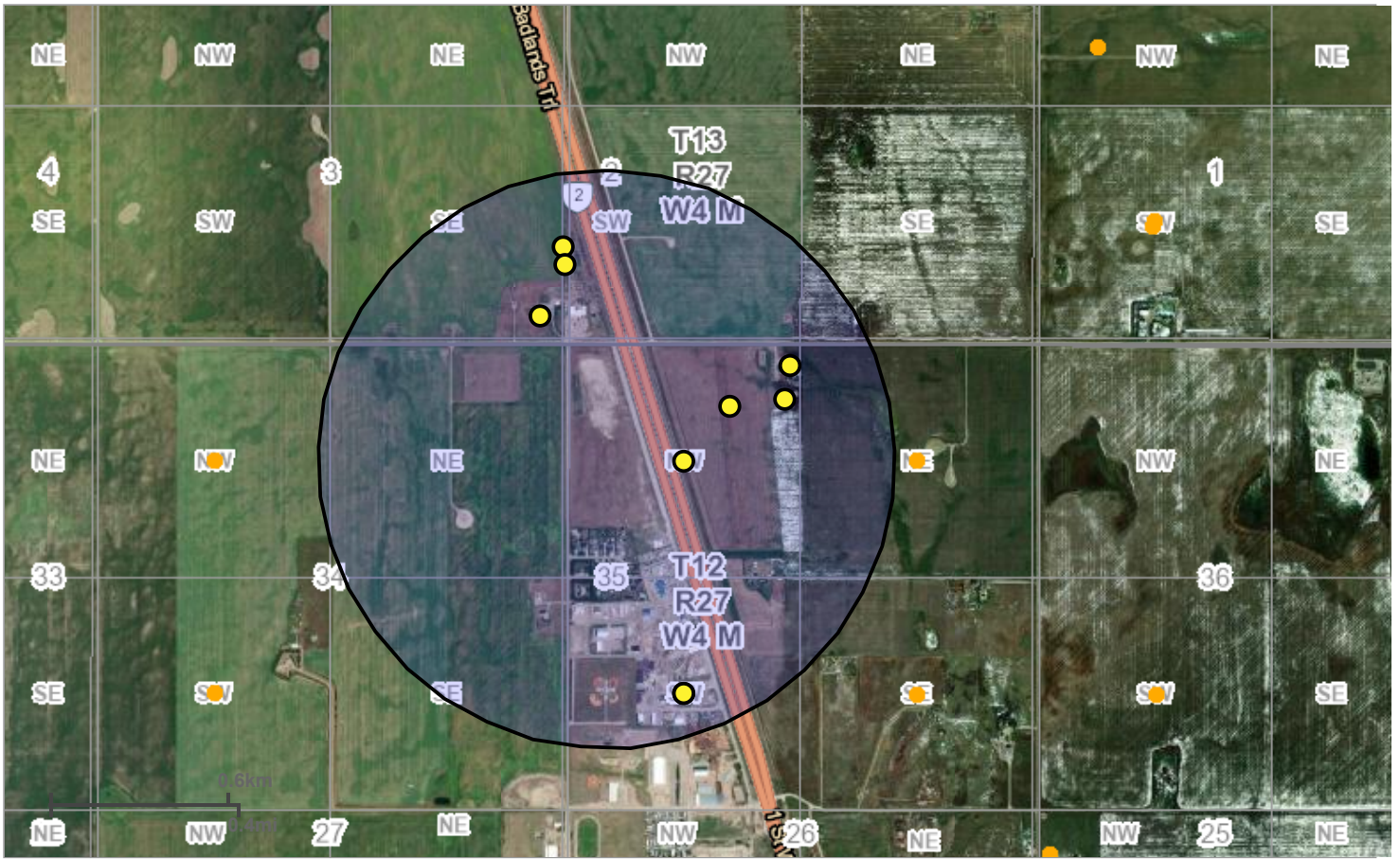
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COORD. SYSTEM	NAD 1983 UTM ZONE 12N
DATE	2023-07-25
REV	00
DRAWN BY	HS
CHECKED BY	WL
DESCRIPTION	ISSUED FOR REPORT

**FIGURE C-12
HISTORICAL AIR PHOTO - 2012**

TOWN OF CLARESHOLM
AREA STRUCTURE PLAN

ENVIRONMENTAL SITE
ASSESSMENT

APPENDIX D – WATER WELL RECORDS



Alberta Water Well Information Database Map

Projection

Web Mercator (Auxillary Sphere)

Datum

WGS 84

Date

6/27/2023, 2:32:40 PM

Legend

- Groundwater Drilling Report
- ◆ Baseline Water Well Report

<https://groundwater.alberta.ca/WaterWells/d/>

Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.
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Reconnaissance Report

[View in Imperial](#)

[Export to Excel](#)

Groundwater Wells

Please click the water Well ID to generate the Water Well Drilling Report.

GIC Well ID	LSD	SEC	TWP	RGE	M	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	CHM	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)	SC_DIA (cm)
140558	SW	35	12	27	4	MCDONALD DRLG	1965-08-01	36.58	Well Inventory	Domestic		2		OHLER, L.	3.05		0.00
140559	SW	35	12	27	4	UNKNOWN DRILLER		39.62	Chemistry	Domestic	1			DEROCHIE, JACK			0.00
140560	NW	35	12	27	4	UNKNOWN DRILLER		44.20	Chemistry	Domestic	1			BERRINGER, RICHARD			0.00
293425	14	35	12	27	4	UHL DRILLING LTD.	2000-04-11	42.67	Test Hole- Decommissioned	Domestic		8		ROBANSKA, ART			0.00
293426	14	35	12	27	4	UHL DRILLING LTD.	2000-04-10	42.67	Test Hole- Decommissioned	Domestic		6		ROBANSKA, ART			0.00
293427	14	35	12	27	4	UHL DRILLING LTD.	2000-04-20	54.86	New Well	Domestic		8	25	ROBANSKA, ART	8.23	13.64	16.81
1770104	4	2	13	27	4	UHL DRILLING LTD.	2009-05-06	73.15	Test Hole- Decommissioned	Domestic & Stock		11		GREEN, WARREN			
1770105	4	2	13	27	4	UHL DRILLING LTD.	2009-05-05	54.86	Test Hole- Decommissioned	Domestic & Stock		10		GREEN, WARREN			
1770291	1	3	13	27	4	UHL DRILLING LTD.			New Well	Domestic				DEWAR, DEREK			



Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 140558
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Metric	
Owner Name OHLER, L.		Address CLARESHOLM			Town		Province		Country		Postal Code
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	SW	35	12	27	4						
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)						
_____ m from _____					Latitude <u>50.037425</u>		Longitude <u>-113.589657</u>		Elevation <u>1039.37 m</u>		
_____ m from _____					How Location Obtained					How Elevation Obtained	
					Field					Estimated	

Drilling Information	
Method of Drilling Rotary	Type of Work Well Inventory
Proposed Well Use Domestic	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
9.14		Clay	
36.58		Shale	

Yield Test Summary			Measurement in Metric
Recommended Pump Rate <u>0.00 L/min</u>			
Test Date	Water Removal Rate (L/min)	Static Water Level (m)	
1965/08/01		3.05	

Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
36.58 m			1965/08/01	
Borehole				
Diameter (cm)	From (m)	To (m)		
0.00	0.00	36.58		
Surface Casing (if applicable)			Well Casing/Liner	
			Steel	
Size OD :	<u>0.00 cm</u>	Size OD :	<u>15.24 cm</u>	
Wall Thickness :	<u>0.000 cm</u>	Wall Thickness :	<u>0.000 cm</u>	
Bottom at :	<u>0.00 m</u>	Top at :	<u>0.00 m</u>	
		Bottom at :	<u>36.58 m</u>	
Perforations				
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)
Perforated by Unknown				
Annular Seal Driven				
Placed from <u>0.00 m</u> to <u>0.00 m</u>				
Amount _____				
Other Seals				
Type			At (m)	
Screen Type				
Size OD : <u>0.00 cm</u>				
From (m)	To (m)	Slot Size (cm)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name MCDONALD DRLG	Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 140558
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Metric	
Owner Name OHLER, L.		Address CLARESHOLM			Town		Province		Country		Postal Code
Location	1/4 or LSD SW	SEC 35	TWP 12	RGE 27	W of MER 4	Lot	Block	Plan	Additional Description		
Measured from Boundary of _____ m from _____ m from					GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>50.037425</u> Longitude <u>-113.589657</u>			Elevation <u>1039.37 m</u>		How Elevation Obtained Estimated	
					How Location Obtained Field						

Additional Information										Measurement in Metric	
Distance From Top of Casing to Ground Level _____ cm											
Is Artesian Flow _____					Is Flow Control Installed _____						
Rate _____ L/min					Describe _____						
Recommended Pump Rate _____ 0.00 L/min					Pump Installed _____		Depth _____ m				
Recommended Pump Intake Depth (From TOC) _____ 0.00 m					Type _____		Make _____		H.P. _____		
										Model (Output Rating) _____	
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ m		Well Disinfected Upon Completion _____				
Remedial Action Taker _____					Gas _____		Depth _____ m		Geophysical Log Taken _____		
										Submitted to ESRD _____	
Additional Comments on Well OWNER REPORTS MED-HARD WATER										Sample Collected for Potability _____	Submitted to ESRD _____

Yield Test			Taken From Ground Level	Measurement in Metric
			Depth to water level	
Test Date 1965/08/01	Start Time 12:00 AM	Static Water Level 3.05 m		
			Pumping (m)	Recovery (m)
			Elapsed Time Minutes:Sec	
Method of Water Removal				
Type <u>Unknown</u>				
Removal Rate _____ L/min				
Depth Withdrawn From <u>0.00 m</u>				
If water removal period was < 2 hours, explain why				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	L	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name MCDONALD DRLG	Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

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GIC Well ID 140559
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1974/11/25

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GOWN ID

Well Identification and Location										Measurement in Metric	
Owner Name DEROCHIE, JACK		Address GEN DEL, CLARESHOLM			Town		Province		Country		Postal Code
Location	<i>1/4 or LSD</i> SW	<i>SEC</i> 35	<i>TWP</i> 12	<i>RGE</i> 27	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
Measured from Boundary of _____ m from _____ _____ m from _____					GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>50.037425</u> Longitude <u>-113.589657</u> How Location Obtained Not Verified			Elevation _____ m How Elevation Obtained Not Obtained			

Drilling Information	
Method of Drilling Drilled	Type of Work Chemistry
Proposed Well Use Domestic	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Metric
<i>Recommended Pump Rate</i> _____ L/min			
Test Date	Water Removal Rate (L/min)	Static Water Level (m)	

Well Completion				Measurement in Metric
<i>Total Depth Drilled</i>	<i>Finished Well Depth</i>	<i>Start Date</i>	<i>End Date</i>	
39.62 m				
Borehole				
Diameter (cm)	From (m)	To (m)		
0.00	0.00	39.62		
Surface Casing (if applicable)		Well Casing/Liner		
Size OD : _____ 0.00 cm		Size OD : _____ 0.00 cm		
Wall Thickness : _____ 0.000 cm		Wall Thickness : _____ 0.000 cm		
Bottom at : _____ 0.00 m		Top at : _____ 0.00 m		
		Bottom at : _____ 0.00 m		
Perforations				
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)
Perforated by _____				
Annular Seal				
Placed from _____ 0.00 m to _____ 0.00 m				
Amount _____				
Other Seals				
Type		At (m)		
Screen Type				
Size OD : _____ 0.00 cm				
From (m)	To (m)	Slot Size (cm)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



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GIC Well ID 140559
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1974/11/25

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Metric	
Owner Name DEROCHIE, JACK		Address GEN DEL, CLARESHOLM			Town		Province		Country		Postal Code
Location	<i>1/4 or LSD</i> SW	<i>SEC</i> 35	<i>TWP</i> 12	<i>RGE</i> 27	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
Measured from Boundary of _____ m from _____ _____ m from _____					GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>50.037425</u> Longitude <u>-113.589657</u> How Location Obtained Not Verified			Elevation _____ m How Elevation Obtained Not Obtained			

Additional Information										Measurement in Metric	
Distance From Top of Casing to Ground Level _____ cm					Is Artesian Flow _____						Is Flow Control Installed _____
Rate _____ L/min		_____ L/min			Describe _____			_____			
Recommended Pump Rate _____ L/min			Pump Installed _____		Depth _____ m		_____				
Recommended Pump Intake Depth (From TOC) _____ m			Type _____		Make _____		H.P. _____		Model (Output Rating) _____		
Did you Encounter Saline Water (>4000 ppm TDS) _____			Depth _____ m		Well Disinfected Upon Completion _____						
Remedial Action Taken _____			Gas _____		Depth _____ m		Geophysical Log Taken _____				
_____			_____		Submitted to ESRD _____		_____				
Additional Comments on Well _____			Sample Collected for Potability _____			Submitted to ESRD <u>Yes</u>					

Yield Test			Taken From Ground Level	Measurement in Metric
Test Date _____	Start Time _____	Static Water Level _____ m		
Method of Water Removal				
Type _____				
Removal Rate _____ L/min				
Depth Withdrawn From _____ m				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source _____	Amount Taken _____ L	Diversion Date & Time _____

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



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GIC Well ID 140560
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1979/11/28

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GOWN ID

Well Identification and Location							Measurement in Metric		
Owner Name BERRINGER, RICHARD	Address CLARESHOLM		Town	Province	Country	Postal Code TOL 0T0			
Location	1/4 or LSD NW	SEC 35	TWP 12	RGE 27	W of MER 4	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____				GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>50.044657</u> Longitude <u>-113.589660</u> How Location Obtained Map			Elevation <u>1042.42</u> m How Elevation Obtained Estimated		

Drilling Information	
Method of Drilling Drilled	Type of Work Chemistry
Proposed Well Use Domestic	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Metric
Recommended Pump Rate _____ L/min			
Test Date	Water Removal Rate (L/min)	Static Water Level (m)	

Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
44.20 m				
Borehole				
Diameter (cm)	From (m)	To (m)		
0.00	0.00	44.20		
Surface Casing (if applicable)		Well Casing/Liner		
Size OD : _____ 0.00 cm		Size OD : _____ 0.00 cm		
Wall Thickness : _____ 0.000 cm		Wall Thickness : _____ 0.000 cm		
Bottom at : _____ 0.00 m		Top at : _____ 0.00 m		
		Bottom at : _____ 0.00 m		
Perforations				
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)
Perforated by _____				
Annular Seal				
Placed from _____ 0.00 m to _____ 0.00 m				
Amount _____				
Other Seals				
Type		At (m)		
Screen Type				
Size OD : _____ 0.00 cm				
From (m)		To (m)		Slot Size (cm)
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



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GIC Well ID 140560
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1979/11/28

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GOWN ID

Well Identification and Location										Measurement in Metric	
Owner Name BERRINGER, RICHARD		Address CLARESHOLM			Town		Province		Country		Postal Code TOL 0T0
Location	1/4 or LSD NW	SEC 35	TWP 12	RGE 27	W of MER 4	Lot	Block	Plan	Additional Description		
Measured from Boundary of _____ m from _____ _____ m from _____					GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>50.044657</u> Longitude <u>-113.589660</u> How Location Obtained _____ Map			Elevation <u>1042.42 m</u> How Elevation Obtained _____ Estimated			

Additional Information										Measurement in Metric	
Distance From Top of Casing to Ground Level _____ cm					Is Artesian Flow _____						Is Flow Control Installed _____
Rate _____ L/min					Describe _____						
Recommended Pump Rate _____ L/min					Pump Installed _____		Depth _____ m				
Recommended Pump Intake Depth (From TOC) _____ m					Type _____		Make _____		H.P. _____		Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ m		Well Disinfected Upon Completion _____				
Remedial Action Taken _____					Gas _____		Depth _____ m		Geophysical Log Taken _____		
									Submitted to ESRD _____		
Additional Comments on Well _____					Sample Collected for Potability _____				Submitted to ESRD <u>Yes</u>		

Yield Test			Taken From Ground Level	Measurement in Metric
Test Date _____	Start Time _____	Static Water Level _____ m		
Method of Water Removal				
Type _____				
Removal Rate _____ L/min				
Depth Withdrawn From _____ m				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source _____	Amount Taken _____ L	Diversion Date & Time _____

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

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GIC Well ID 293425
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2000/05/08

GOWN ID

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Well Identification and Location										Measurement in Metric		
Owner Name ROBANSKA, ART		Address P.O. BOX 1197 CLARESHOLM			Town		Province		Country		Postal Code TOL 0T0	
Location	<i>1/4 or LSD</i>	<i>SEC</i>	<i>TWP</i>	<i>RGE</i>	<i>W of MER</i>	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>			
	14	35	12	27	4		8	741				
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)							
_____					Latitude _____ Longitude _____					Elevation _____ m		
_____					How Location Obtained					How Elevation Obtained		
188.06 m from North					Not Verified					Not Obtained		
53.95 m from East												

Drilling Information			
Method of Drilling Rotary		Type of Work Test Hole-Decommissioned View Decommissioning Report	
Proposed Well Use Domestic		Plugged _____ 2000/04/11 Plugged with <u>Plugged</u> Amount _____	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
1.83		Light Brown Sandy Clay	
4.27		Dark Brown Clay	
4.88		Gray Clay & Sand	
7.32		Dark Brown Sandstone	
13.72		Light Gray Sandstone	
18.29		Green Shale	
25.91		Light Brown Sandstone	
42.67		Dark Gray Sandstone	

Yield Test Summary			Measurement in Metric
Recommended Pump Rate _____			L/min
Test Date	Water Removal Rate (L/min)	Static Water Level (m)	

Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
42.67 m		2000/04/11	2000/04/11	
Borehole				
Diameter (cm)	From (m)	To (m)		
0.00	0.00	42.67		
Surface Casing (if applicable)		Well Casing/Liner		
Size OD : _____		Size OD : _____		
Wall Thickness : _____		Wall Thickness : _____		
Bottom at : _____		Top at : _____		
		Bottom at : _____		
Perforations				
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval (cm)
Perforated by _____				
Annular Seal				
Placed from _____ 0.00 m to _____ 0.00 m				
Amount _____				
Other Seals				
Type		At (m)		
Screen Type				
Size OD : _____ 0.00 cm				
From (m)	To (m)	Slot Size (cm)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UHL DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

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GIC Well ID 293425
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2000/05/08

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GOWN ID

Well Identification and Location										Measurement in Metric	
Owner Name ROBANSKA, ART		Address P.O. BOX 1197 CLARESHOLM			Town		Province		Country		Postal Code TOL 0T0
Location	<i>1/4 or LSD</i> 14	<i>SEC</i> 35	<i>TWP</i> 12	<i>RGE</i> 27	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i> 8	<i>Plan</i> 741	<i>Additional Description</i>		
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)						
_____					Latitude <u>50.046582</u> Longitude <u>-113.584796</u>					Elevation _____ m	
_____					How Location Obtained					How Elevation Obtained	
188.06 m from North					Not Verified					Not Obtained	
53.95 m from East											

Additional Information										Measurement in Metric	
Distance From Top of Casing to Ground Level _____ cm											
Is Artesian Flow _____					Is Flow Control Installed _____						
Rate _____ L/min					Describe _____						
Recommended Pump Rate _____ L/min					Pump Installed _____		Depth _____ m				
Recommended Pump Intake Depth (From TOC) _____ m					Type _____		Make _____		H.P. _____		
										Model (Output Rating) _____	
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ m		Well Disinfected Upon Completion _____				
Remedial Action Taken _____					Gas _____		Depth _____ m		Geophysical Log Taken _____		
										Submitted to ESRD _____	
										Sample Collected for Potability _____	
										Submitted to ESRD _____	
Additional Comments on Well _____											

Yield Test			Taken From Ground Level	Measurement in Metric
Test Date _____	Start Time _____	Static Water Level _____ m		
Method of Water Removal				
Type _____				
Removal Rate _____ L/min				
Depth Withdrawn From _____ m				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source _____	Amount Taken _____ L	Diversion Date & Time _____

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UHL DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

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GIC Well ID 293426
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2000/05/08

GOWN ID

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Well Identification and Location										Measurement in Metric	
Owner Name ROBANSKA, ART		Address P.O. BOX 1197			Town CLARESHOLM		Province AB	Country CA	Postal Code T0L 0T0		
Location	<i>1/4 or LSD</i> 14	<i>SEC</i> 35	<i>TWP</i> 12	<i>RGE</i> 27	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i> 8	<i>Plan</i> 7410624	<i>Additional Description</i>		
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)						
_____ m from _____					Latitude <u>50.046344</u> Longitude <u>-113.587430</u>					Elevation _____ m	
_____ m from _____					How Location Obtained					How Elevation Obtained	
					Map					Not Obtained	

Drilling Information			
Method of Drilling Rotary		Type of Work Test Hole-Decommissioned View Decommissioning Report	
Proposed Well Use Domestic		Plugged <u>2000/04/10</u> Plugged with <u>Bentonite Product</u> Amount _____	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
3.05		Light Brown Clay	
10.67		Light Brown Sandstone	
11.28		Light Gray Sandstone	
24.38		Dark Gray Sandstone	
33.53		Light Gray Sandstone	
42.67		Dark Gray Sandstone	

Yield Test Summary			Measurement in Metric
<i>Recommended Pump Rate</i> _____ L/min			
Test Date	Water Removal Rate (L/min)	Static Water Level (m)	

Well Completion				Measurement in Metric
<i>Total Depth Drilled</i> 42.67 m	<i>Finished Well Depth</i>	<i>Start Date</i> 2000/04/10	<i>End Date</i> 2000/04/10	
Borehole				
Diameter (cm)	From (m)	To (m)		
0.00	0.00	42.67		
Surface Casing (if applicable)		Well Casing/Liner		
Size OD : <u>0.00 cm</u>		Size OD : <u>0.00 cm</u>		
Wall Thickness : <u>0.000 cm</u>		Wall Thickness : <u>0.000 cm</u>		
Bottom at : <u>0.00 m</u>		Top at : <u>0.00 m</u>		
		Bottom at : <u>0.00 m</u>		
Perforations				
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)
Perforated by _____				
Annular Seal				
Placed from <u>0.00 m</u> to <u>0.00 m</u>				
Amount _____				
Other Seals				
Type		At (m)		
Screen Type				
Size OD : <u>0.00 cm</u>				
From (m)	To (m)	Slot Size (cm)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UHL DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

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GIC Well ID 293426
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2000/05/08

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GOWN ID

Well Identification and Location										Measurement in Metric
Owner Name ROBANSKA, ART		Address P.O. BOX 1197			Town CLARESHOLM		Province AB	Country CA	Postal Code T0L 0T0	
Location	<i>1/4 or LSD</i> 14	<i>SEC</i> 35	<i>TWP</i> 12	<i>RGE</i> 27	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i> 8	<i>Plan</i> 7410624	<i>Additional Description</i>	
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)					
_____ m from _____					Latitude <u>50.046344</u> Longitude <u>-113.587430</u>					Elevation _____ m
_____ m from _____					How Location Obtained _____					How Elevation Obtained _____
					Map _____					Not Obtained

Additional Information										Measurement in Metric
<i>Distance From Top of Casing to Ground Level</i> _____ cm										
<i>Is Artesian Flow</i> _____					<i>Is Flow Control Installed</i> _____					
<i>Rate</i> _____ L/min					<i>Describe</i> _____					
<i>Recommended Pump Rate</i> _____ L/min					<i>Pump Installed</i> _____		<i>Depth</i> _____ m			
<i>Recommended Pump Intake Depth (From TOC)</i> _____ m					<i>Type</i> _____	<i>Make</i> _____	<i>H.P.</i> _____	<i>Model (Output Rating)</i> _____		
<i>Did you Encounter Saline Water (>4000 ppm TDS)</i> _____					<i>Depth</i> _____ m		<i>Well Disinfected Upon Completion</i> _____			
<i>Remedial Action Taker</i> _____					<i>Gas</i> _____	<i>Depth</i> _____ m	<i>Geophysical Log Taken</i> _____			
					<i>Submitted to ESRD</i> _____					
					<i>Sample Collected for Potability</i> _____					<i>Submitted to ESRD</i> _____
<i>Additional Comments on Well</i>										

Yield Test			Taken From Ground Level	Measurement in Metric
<i>Test Date</i>	<i>Start Time</i>	<i>Static Water Level</i>		
		m		
Method of Water Removal				
<i>Type</i> _____				
<i>Removal Rate</i> _____ L/min				
<i>Depth Withdrawn From</i> _____ m				
<i>If water removal period was < 2 hours, explain why</i>				

Water Diverted for Drilling		
<i>Water Source</i>	<i>Amount Taken</i>	<i>Diversion Date & Time</i>
	L	

Contractor Certification	
<i>Name of Journeyman responsible for drilling/construction of well</i> UNKNOWN NA DRILLER	<i>Certification No</i> 1
<i>Company Name</i> UHL DRILLING LTD.	<i>Copy of Well report provided to owner</i> <i>Date approval holder signed</i>



Water Well Drilling Report

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GIC Well ID 293427
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2000/05/08

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GOWN ID

Well Identification and Location										Measurement in Metric		
Owner Name ROBANSKA, ART		Address P.O. BOX 2707 CLARESHOLM			Town		Province		Country		Postal Code TOL 0T0	
Location	<i>1/4 or LSD</i>	<i>SEC</i>	<i>TWP</i>	<i>RGE</i>	<i>W of MER</i>	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>			
	14	35	12	27	4		8	7410624				
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)							
74.98 m from North					Latitude 50.047599		Longitude -113.584545			Elevation _____ m		
35.97 m from East					How Location Obtained					How Elevation Obtained		
					Not Verified					Not Obtained		

Drilling Information	
Method of Drilling Rotary	Type of Work New Well
Proposed Well Use Domestic	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
3.05		Light Brown Clay	
11.89		Light Gray Sandstone	
23.77		Dark Gray Sandstone	
24.69		Hard Sandstone Stringers	
32.00		Light Gray Sandstone	
36.58		Dark Gray Sandstone Stringers	
42.67		Light Gray Sandstone	
54.86		Dark Green Shale	

Yield Test Summary			Measurement in Metric
Recommended Pump Rate			13.64 L/min
Test Date	Water Removal Rate (L/min)	Static Water Level (m)	
2000/04/20	13.64	8.23	

Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
54.86 m		2000/04/11	2000/04/20	
Borehole				
Diameter (cm)	From (m)	To (m)		
0.00	0.00	54.86		
Surface Casing (if applicable)		Well Casing/Liner		
Steel		Plastic		
Size OD : 16.81 cm		Size OD : 12.70 cm		
Wall Thickness : 0.478 cm		Wall Thickness : 0.478 cm		
Bottom at : 5.79 m		Top at : 3.05 m		
		Bottom at : 54.86 m		
Perforations				
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval (cm)
21.34	30.48	0.076		7.62
Perforated by Saw				
Annular Seal Bentonite Chips/Tablets				
Placed from 0.00 m to 5.49 m				
Amount _____				
Other Seals				
Type		At (m)		
Screen Type				
Size OD : 0.00 cm				
From (m)		To (m)		Slot Size (cm)
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UHL DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 293427
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2000/05/08

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Metric		
Owner Name ROBANSKA, ART		Address P.O. BOX 2707 CLARESHOLM			Town		Province		Country		Postal Code TOL 0T0	
Location	<i>1/4 or LSD</i> 14	<i>SEC</i> 35	<i>TWP</i> 12	<i>RGE</i> 27	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i> 8	<i>Plan</i> 7410624	<i>Additional Description</i>			
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)							
74.98 m from North					Latitude 50.047599		Longitude -113.584545		Elevation _____ m			
35.97 m from East					How Location Obtained					How Elevation Obtained		
					Not Verified					Not Obtained		

Additional Information										Measurement in Metric
<i>Distance From Top of Casing to Ground Level</i> _____ cm										
<i>Is Artesian Flow</i> _____					<i>Is Flow Control Installed</i> _____					
<i>Rate</i> _____ L/min					<i>Describe</i> _____					
<i>Recommended Pump Rate</i> _____ 13.64 L/min					<i>Pump Installed</i> _____		<i>Depth</i> _____ m			
<i>Recommended Pump Intake Depth (From TOC)</i> _____ 45.72 m					<i>Type</i> _____		<i>Make</i> _____		<i>H.P.</i> _____	
										<i>Model (Output Rating)</i> _____
<i>Did you Encounter Saline Water (>4000 ppm TDS)</i> _____					<i>Depth</i> _____ m		<i>Well Disinfected Upon Completion</i> _____			
<i>Remedial Action Taken</i> _____					<i>Gas</i> _____		<i>Depth</i> _____ m		<i>Geophysical Log Taken</i> _____	
										<i>Submitted to ESRD</i> _____
<i>Additional Comments on Well</i>										
DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 10".										
<i>Sample Collected for Potability</i> _____										<i>Submitted to ESRD</i> _____

Yield Test			Taken From Ground Level	Measurement in Metric	
Test Date	Start Time	Static Water Level	Depth to water level		
2000/04/20	12:00 AM	8.23 m			
Method of Water Removal					
<i>Type</i> Pump					
<i>Removal Rate</i> 13.64 L/min					
<i>Depth Withdrawn From</i> 44.20 m					
<i>If water removal period was < 2 hours, explain why</i>					
			Pumping (m)	Elapsed Time Minutes:Sec	
				Recovery (m)	
			8.23	0:00	28.35
			8.84	1:00	28.04
			9.45	2:00	27.43
			10.06	3:00	27.13
			10.67	4:00	26.82
			11.28	5:00	26.21
			11.58	6:00	25.91
			11.89	7:00	25.60
			12.19	8:00	25.30
			12.50	9:00	24.99
			12.80	10:00	24.38
			13.11	12:00	23.47
			13.72	14:00	22.86
			14.02	16:00	22.56
			14.94	20:00	21.64
			15.85	25:00	20.73
			16.15	30:00	19.51
			16.15	35:00	18.29
			16.76	40:00	17.07
			17.37	50:00	14.94
			19.20	60:00	13.11
			21.95	75:00	11.28
			24.38	90:00	9.75
			25.91	105:00	8.23
			28.35	120:00	

Water Diverted for Drilling		
<i>Water Source</i>	<i>Amount Taken</i>	<i>Diversion Date & Time</i>
	L	

Contractor Certification		
<i>Name of Journeyman responsible for drilling/construction of well</i>		<i>Certification No</i>
UNKNOWN NA DRILLER		1
<i>Company Name</i>		<i>Copy of Well report provided to owner</i> <i>Date approval holder signed</i>
UHL DRILLING LTD.		



Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 1770104
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2009/06/12

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Metric	
Owner Name GREEN, WARREN		Address P.O. BOX 1912			Town CLARESHOLM		Province ALBERTA		Country CA	Postal Code T0L 0T0	
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	4	2	13	27	4	2	1	9412659			
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)						
_____ m from					Latitude <u>50.051333</u> Longitude <u>-113.595500</u>					Elevation <u>1051.56</u> m	
_____ m from					How Location Obtained					How Elevation Obtained	
					Differential corrected handheld GPS 5-10m					Differential corrected handheld GPS 5-10m	

Drilling Information			
Method of Drilling Rotary		Type of Work Test Hole-Decommissioned View Decommissioning Report	
Proposed Well Use Domestic & Stock		Plugged <u>2009/05/06</u> Plugged with <u>Bentonite Product</u> Amount <u>150.00</u> Pounds	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
4.57		Brown Till & Clay	
9.14		Dark Gray Sandstone	
9.45		Light Gray Sandstone	
20.12		Light Brown Sandstone	
26.21		Light Gray Sandstone	
38.10		Dark Gray Shale	
49.99		Light Gray Sandstone	
51.82		Light Brown Sandstone	
53.34		Dark Gray Shale	
62.48		Dark Brown Sandstone	
73.15		Dark Gray Shale	

Yield Test Summary			Measurement in Metric
Recommended Pump Rate _____ L/min			
Test Date	Water Removal Rate (L/min)	Static Water Level (m)	

Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
73.15 m		2009/05/05	2009/05/06	
Borehole				
Diameter (cm)	From (m)	To (m)		
Surface Casing (if applicable)		Well Casing/Liner		
Unknown		Unknown		
Size OD : _____ cm		Size OD : _____ cm		
Wall Thickness : _____ cm		Wall Thickness : _____ cm		
Bottom at : _____ m		Top at : _____ m		
		Bottom at : _____ m		
Perforations				
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)
Perforated by Unknown				
Annular Seal Unknown				
Placed from _____ m to _____ m				
Amount _____				
Other Seals				
Type		At (m)		
Screen Type				
Size OD : _____ cm				
From (m)	To (m)	Slot Size (cm)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type Unknown		Grain Size _____		
Amount _____		Unknown		

Contractor Certification			
Name of Journeyman responsible for drilling/construction of well DAN UHL		Certification No 8361Q	
Company Name UHL DRILLING LTD.		Copy of Well report provided to owner Yes	
		Date approval holder signed 2009/05/07	



Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 1770104
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2009/06/12

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Metric
Owner Name GREEN, WARREN		Address P.O. BOX 1912			Town CLARESHOLM		Province ALBERTA		Country CA	Postal Code T0L 0T0
Location	<i>1/4 or LSD</i> 4	<i>SEC</i> 2	<i>TWP</i> 13	<i>RGE</i> 27	<i>W of MER</i> 4	<i>Lot</i> 2	<i>Block</i> 1	<i>Plan</i> 9412659	<i>Additional Description</i>	
Measured from Boundary of _____ m from _____ _____ m from _____					GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>50.051333</u> Longitude <u>-113.595500</u> How Location Obtained Differential corrected handheld GPS 5-10m				Elevation <u>1051.56 m</u> How Elevation Obtained Differential corrected handheld GPS 5-10m	

Additional Information										Measurement in Metric
Distance From Top of Casing to Ground Level _____ cm										
Is Artesian Flow _____					Is Flow Control Installed _____					
Rate _____ L/min					Describe _____					
Recommended Pump Rate _____ L/min					Pump Installed _____		Depth _____ m			
Recommended Pump Intake Depth (From TOC) _____ m					Type _____		Make _____		H.P. _____	
										Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ m		Well Disinfected Upon Completion _____			
Remedial Action Taker _____					Gas _____		Depth _____ m		Geophysical Log Taken _____	
										Submitted to ESRD _____
Additional Comments on Well LESS THAN 1 GAL PER HR @ 66', ABANDONED & PLUGGED WITH HIGH SOLIDS BENTONITE (150 LBS),										Sample Collected for Potability _____
										Submitted to ESRD _____

Yield Test			Taken From Ground Level	Measurement in Metric
Test Date _____	Start Time _____	Static Water Level _____ m		
Method of Water Removal				
Type _____				
Removal Rate _____ L/min				
Depth Withdrawn From _____ m				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source CLARESHOLM	Amount Taken 4546.09 L	Diversion Date & Time 2009/05/04 9:00 AM

Contractor Certification			
Name of Journeyman responsible for drilling/construction of well DAN UHL		Certification No 8361Q	
Company Name UHL DRILLING LTD.		Copy of Well report provided to owner Yes	Date approval holder signed 2009/05/07



Water Well Drilling Report

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GIC Well ID 1770105
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2009/06/12

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Metric	
Owner Name GREEN, WARREN		Address P.O. BOX 1912			Town CLARESHOLM		Province ALBERTA		Country CA	Postal Code T0L 0T0	
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	4	2	13	27	4	2	1	9412659			
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)						
58.00 m from South					Latitude 50.050767		Longitude -113.595417		Elevation 1049.73 m		
10.00 m from West					How Location Obtained					How Elevation Obtained	
					Differential corrected handheld GPS 5-10m					Differential corrected handheld GPS 5-10m	

Drilling Information			
Method of Drilling Rotary		Type of Work Test Hole-Decommissioned View Decommissioning Report	
Proposed Well Use Domestic & Stock		Plugged 2009/05/05 Plugged with Bentonite Product Amount 150.00 Pounds	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
4.27		Brown Till & Clay	
7.92		Dark Gray Sandstone	
8.23		Light Gray Sandstone	
8.53		Light Gray Sandstone	
20.73		Dark Gray Sandstone	
24.69		Brown Sandstone	
26.21		Light Gray Sandstone	
37.49		Dark Gray Shale	
49.38		Light Gray Sandstone	
54.86		Dark Gray Shale	

Yield Test Summary			Measurement in Metric
Recommended Pump Rate		L/min	
Test Date	Water Removal Rate (L/min)	Static Water Level (m)	

Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
54.86 m		2009/05/04	2009/05/05	
Borehole				
Diameter (cm)		From (m)	To (m)	
Surface Casing (if applicable)			Well Casing/Liner	
Unknown			Unknown	
Size OD : _____ cm			Size OD : _____ cm	
Wall Thickness : _____ cm			Wall Thickness : _____ cm	
Bottom at : _____ m			Top at : _____ m	
			Bottom at : _____ m	
Perforations				
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)
Perforated by Unknown				
Annular Seal Unknown				
Placed from _____ m to _____ m				
Amount _____				
Other Seals				
Type			At (m)	
Screen Type				
Size OD : _____ cm				
From (m)	To (m)	Slot Size (cm)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type Unknown		Grain Size _____		
Amount _____		Unknown		

Contractor Certification			
Name of Journeyman responsible for drilling/construction of well DAN UHL		Certification No 8361Q	
Company Name UHL DRILLING LTD.		Copy of Well report provided to owner Yes	
		Date approval holder signed 2009/05/06	



Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 1770105
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2009/06/12

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Metric	
Owner Name GREEN, WARREN		Address P.O. BOX 1912			Town CLARESHOLM		Province ALBERTA		Country CA	Postal Code T0L 0T0	
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	4	2	13	27	4	2	1	9412659			
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)						
_____					Latitude _____					Elevation _____	
58.00 m from South					Longitude -113.595417					1049.73 m	
_____					How Location Obtained					How Elevation Obtained	
10.00 m from West					Differential corrected handheld GPS 5-10m					Differential corrected handheld GPS 5-10m	

Additional Information										Measurement in Metric				
Distance From Top of Casing to Ground Level _____										cm				
Is Artesian Flow _____					Is Flow Control Installed _____									
Rate _____					Describe _____									
L/min														
Recommended Pump Rate _____					L/min		Pump Installed _____		Depth _____					
Recommended Pump Intake Depth (From TOC) _____					m		Type _____		Make _____		H.P. _____			
											Model (Output Rating) _____			
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____		m					Well Disinfected Upon Completion _____		
Remedial Action Taken _____					Gas _____		Depth _____		m					Geophysical Log Taken _____
											Submitted to ESRD _____			
											Sample Collected for Potability _____	Submitted to ESRD _____		
Additional Comments on Well														
LESS THAN 1 GPH @ 68', LITH - 26' - 27' SS LEDGE, 28' - 68' SS LEDGE, 123' - 162' SS LEDGE, AIR DRILLING														

Yield Test			Taken From Ground Level		Measurement in Metric	
Test Date _____	Start Time _____	Static Water Level _____				m
Method of Water Removal						
Type _____						
Removal Rate _____						
L/min						
Depth Withdrawn From _____						
m						
If water removal period was < 2 hours, explain why _____						

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
CLARESHOLM	4546.09 L	2009/05/04 9:00 AM

Contractor Certification			
Name of Journeyman responsible for drilling/construction of well		Certification No	
DAN UHL		8361Q	
Company Name		Copy of Well report provided to owner	Date approval holder signed
UHL DRILLING LTD.		Yes	2009/05/06



Water Well Drilling Report

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GIC Well ID 1770291
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2021/08/25

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location						Measurement in Metric			
Owner Name DEWAR, DEREK	Address 272002 TWP RD 130	Town CLARESHOLM	Province ALBERTA	Country CANADA	Postal Code T0L 0T0				
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	1	3	13	27	4		1	9221077	
Measured from Boundary of			GPS Coordinates in Decimal Degrees (NAD 83)						
_____ m from _____			Latitude <u>50.049146</u> Longitude <u>-113.596688</u>				Elevation _____ m		
_____ m from _____			How Location Obtained _____				How Elevation Obtained _____		
			Phone _____				Not Obtained		

Drilling Information	
Method of Drilling Unknown	Type of Work New Well
Proposed Well Use Domestic	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Metric
Recommended Pump Rate _____		L/min	
Test Date	Water Removal Rate (L/min)	Static Water Level (m)	

Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
	60.96 m	1978/02/01		
Borehole				
Diameter (cm)	From (m)	To (m)		
Surface Casing (if applicable)		Well Casing/Liner		
Size OD : _____	cm	Size OD : _____	cm	
Wall Thickness : _____	cm	Wall Thickness : _____	cm	
Bottom at : _____	m	Top at : _____	m	
		Bottom at : _____	m	
Perforations				
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)
Perforated by _____				
Annular Seal				
Placed from _____ m to _____ m				
Amount _____				
Other Seals				
Type		At (m)		
Screen Type				
Size OD : _____ cm				
From (m)	To (m)	Slot Size (cm)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UHL DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 1770291
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2021/08/25

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Metric	
Owner Name DEWAR, DEREK		Address 272002 TWP RD 130			Town CLARESHOLM		Province ALBERTA		Country CANADA	Postal Code T0L 0T0	
Location	<i>1/4 or LSD</i> 1	<i>SEC</i> 3	<i>TWP</i> 13	<i>RGE</i> 27	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i> 1	<i>Plan</i> 9221077	<i>Additional Description</i>		
Measured from Boundary of				GPS Coordinates in Decimal Degrees (NAD 83)							
_____ m from				Latitude <u>50.049146</u>				Longitude <u>-113.596688</u>			
_____ m from				How Location Obtained				Elevation _____ m			
				Phone				How Elevation Obtained			
								Not Obtained			

Additional Information										Measurement in Metric
<i>Distance From Top of Casing to Ground Level</i> _____ cm										
<i>Is Artesian Flow</i> _____					<i>Is Flow Control Installed</i> _____					
<i>Rate</i> _____ L/min					<i>Describe</i> _____					
<i>Recommended Pump Rate</i> _____ L/min					<i>Pump Installed</i> _____		<i>Depth</i> _____ m			
<i>Recommended Pump Intake Depth (From TOC)</i> _____ m					<i>Type</i> _____		<i>Make</i> _____		<i>H.P.</i> _____	
										<i>Model (Output Rating)</i> _____
<i>Did you Encounter Saline Water (>4000 ppm TDS)</i> _____					<i>Depth</i> _____ m		<i>Well Disinfected Upon Completion</i> _____			
<i>Remedial Action Taken</i>					<i>Gas</i> _____		<i>Depth</i> _____ m		<i>Geophysical Log Taken</i> _____	
										<i>Submitted to ESRD</i> _____
										<i>Sample Collected for Potability</i> _____
										<i>Submitted to ESRD</i> _____
<i>Additional Comments on Well</i>										
ORIGINAL REPORT NOT FOUND, CREATED REPORT BASED ON INFORMATION FROM CURRENT OWNER. WELL WAS DRILLED IN 1978 (EXACT DATE IS UNKNOWN)										

Yield Test			Taken From Ground Level	Measurement in Metric
<i>Test Date</i>	<i>Start Time</i>	<i>Static Water Level</i>		
		m		
Method of Water Removal				
<i>Type</i> _____				
<i>Removal Rate</i> _____ L/min				
<i>Depth Withdrawn From</i> _____ m				
<i>If water removal period was < 2 hours, explain why</i>				

Water Diverted for Drilling		
<i>Water Source</i>	<i>Amount Taken</i>	<i>Diversion Date & Time</i>
	L	

Contractor Certification	
<i>Name of Journeyman responsible for drilling/construction of well</i> UNKNOWN NA DRILLER	<i>Certification No</i> 1
<i>Company Name</i> UHL DRILLING LTD.	<i>Copy of Well report provided to owner</i> <i>Date approval holder signed</i>

APPENDIX E – STORAGE TANK INFORMATION



A Division of the Safety Codes Council

June 27, 2023

Mark Beker
Associated Environmental
Calgary, AB T3G 0B4

Email: bekerm@ae.ca

Re: ASCA Storage Tank Search – Your File No. Beker

Dear Mark,

As per your search request received June 27, 2023 Alberta Safety Codes Authority (ASCA) has searched the storage tank database for existing and former installations of storage tank systems, as defined by the Fire Code, including those known to be inside structures at the following address:

1. Lot: 2 Block: 8 Plan: 0715848
2. Block: 7 Plan: 7410624; QTR: SE SEC: 35 TWP: 12 RGE: 27 MER: W4

The search of the storage tank database determined **no records** were available for the address requested.

The Freedom of Information and Protection of Privacy Act governs the information provided. Please note that the database is **not** complete. The main limitation of the database is that it only includes information reported through registration and permitting or a survey of abandoned sites completed in 1992 and should not be considered a comprehensive inventory of all past or present storage tank sites. ASCA's storage tank systems database is solely maintained based on information provided by owners and or operators of storage tank systems; therefore, the database may not reflect information related to all existing or former storage tank systems in Alberta. Further information on storage tank systems or investigations involving a spill/release or contamination may be filed with the local fire service or Alberta Environment.

Regards,

Samita Paliwal
ASCA Tanks
Alberta Safety Codes Authority
Safety Codes Council | safetycodes.ab.ca
Tel. 780.424.8071 | Toll-Free 1-888-413-0099

.....
.....
.....

APPENDIX F – ALBERTA ENERGY REGULATOR INCIDENT REPORT DATABASE



Identify Results

No results to display

Items appear after you perform a valid search or other task that returns results.

Search...

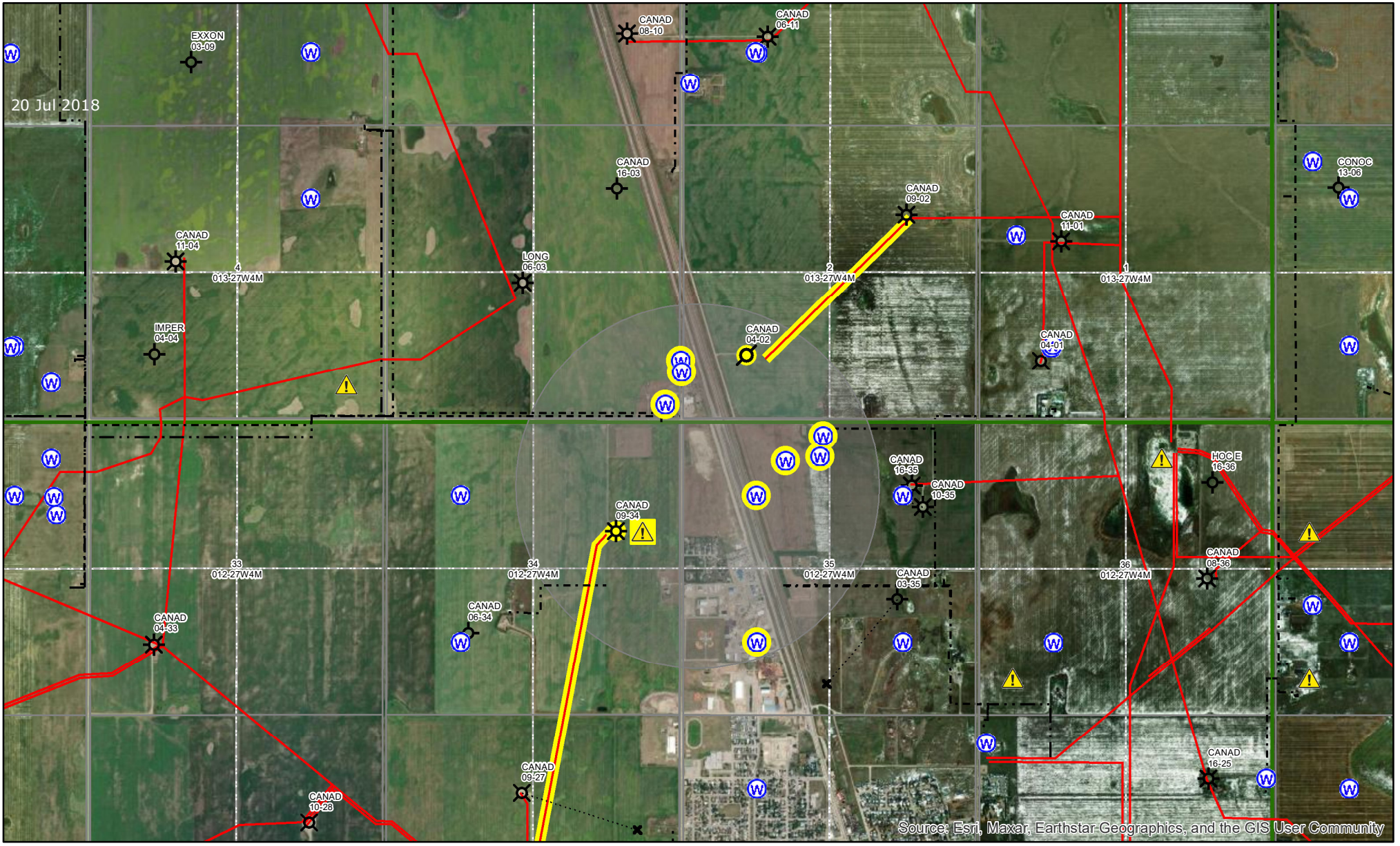
Tools

Scale 1: 36,112 Go

SPOT 2022

Clareholm

APPENDIX G – ABACUS DATAGRAPHS DATABASE RESULTS



Tuesday, June 27, 2023

Well CBM Report



ID	Distance	Direction	Location	Latitude	Longitude	Well Owner	Depth (ft)	Casing Base (ft)	Drill Date	Type	Purpose
Water Wells within 0 - 200 meters of Well											
Water Wells within 201 - 600 meters of Well											
140560	333.04	91	NW-35-12-27W4	50.044657	-113.589660	BERRINGER, RICHARD CLARESHOLM T0L 0T0	145.00	0.00	N/A	Chemistry	Domestic
293426	529.23	71	14-35-12-27W4	50.046344	-113.587430	ROBANSKA, ART PO Box 1197 CLARESHOLM AB T0L 0T0 CA	140.00	0.00	APR 10 2000	Test Hole- Decommissioned	Domestic
1770291	532.81	343	1-3-13-27W4	50.049146	-113.596688	DEWAR, DEREK 272002 TWP RD 130 CLARESHOLM ALBERTA T0L 0T0 CANADA	N/A	N/A	N/A	New Well	Domestic
Water Wells within 601 - 800 meters of Well											
1770105	689.71	355	4-2-13-27W4	50.050767	-113.595417	GREEN, WARREN PO Box 1912 CLARESHOLM ALBERTA T0L 0T0 CA	180.00	N/A	MAY 5 2009	Test Hole- Decommissioned	Domestic & Stock
293425	715.92	74	14-35-12-27W4	50.046582	-113.584796	ROBANSKA, ART PO Box 1197 CLARESHOLM T0L 0T0	140.00	0.00	APR 11 2000	Test Hole- Decommissioned	Domestic
1770104	752.94	355	4-2-13-27W4	50.051333	-113.595500	GREEN, WARREN PO Box 1912 CLARESHOLM ALBERTA T0L 0T0 CA	240.00	N/A	MAY 6 2009	Test Hole- Decommissioned	Domestic & Stock
293427	774.49	67	14-35-12-27W4	50.047599	-113.584545	ROBANSKA, ART PO Box 2707 CLARESHOLM T0L 0T0	180.00	19.00	APR 20 2000	New Well	Domestic
Water Wells within 801 - 1600 meters of Well											
140558	865.64	159	SW-35-12-27W4	50.037425	-113.589657	OHLER, L. CLARESHOLM	120.00	0.00	AUG 1 1965	Well Inventory	Domestic
140559	865.64	159	SW-35-12-27W4	50.037425	-113.589657	DEROCHIE, JACK GEN DEL, CLARESHOLM	130.00	0.00	N/A	Chemistry	Domestic
140561	1137.86	92	NE-35-12-27W4	50.044657	-113.578424	BERRINGER, RICHARD PO Box 923 CLARESHOLM T0L 0T0	0.00	0.00	N/A	Chemistry	Domestic & Stock
140554	1296.41	272	NW-34-12-27W4	50.044663	-113.612407	BENNET, C. CLARESHOLM	415.00	0.00	MAY 29 1957	Dry Hole	Unknown
140555	1390.44	127	SE-35-12-27W4	50.037425	-113.578423	BAKKER, HANK PO Box 1105 CLARESHOLM	141.00	40.00	JUN 1 1973	New Well	Domestic
140556	1390.44	127	SE-35-12-27W4	50.037425	-113.578423	HOFFARTH, H.C. PO Box 477 CLARESHOLM	90.00	0.00	N/A	Chemistry	Domestic
140557	1390.44	127	SE-35-12-27W4	50.037425	-113.578423	ROBINSON, BRUCE PO Box 1285 CLARESHOLM	115.00	85.00	MAY 1 1974	New Well	Domestic
160182	1390.44	127	SE-35-12-27W4	50.037425	-113.578423	BAYFIELD, ANTHONY PO Box 193 CLARESHOLM T0L 0T0	60.00	0.00	N/A	Chemistry	Domestic
140553	1522.42	240	SW-34-12-27W4	50.037431	-113.612405	PETERSON, W.G. PO Box 952 CLARESHOLM T0L 0T0	115.00	0.00	N/A	Chemistry	Domestic



Pipeline Information

CANADIAN NATURAL RESOURCES LIMITED | AB00028041 - 27

Government Pipeline Data Current to June 1, 2023

Permit Date:	July 11, 2001	License Date:	January 11, 2002
From Location:	9-34-12-27 W4M WE	To Location:	6-27-12-27 W4M PL
Length:	2.3 kms 1.44 mi	Status:	O
Substance:	NG	H₂S:	0 mol/kmol 0 ppm
Outside Diameter:	114.3 mm 4.5 "	Wall Thickness:	3.2 mm 0.13 "
Material:	S	Type:	Z245.1
Grade:	3591	Max Operating Pressure:	4960 kPa 719 psi
Joints:	W	Internal Coating:	U
Stress Level:	25 %	Environment:	
Original Permit Date:	July 11, 2001	Construction Date:	
Original License/Line No:	28041 - 27	NEB Registration:	
Last Occurrence Year:	2002	Abacus No:	N/A



Pipeline Information

CANADIAN NATURAL RESOURCES LIMITED | AB00024762 - 35

Government Pipeline Data Current to June 1, 2023

Permit Date:	December 21, 2007	License Date:	September 24, 2004
From Location:	4-2-13-27 W4M WE	To Location:	9-2-13-27 W4M PL
Length:	1.19 kms 0.74 mi	Status:	O
Substance:	NG	H₂S:	0 mol/kmol 0 ppm
Outside Diameter:	114.3 mm 4.5 "	Wall Thickness:	3.2 mm 0.13 "
Material:	S	Type:	Z245.1
Grade:	3591	Max Operating Pressure:	4960 kPa 719 psi
Joints:	W	Internal Coating:	U
Stress Level:	25 %	Environment:	
Original Permit Date:	September 24, 2003	Construction Date:	
Original License/Line No:	24762 - 35	NEB Registration:	
Last Occurrence Year:	2004	Abacus No:	N/A



Spill/Complaint Information

COMPLAINT | 09-34-012-27 W4

MAY 19, 2001 - INCIDENT #: 20011362

Incident Notified:	May 19, 2001	Incident Complete:	May 19, 2001
License #:	0252580 (Well Licence)		
Licensee (at time of Incident):	Burlington Resources Canada (Hunter) Ltd.		
Current Licensee:	CANADIAN NATURAL RESOURCES LIMITED		
Source:	Unknown		
Source In Compliance?	NO		
Cause:	Conversion		
Strike Area:	EASTM	Field Centre:	Midnapore
Concerns:	Health - Human Operational Impact - Flare		



Well Information

100 / 09-34-012-27 W4 / 2

CANADIAN NATURAL RESOURCES LIMITED | 100 / 09-34-012-27 W4 / 2

Government Well Data Current To June 8, 2023

License #:	0252580	License Date:	March 6, 2001
Well Name:	CNRL EASTM 9-34-12-27		
License Status:	Issued	License Status Date:	March 6, 2001
Within:	09-34-012-27 W4M	H2S (%):	
Spud Date:	April 7, 2001	Final Drill Date:	April 18, 2001
Status:	DRL&C	Abandoned Date:	
Surface:		Downhole:	
Offsets:	S 600 W 350.1	Offsets:	S 600 W 350.1
Latitude:	50.042883	Latitude:	50.042883
Longitude:	-113.600452	Longitude:	-113.600452
Ground Elevation:	1042.9 m 3422 '	Total Depth:	2338.00 m 7671 '
Operator:	n/a		



Well Information

100 / 04-02-013-27 W4 / 2

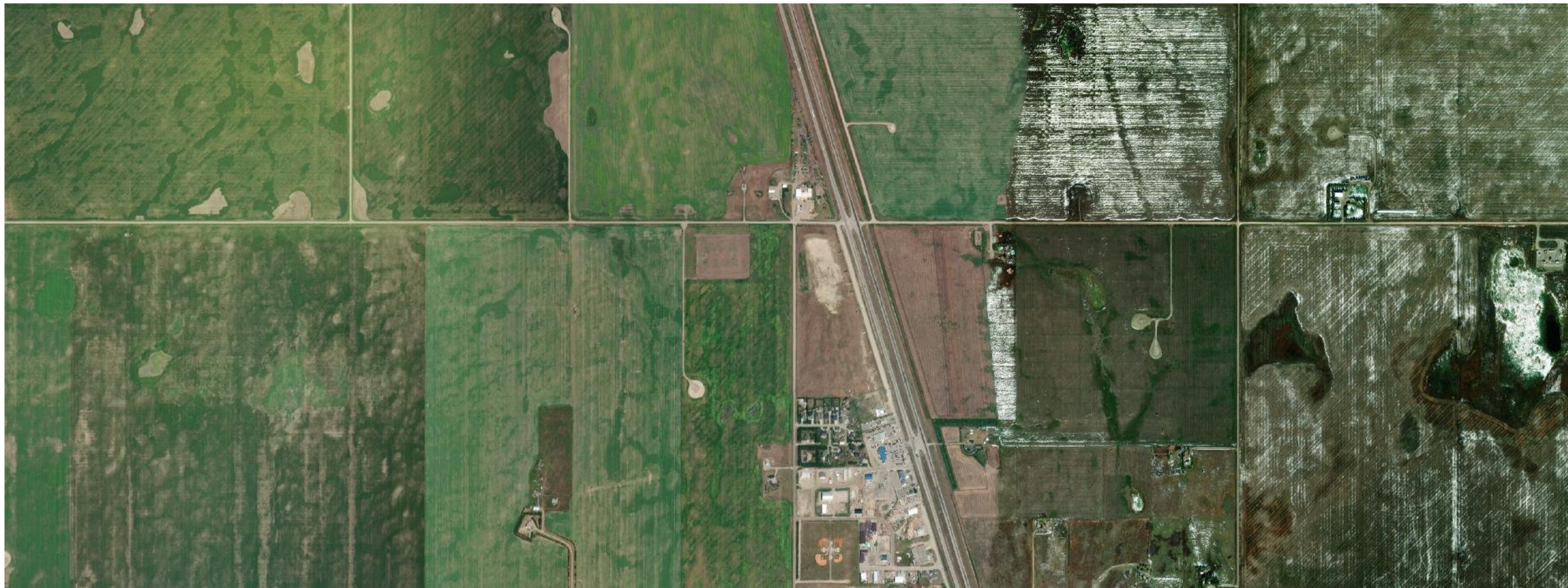
CANADIAN NATURAL RESOURCES LIMITED | 100 / 04-02-013-27 W4 / 2

Government Well Data Current To June 8, 2023

License #:	0290486	License Date:	July 28, 2003
Well Name:	CNRES CLARESHOLM 4-2-13-27		
License Status:	Issued	License Status Date:	July 28, 2003
Within:	04-02-013-27 W4M	H2S (%):	
Spud Date:	August 7, 2003	Final Drill Date:	August 24, 2003
Status:	GAS SUSP	Abandoned Date:	
Surface:		Downhole:	
Offsets:	N 346.9 E 346.9	Offsets:	N 346.9 E 346.9
Latitude:	50.051581	Latitude:	50.051581
Longitude:	-113.590419	Longitude:	-113.590419
Ground Elevation:	1043.5 m 3424 '	Total Depth:	2329.00 m 7641 '
Operator:	CANADIAN NATURAL RESOURCES LIMITED		

APPENDIX H – NPRI RESULTS

NPRI Facility Search



0.3km approx.

0.2mi approx.



Location of 2021 NPRI facilities

Location of 2021 NPRI facilities / Emplacement des installations de l'INRP pour 2021

- Aluminum/Aluminium
- Cement, Lime and Other Non- Metallic Minerals/Ciment, chaux et autres produits minéraux non métalliques
- ◆ Chemicals/Produits chimiques
- ▲ Conventional Oil and Gas Extraction/Extraction de pétrole et de gaz conventionnels
- Electricity/Électricité
- Iron and Steel/Fer et acier
- Metals (Except Aluminum and Iron and Steel)/Métaux (sauf aluminium et fer et acier)
- ◆ Mining and Quarrying/Extraction minière et exploitation en carrière
- ▲ Non- Conventional Oil Extraction (including Oilsands and Heavy Oil)/Extraction de pétrole non conventionnelle (y compris les sables bitumineux et le pétrole lourd)
- Oil and Gas Pipelines and Storage/Stockage et transport par gazoducs d'huile et de gaz
- Other (Except Manufacturing)/Autres (sauf fabrication)
- Other Manufacturing/Autres fabrication
- Petroleum and Coal Product Refining and Mfg./Fabrication et raffinage des produits du pétrole et du charbon
- ▲ Plastics and Rubber/Plastiques et caoutchouc
- Pulp and Paper/Pâte à papier et papier
- Transportation Equipment Mfg./Fabrication de matériel de transport
- Waste Treatment and Disposal/Traitement et élimination des déchets
- Water and Wastewater Systems/Systèmes d'eau et des eaux usées
- ▲ Wood Products/Produits en bois

NPRI Virtual Globe

Releases within 1 km

Legend

📍 Feature 1



Google Earth

Image © 2023 Maxar Technologies

1 km



APPENDIX I – LANDOWNER COMMUNICATION

From: Les Wilson <clarecor15@gmail.com>
Sent: July 24, 2023 5:41 PM
To: Nathalie Sahakyan
Cc: Jan Wilson; Mark Beker; EDO
Subject: Re: Phase 1 Environmental Site Assessment
Attachments: scan_20230724173348.pdf

Hi Nathalie,

Attached as scan 348 is the Executive Summary from my 2006 ESA report.

Jan

On Mon, Jul 24, 2023 at 2:02 PM Nathalie Sahakyan <sahakyann@ae.ca> wrote:

Thanks for this information Jan.

If you have the other Phase 1 ESA report handy, I would really appreciate a copy of it. Thank you.

Regards,

Nathalie Sahakyan, P. Geo.

Hydrogeologist

Associated Environmental Consultants Inc.

Suite 400 - 600 Crowfoot Crescent NW, Calgary, AB T3G 0B4

Tel: 403.262.4500 | Dir: 587.774.2129



Associated
Environmental



Platinum
member

From: Les Wilson <clarecor15@gmail.com>
Sent: July 24, 2023 4:51 PM
To: Nathalie Sahakyan <sahakyann@ae.ca>; Jan Wilson <jwkatmandu@hotmail.com>
Cc: Mark Beker <bekerm@ae.ca>; EDO <EDO@claresholm.ca>
Subject: Re: Phase 1 Environmental Site Assessment

Hi Nathalie,

I contracted to buy this property in 2003 and took title in 2004. The previous owners were cattle farmers, Jack & Marg Derochie who acquired this farm in the early 1970s. They had subdivided and sold the southerly portion of the farm down to 59th Avenue to the Town of Claresholm some decades earlier. The Derochies are now retired in Claresholm. They told me they knew or bought from the original homestead family.

Together with the Derochie family I developed houses on Derochie Drive. I developed the commercial lots on Alberta Road from the Ford dealership to the Meadow Creek meat shop. Since 2003 my undeveloped land has only been used for billboards and horse pasture. I have exported fill from this site but have not imported fill. When the Derochie family owned this land, Highway 11 was being twinned including construction of the service road, apparently some mixed fill was imported/exchanged for clay with the road builder in a narrow zone immediately west of the service road (Alberta Road). When I developed the Alberta Road commercial lots, I exported all or most of that non-native mixed road-fill offsite because it contained some topsoil.

There are no buried tanks onsite and I have not commissioned any environmental investigations. I built the Wilshire Inn and A&W on some of the land the Derochie family previously sold (part of this original farm) to the Town and there was an environmental investigation done for that site. Let me know if you want a copy.

Jan Wilson

On Mon, Jul 24, 2023 at 5:05 AM Nathalie Sahakyan <sahakyann@ae.ca> wrote:

Hi Jan and Les,

Hope you had an enjoyable weekend!

In an effort to be thorough in our preliminary environmental site investigation, I wondered if you might be able to answer a few questions related to the site and its history?

1. Do you know anything about the history of the site? Previous owners and/or Tenants?
2. What was previously located at the site and how long were they in operation?

3. Do you know of any fill material that has been brought onto the site?
4. Do you know if there were ever any buried fuel tanks at the site?
5. Are you aware of any leaks of any sort – fuel? Diesel? Etc?
6. Any previous environmental investigations completed for the site?

Thank you very much for your time and efforts in answering these questions.

Regards,

Nathalie Sahakyan, P.Geo.

Hydrogeologist

Associated Environmental Consultants Inc.

Suite 400 - 600 Crowfoot Crescent NW, Calgary, AB T3G 0B4

Tel: 403.262.4500 | Dir: 587.774.2129



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From: Les Wilson <clarecor15@gmail.com>
Sent: August 3, 2023 2:51 PM
To: Nathalie Sahakyan
Cc: Jan Wilson; Mark Beker
Subject: Re: Phase 1 Environmental Site Assessment

Hi Nathalie,

There is no salt mound on my property and there never has been a salt mound or a salt storage area anywhere on this land at any time since I have owned it. My land has always been fenced with locked gates.

There is a black topsoil mound next to 8th Street overgrown with new vegetation cover because an onsite borrow pit was stripped of this onsite topsoil. Your historical picture simply shows a clay-coloured borrow pit in the middle of the site at the north end, not a mound. The closed borrow pit is still there. This borrow pit sometimes pools rain runoff which has leached up small amounts of native salinity. I allowed Martin Geomatic to export clay fill from this borrow pit about a decade ago to lower my site's surface elevation to more or less match the elevation of the service road to help prepare my land for future Highway Commercial development. A ridge of native material was left in place (with east-west drainage ditches) between the borrow pit and the service road because the site's easterly edge is too low versus the service road. Eventually the remaining clay in that ridge will be used to level and raise up the easterly edge of my site prior to Commercial development. Feel free to contact Martin Geomatic concerning that borrow pit and the clay material exported from it.

It is my recollection that the Ford Dealership was developed in 2004/5 and that the Meadow Creek Shop was developed in 2013/14 but you could ask the Town to look up their building permits.

In my previous email of July 24 I stated to you "I have exported fill from this site but have not imported fill". Before I owned this site the Government of Alberta twinned Highway Two in the 1990's by converting the pre-existing double lane two-way road into a one-way two-lane northbound road. They also constructed a new two-lane southbound road (including a new service road) from land subdivided out of this parcel. They had arranged with the previous owners, the Derochie family, to exchange a small amount of topsoil/brown dirt cored out of a small portion of the new southbound lanes with clay from the south end of this site. That imported mixed topsoil from road building had then been spread out about .3-.6M (1'-2') deep in a narrow triangular area at the southerly end of my land. I had it exported in about 2004 to prepare this land for future Highway Commercial development. Your historical picture shows that narrow triangular area as a clay-coloured zone stripped of topsoil. Since that picture was taken the clay surface has re-generated some minimal vegetation cover.

Jan Wilson

On Thu, Aug 3, 2023 at 7:35 AM Nathalie Sahakyan <sahakyann@ae.ca> wrote:

Hi again Les and Jan,

Apologies for the back and forth but I must correct my earlier question related to the "salt mound" in the northern part of your property. It seems as though your property may have been cleared sometime between 1999 and 2005 (see photo below) with some sort of fill material brought in (which you mentioned previously).

Present day – our site visit indicated that there was a "white material" in the same area - please could you confirm that this is in fact salt, or let me know what it could otherwise be at your property.



And as before – my other question related to the timing of development of the Meadow Creek Meat shop/Ford dealership. Looks like it may have been between August 2012 and October of 2015. Could you provide any more detail on that?

Happy to have a conversation about this if it's easier – otherwise email is great! Please see my number below and thank you again for your patience as we piece it all together.

Regards,
Nathalie Sahakyan, P.Geo.
Hydrogeologist

Associated Environmental Consultants Inc.
Suite 400 - 600 Crowfoot Crescent NW, Calgary, AB T3G 0B4
Tel: 403.262.4500 | Dir: 587.774.2129



Platinum member

From: Nathalie Sahakyan
Sent: August 3, 2023 9:37 AM
To: Les Wilson <clarecor15@gmail.com>; Jan Wilson <jwkatmandu@hotmail.com>
Cc: Mark Beker <bekerm@ae.ca>
Subject: RE: Phase 1 Environmental Site Assessment

Hi Les,

Thank you again for the information below. I had a couple more questions about the site that I'm hoping you might be able to help clarify the following:

1. Do you know anything about the origins of the salt mound in the northern part of your property? From historic imagery, it looks like it may have been transported to your property sometime between February and October of 2012. This is about the same time industrial sites were being developed to the south. Do you think this was a salt storage area from one of these new developments? Perhaps the Highway Maintenance Yard? Any details would really help.
2. Do you know when the Meadow Creek Meat shop was developed and opened? Looks like it may have been between March and October of 2015. Could you provided any more detail on that?

Thanks again for your time.

Regards,

Nathalie Sahakyan, P.Geol.

Hydrogeologist

Associated Environmental Consultants Inc.

Suite 400 - 600 Crowfoot Crescent NW, Calgary, AB T3G 0B4

Tel: 403.262.4500 | Dir: 587.774.2129



Platinum member

From: Les Wilson <clarecor15@gmail.com>

Sent: July 24, 2023 4:51 PM

To: Nathalie Sahakyan <sahakyann@ae.ca>; Jan Wilson <jwkatmandu@hotmail.com>

Cc: Mark Beker <bekerm@ae.ca>; EDO <EDO@claresholm.ca>

Subject: Re: Phase 1 Environmental Site Assessment

Hi Nathalie,

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Together with the Derochie family I developed houses on Derochie Drive. I developed the commercial lots on Alberta Road from the Ford dealership to the Meadow Creek meat shop. Since 2003 my undeveloped land has only been used for billboards and horse pasture. I have exported fill from this site but have not imported fill. When the Derochie family owned this land, Highway 11 was being twinned including construction of the service road, apparently some mixed fill was imported/exchanged for clay with the road builder in a narrow zone immediately west of the service road (Alberta Road). When I developed the Alberta Road commercial lots, I exported all or most of that non-native mixed road-fill offsite because it contained some topsoil.

There are no buried tanks onsite and I have not commissioned any environmental investigations. I built the Wilshire Inn and A&W on some of the land the Derochie family previously sold (part of this original farm) to the Town and there was an environmental investigation done for that site. Let me know if you want a copy.

Jan Wilson

On Mon, Jul 24, 2023 at 5:05 AM Nathalie Sahakyan <sahakyann@ae.ca> wrote:

Hi Jan and Les,

Hope you had an enjoyable weekend!

In an effort to be thorough in our preliminary environmental site investigation, I wondered if you might be able to answer a few questions related to the site and its history?

1. Do you know anything about the history of the site? Previous owners and/or Tenants?
2. What was previously located at the site and how long were they in operation?
3. Do you know of any fill material that has been brought onto the site?
4. Do you know if there were ever any buried fuel tanks at the site?
5. Are you aware of any leaks of any sort – fuel? Diesel? Etc?
6. Any previous environmental investigations completed for the site?

Thank you very much for your time and efforts in answering these questions.

Regards,

Nathalie Sahakyan, P.Geol.

Hydrogeologist

Associated Environmental Consultants Inc.

Suite 400 - 600 Crowfoot Crescent NW, Calgary, AB T3G 0B4

Tel: 403.262.4500 | Dir: 587.774.2129



Platinum member

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8 August 2006

AMEC File: BX20027

Mr. Les Wilson
Claresholm Hospitality Ltd.
1100 Frontenac Avenue S.W.
Calgary, Alberta T2T 1B6

Dear: Mr. Wilson

**Re: Phase I Environmental Site Assessment
11 Alberta Road
Claresholm, Alberta**

AMEC Earth & Environmental (AMEC) is pleased to submit our report describing the results of the Phase I Environmental Site Assessment for the above-noted property.

If you have any questions or comments concerning our report, please contact the undersigned at 403-327-7474. Thank you for allowing AMEC Earth & Environmental to be of service.

Respectfully submitted,

**AMEC Earth & Environmental
A division of AMEC Americas Limited**

A handwritten signature in blue ink that reads "Valerie Merrick". The signature is fluid and cursive.

Valerie Merrick, C. Tech.
Environmental Technician

EXECUTIVE SUMMARY

Claresholm Hospitality Ltd. commissioned AMEC Earth & Environmental (AMEC) to complete a Phase I Environmental Site Assessment (ESA) of property located at 11 Alberta Road in the Town of Claresholm, Alberta as shown in Figure 1. The purpose of the Phase I ESA is to identify actual or potential sources of environmental risk or liability associated with the property. Authorization to proceed was given by Mr. Les Wilson of Claresholm Hospitality Ltd. The scope of work and limitations for this project are provided in AMEC's file BX20027 dated August 2006.

The Site is located at 11 Alberta Road located in the northern portion of the Town of Claresholm, Alberta. The total area of the Site is approximately 1.63 acres (0.659ha) which is zoned Highway Commercial. At the time of the assessment there was one building on the southern 38 meters of lot 10 of which was an A&W restaurant is located but, not included in this assessment. The remaining northern portion of lot 10 was the subject of this assessment. The ground was stripped in preparation for construction and vegetation was absent with the exception of a few weed patches. The northern portion of the Site is bordered by Saskatchewan Crescent and to the east by Alberta Avenue. Adjacent to the south of the Site was A&W restaurant and Claresholm Rentals & Oilfield Services Inc. A service road and Highway 2 run parallel to the east Site boundary. To the west of the Site an industrial subdivision was currently under construction to be occupied by Volker Stevin, and Foothills Home Improvements. North of the Site was Foothills Ford Sales which have been at that location for approximately a year and a half.

Based on the findings of this Phase I ESA completed by AMEC, there are no issues associated with historical use of the Site. As such, no additional environmental assessment would be warranted at this time.

1.0 INTRODUCTION

Claresholm Hospitality Ltd., commissioned AMEC Earth & Environmental (AMEC) to complete a Phase I Environmental Site Assessment (ESA) of property located at 11 Alberta Road in the Town of Claresholm, Alberta as shown in Figure 1. The purpose of the Phase I ESA was to identify actual or potential sources of environmental risk or liability associated with the property. This report details the results of the Phase I ESA. The study was undertaken during the period of July 14 to July 31 2006. AMEC understands this report will be relied upon as part of a future development of the property.

2.0 SCOPE AND METHODOLOGY

The purpose of this assessment was to provide Claresholm Hospitality Ltd., with an evaluation of the current environmental risks or liabilities associated with the Site.

AMEC has a well-defined procedure and protocol for completing Phase I ESA s that reflect information requirements specified by the American Society for Testing and Materials, *Standard Practise for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, 2000; and the Canadian Standards Association, *Phase I Environmental Site Assessment Guideline (Z768-01)* 2004. This standard approach in conjunction with specific requirements of Claresholm Hospitality Ltd., were used to carry out the assessment and prepare the report.

The scope of work of the Phase I ESA assessment included the following:

- Review current regulatory records for the Site and neighbouring properties;
- Conduct a reconnaissance inspection of the Site, interviews with persons knowledgeable about the Site, and perimeter viewing of neighbouring properties; and
- Identify outstanding environmental issues that may have resulted from land use, construction, management or operation of the Site or neighbouring properties.

Specific environmental issues that were addressed included:

- Ozone-depleting substances
- Pesticides
- Storage Tanks and Pipelines
- Radon and methane gas
- Surrounding land use
- Hazardous materials or equipment
- Surface water and drainage
- Storage tanks and pipelines
- On-site dumps and landfills

Since the Site has no buildings, the following environmental issues were not pertinent and therefore not addressed in this report:

- Asbestos
- Lead based paints
- PCBs
- UFFI
- Chemical storage
- Sumps and drains
- Hydraulic hoists
- Non hazardous and hazardous waste

3.0 SITE DESCRIPTION

The Site is located at 11 Alberta Road located in the northern portion of the Town of Claresholm, Alberta. The total area of the Site is approximately 1.63 acres (0.659ha) which is zoned Highway Commercial. At the time of the assessment there was one building on the southern 38 meters of lot 10 of which was an A&W restaurant is located but, not included in this assessment (Photo #3). The remaining northern portion of lot 10 was the subject of this assessment. The ground was stripped in preparation for construction and vegetation was absent with the exception of a few weed patches. The northern portion of the Site is bordered by Saskatchewan Crescent and to the east by Alberta Avenue. Adjacent to the south of the Site was A&W restaurant and Claresholm Rentals & Oilfield Services Inc. A service road and Highway 2 run parallel to the east Site boundary. To the west of the Site an industrial subdivision was currently under construction soon to be occupied by Volker Stevin, and Foothills Home Improvements. North of the Site was Foothills Ford Sales which have been at that location for approximately a year and a half (Photo#4).

The Site Representative and the former town mayor Mr. Ernie Patterson indicated that the Site has historically been utilized as agricultural crop land.

The topography of the Site and neighboring properties generally slopes to the east towards Highway #2. The nearest surface water body is the Willow Creek approximately 8 kilometres southwest of the Site.

3.1 Geology and Hydrology

According to information compiled by the Alberta Research Council and presented in the "Geology of the Quaternary Geology, Southern Alberta, 1987", the area encompassing the Site consists of undulating topography, with local relief generally less than 3 meters. Draped moraine: till of even thickness, with minor amounts of water sorted material and local bedrock exposures up to five meters thick; includes local areas of undifferentiated subglacially molded deposit with streamlined features; flat to undulating surface reflecting topography of underlying bedrock and other deposits.

One (1) water well was identified on the Alberta Environment groundwater database located within section 35 township 12 range 27 W4M located 52 metres north of Columbia Drive and 270 metres south of the Site.

4.0 HISTORICAL RECORDS REVIEW

AMEC completed the historical review of the Site and neighboring properties by reviewing the following information sources.

- The current land title for the Site provided by Alberta Registries, Land Titles Office indicated that Clarseholm Hospitality Ltd. currently holds the title for the land. Prior to that in 2002 Leslie G. Wilson held title to the land. From 2001 to 1974 the Town of Clarseholm owned the land. From 1974 to 1972 Jackie Vernon Derochie and Marjorie Geraldine Derochie held title to the land. In 1972 the title was in the name of Vilda Pearl Haverland for the south ½ of section 35. From 1972 to 1965 Mt. View Charolais Ranch Ltd. owned the south ½ of section 35. From 1963 to 1938 the land was divided between the following: 1963 Andrew Gawn, 1960 Virginia Shedstad, 1938 Jessie Elverum. In 1938 to 1928 His Majesty King George V held title to the land. Between 1938 and 1902 there was two owners the first being Jessie Elverum in 1926 and the second in 1902 The Calgary and Edmonton Land Company Limited.

Table 1: Adjacent Property Occupants

Direction from Site	Business or Property Occupant
North	Foothills Ford Sales.
South	A&W Restaurant followed by Clarseholm Rentals & Oilfield Services Inc.
East	Service road (Alberta Avenue) and Highway #2.
West	Industrial subdivision currently under construction.

- Aerial photographs, available from Alberta Sustainable Resource Development Air Photo Services for the years 1951, 1962, 1971, 1982, and 2005 at scales of 1:8,000 to 1:31,680. Information inferred from aerial photographs, reviewed concerning the Site and its surrounding properties, are presented in Table 2. Selected aerial photographs have been attached as Appendix B. It should be noted that the available photograph coverage is not a continuous record. It is possible that features of interest may have appeared and disappeared between coverage dates, or in some cases may have predated available coverage. In addition, photo quality is variable and in some instances Site features are difficult to identify or their purpose may be difficult to establish.

Table 2: Aerial Photographs

Date	Site	Surrounding Properties
1951	The Site appears as agricultural lands.	Lands to the north, south, east, and west appear as agricultural. One farm appears to the northwest. Highway 2 appears east of the Site at this time.
1962	The Site appears as agricultural lands.	Lands to the north, south, east, and west appear as agricultural. Farm to the northwest appears larger. Highway 2 appears east of the Site at this time.
1971	The Site appears as agricultural lands.	No substantial changes from the previous photo.
1982	The Site appears as agricultural lands.	No substantial changes from the previous photo.
2005	The Site appears as vacant undeveloped land.	Properties to the north and south have been developed.

4.1 Regulatory Records Review

AMEC completed the regulatory searches by reviewing the following records for the Site and neighboring properties attached as Appendix A.

- Alberta Environment Freedom of Information & Protection of Privacy Department did not identify a record of soil or water contamination associated with the Site.
- The Petroleum Tank Management Association of Alberta (PTMAA) did not identify records of active or abandoned tanks on the site.
- Alberta Transportation, Dangerous Goods Control Division did not identify a record of dangerous goods incidents on or near to the Site.

- The Environmental Law Centre reported one (1) enforcement action has been issued pursuant to the Alberta Environmental Protection and Enhancement Act or its predecessor legislation, the Hazardous Chemicals Act, the Agricultural Chemicals Act, the Clean Water Act and the Clean Air Act to 1971 and/or pursuant to the "Water Act" from 1999 onwards in association with the Town of Claresholm in regards to burning prohibited debris at the Claresholm landfill without approval. This infraction occurred in the Municipal District of Willow Creek No. 26 located in SE 21-12-27-W4M. A warning letter was issued to the Town of Claresholm on 05 February 1998. This location is approximately 3.2 kilometres south and 1.6 kilometres west of the Site indicating impacts to the Site would be unlikely.

5.0 ENVIRONMENTAL ISSUES INVENTORY AND RESULTS

Ms. Valerie Merrick of AMEC visited the Site on 14 July 2006 to conduct a reconnaissance inspection, evaluate potential on-site issues and identify potential sources of impact from surrounding land uses. AMEC interviewed Mr. Hank Schuling, former Town of Claresholm Superintendent herein referred to as 'Site representative'. Site photographs taken during the viewing and a completed checklist are included in Appendix C.

At the time of the assessment there were no buildings present on the Site. The ground was stripped in preparation for construction and vegetation was absent with the exception of weed patches (Photo#1). The northern portion of the Site is bordered by Saskatchewan Crescent and to the east by a service road (Alberta Avenue). Adjacent to the south of the Site was A&W restaurant and Claresholm Rentals & Oilfield Services Inc. To the east of the Site was a service road and Highway#2. To the west of the Site an industrial subdivision was currently under construction to be occupied by Volker Stevin, and Foothills Home Improvements (Photo#2). North of the Site was Foothills Ford Sales which have been at that location for approximately a year and a half.

The topography of the Site and neighboring properties generally slopes to the east towards Highway #2. The nearest surface water body is the Willow Creek approximately 8 kilometres southwest of the Site.

5.1 Ozone-Depleting Substances

Background

An ozone-depleting substance (ODS) refers to any substance containing chlorofluorocarbon (CFC), hydrochlorofluorocarbon (HCFC), halon or any other material capable of destroying ozone in the atmosphere. ODSs have been used in rigid polyurethane foam and insulation, laminates, aerosols, air-conditioners, fire extinguishers, cleaning solvents and the sterilization of medical equipment.

Federal regulations introduced in 1995 required the elimination of production and import of CFCs by January 1, 1996 (subject to certain essential uses) and a freeze on the production and import of HCFC-22 by January 1996. These regulations also require the complete elimination of HCFC-22 by the year 2020.

Since the regulations govern only the production and import of certain ODSs, they are allowed to be used in Canada as long as there is a supply in place. Eventually the supply will run out, and the present equipment will either need to be refitted or replaced. In Alberta, ODSs are regulated under the Ozone-Depleting Substance and Halocarbons Regulation (181/2000).

Site

Based on information obtained, no sources of ODS's have been present or in the vicinity of the Site, as such it is unlikely to be an issue at the Site.

5.2 Pesticides

Background

In Alberta, storage, handling and use of pesticides is regulated under the Pesticide Regulation (43/97) of the EPEA, the Pesticides Control Products Regulation (174/97), the Pesticides Applicator Licensing Regulation (214/80), the Pesticide Sales Handling, Use and Application Regulation (24/97), and the Alberta *Occupational Health and Safety Act, Regulation and Code*. The human health concerns associated with pesticides are varied, depending on the specific pesticide. They can range from non-carcinogenic effects such as hepatotoxicity to carcinogenic effects.

Site

The Site representative indicated that pesticides or herbicides have not been used on Site.

5.3 Radon and Methane Gas

Radon

Background

Radon is a colourless, odourless gas that occurs naturally from the breakdown of uranium. Radon can be found in high concentrations where there are soils and rocks containing high levels of uranium, granite, shale or phosphate. In open air or in areas with high air circulation, radon is not considered a health hazard. However, in confined spaces (such as basements), radon can concentrate and become a health hazard. Health Canada and Canadian Mortgage and Housing Corporation have issued a guide and other papers which address radon concerns (CMHC, 1987).

Site

The Site Representative was not aware of a radon survey undertaken at the Site. Based on geology in the area surrounding the Site, radon gas is not known to be a significant issue at or in the vicinity of the Site.

Methane Gas

Background

Methane is a gas derived from the breakdown of organic waste under anaerobic conditions (i.e., dumps/landfills). The primary concern with respect to methane is its potential to accumulate in enclosed spaces and explode upon ignition. Methane also acts as an asphyxiant, decreasing the oxygen content of the air, which may cause health concerns, including increased breathing and pulse rates, impaired muscular coordination and fatigue.

Site

The Site is not in close proximity to a known, active, or closed landfill site. AMEC does not expect methane gas to be a significant environmental issue at the Site. The Town of Claresholm landfill is located approximately six (6) kilometers southeast of the Site near Granum, Alberta.

5.4 Surface Water and Drainage

Background

The *Water Resources Act* outlines the regulatory requirements for obtaining water from natural water systems in Alberta, as well as discharging to these systems. The requirements for approval, with respect to wastewater and stormwater drainage in Alberta, are outlined in the EPEA, specifically within the *Activities Designation Regulation (211/96)*. The Substance Release Division of the *Activities Designation Regulation* specifically identifies substances release activities, which require wastewater and stormwater drainage approvals. Regulatory control of wastewater and stormwater discharges is regulated by the *Alberta Wastewater and Storm Drainage Regulation (119/93)* and the *Ministerial Wastewater and Storm Drainage Regulation (120/93)*. The release of normal domestic sewage and normal stormwater to the municipal sanitary and storm sewer system does not require an approval under EPEA.

Site

No surface water or drainage issues were identified the Site representative indicated the surface water drainage is to the east toward Highway #2.

5.5 On-Site Dumps and Landfills

Background

The *Alberta Subdivision and Development Regulation (43/2002)* outlines the development restrictions associated with construction of a school, hospital, food establishment or residence in the vicinity of an active or inactive/closed dump or landfill. Construction, management and closure of a landfill is regulated under the *Waste Control Regulation (192/96)* and the *Alberta Environment Code of Practice for Landfills*. Dumps and landfills may represent potential sources of soil and groundwater contamination, or health hazards.

Site

A review of the Alberta Environment/Environment Canada Help End Landfill Pollution (H.E.L.P.) database did not identify a known active or inactive/closed landfill site. The Site representatives were not aware of the presence of historical landfills or dumps on or in the immediate area of the Site. The historical review and regulatory review of the Site and neighbouring properties did not identify a known or suspected dump or landfill in the area.

5.6 Hazardous Materials and Equipment

Background

The *Waste Control Regulation (192/96)* of the EPEA, and the *Transportation of Dangerous Goods Act* outline the specific regulatory requirements of waste (non-hazardous, hazardous and hazardous recyclables) generation, handling, transporting and disposal in Alberta. Section 179 of the EPEA requires that a Personal Identification Number be obtained from Alberta Environment if the facility generates, transports, stores or disposes of hazardous waste beyond the small quantities exemption listed in the *Waste Control Regulation*. The Transportation of Dangerous Goods (TDG) Act requires that anyone transporting hazardous wastes and recyclables, which are considered dangerous goods, must carry a current certificate of TDG training.

Site

At the time of the Site inspection there were no hazardous materials or equipment observed on Site.

5.7 Surrounding Land Use

AMEC reviewed the current land uses of neighboring properties from publicly accessible locations to assess possible environmental impacts to the Site that may arise from off-site operations.

North of the Site:

Foothills Ford Sales was located north of the Site. Regulatory information received by AMEC did not identify any potential sources of environmental impact to the Site. In conversation with Mr. Paul Morrison of Foothills Ford Sales he indicated the AST on the west side of his building was a new double walled tank which sits on a concrete pad has been on the Site for approximately 18 months. Pats' Off Road Service empties the tank when needed.

South of the Site:

Property to the south of the Site was an A&W restaurant and Claresholm Rentals & Oilfield Services Inc. Regulatory information received by AMEC did not identify any potential sources of environmental impact to the Site.

East of the Site:

Property to the east was Highway #2 followed by undeveloped agricultural land. Regulatory information received by AMEC did not identify any potential sources of environmental impact to the Site.

West of the Site:

Property to the west of the Site was currently under construction for an industrial subdivision. Regulatory information received by AMEC did not identify any potential sources of environmental impact to the Site.

5.8 Storage Tanks and Pipelines

Background

Fuel storage at industrial facilities in Alberta is regulated by the following regulatory guidelines and agencies: the *National Fire Code*; the *Alberta Fire Code*; the *Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products*; the *Environmental Code of Practice for Underground Storage Tank Systems Containing Petroleum Products and Allied Petroleum Products*; the *Guidelines For Secondary Containment for Aboveground Storage Tanks* and the PTMAA. In general, the Codes and Guidelines apply to storage tanks associated with flammable and combustible liquids, and chemicals. The *Alberta Fire Code* provides construction requirements of storage tanks and associated connections. Under the authority of Alberta Labour, which has delegated this authority to the PTMAA, all underground storage tanks and aboveground storage tanks with a capacity of 2,500 L or greater require registration with the PTMAA.

Site

There were no storage tanks or pipelines observed on the Site. In addition regulatory information did not identify any storage tanks and pipelines in the vicinity of the Site.

5.9 Groundwater Wells

Background

Groundwater wells do not typically represent a contaminant source of environmental concern; however, they can act as a conduit for liquid-phase contamination. Therefore, unused groundwater wells must be properly decommissioned in accordance with the *Water (Ministerial) Regulation 205/98*.

Site

A search of the Alberta Environment water well data base did not identify a groundwater well on the Site but did indicate that there was one (1) water well listed in the area as provided below:

1. Well I.D 0140559 Owned by: Mr. Jack Derochie located within Section 35 approximately 750m south of the Site.

In conversation with Mrs. Derochie she indicated the well is associated with the original farmhouse owned by the Derochie Family, and currently used for domestic use.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the information made available to AMEC through historical and regulatory records, inspections and interviews; there are no issues associated with historical use of the Site. As such, no additional environmental assessment would be warranted at this time.

7.0 CLOSURE

The Canadian Standards Association (2000 and 2001) and the American Society for Testing and Materials (2000) note that no ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with property. Performance of a standard ESA protocol is intended to reduce, but not eliminate this uncertainty, given reasonable limits of time and cost.

Provided that the report is still reliable, and less than 12 months old, AMEC will issue a third-party reliance letter to parties Mr. Les Wilson of Claresholm Hospitality Ltd. identifies in writing, upon payment of the then current fee for such letters. All third parties relying on AMEC's report, by such reliance agree to be bound by our contract and AMEC's standard reliance letter. AMEC's standard reliance letter indicates that in no event shall AMEC be liable for any damages, howsoever arising, relating to third party reliance on AMEC's report. No reliance by any party is permitted without such agreement.

This report has been prepared for the exclusive use of Mr. Les Wilson of Claresholm Hospitality Ltd. for specific application to the Site. The environmental investigations were conducted in accordance with the work plan prepared for the site, verbal and written requests from the client and generally accepted assessment practices. No other warranty, expressed or implied, is made. The limitations of this report are specified in Appendix D.

Respectfully submitted,

AMEC Earth & Environmental

Reviewed by:

A handwritten signature in blue ink that reads "Valerie Merrick".

Valerie Merrick, C. Tech.
Environmental Technician

A handwritten signature in black ink that reads "Michael Edmonds".

Michael Edmonds, BAppSc.
Manager, Lethbridge/Medicine Hat Offices

APPENDIX J – SITE PHOTOGRAPHS

Photo 1 View of the northern boundary of the Site, and adjacent farm machinery dealership (facing north)



Photo 2 View of the south boundary of the Site, and waste storage on adjacent commercial property (facing northeast)



Photo 3 View of distressed vegetation and staining on the south section of the Site (facing north)



Photo 4 View of the distressed vegetation and white crust in the northern section of the Site (facing east)



Photo 5 View of the distressed vegetation, white crust, and results of the surface scrape test showing the soil beneath, in the northern section of the Site



APPENDIX K – DISCLAIMER

ASSOCIATED ENVIRONMENTAL CONSULTANTS INC. 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 **the Town of Claresholm** (the Client) in a manner consistent with a reasonable level of care and skill normally exercised by members of the environmental science profession currently practising under similar conditions in the area.

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 in 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 on information provided by third parties concerning the history of the Site. Except as stated in this report, Associated has not independently verified 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 and generally promulgated at the date of this report.
5. All documents and drawings prepared by Associated, or by others on behalf of Associated, in connection with this Project are instruments of professional service for the execution of the Project. Associated retains the property and copyright in these documents and drawings, whether the Project is executed or not.
6. The findings and conclusions are valid only for the specific Site identified in the report.
7. Since Site conditions may change over time, the report is intended for immediate use.

This report is intended for the exclusive 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 that 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.

In accepting delivery of this report, the Client hereby agrees that:

- A. Associated's liability for all claims of the Client, arising out of the agreement between Associated and the Client, pursuant to which this report has been prepared (the Agreement), shall absolutely cease to exist after a period of six (6) years from the date of:
 - i. substantial completion of the investigation described in this report,
 - ii. last invoice issued to the Client,
 - iii. termination of Associated's Services under the Agreement,
 - iv. commencement of the limitation period for claims prescribed by any statute of the Province or Territory for the Site of the investigation described in this report,
 - v. any significant alteration of the Site of the investigation described in this report, and/or neighbouring properties after the date of the final report that would change the conclusions and recommendations of the final report,whichever shall first occur, and following the expiration of such period, the Client shall have no claim whatsoever against Associated.
- B. Any and all claims that the Client may have against Associated or any of its servants, agents, or employees arising out of or in any way connected with the investigation described in this report or the preparation of this report, whether such claims are in contract or in tort, and whether such claims are based on negligence or otherwise, shall be limited to a total amount equal to the fees payable to Associated under the contract with the Client. Associated shall bear no liability whatsoever for any consequential loss, injury, or damage incurred by the Client, including but not limited to claims for loss of profits and loss of markets.