BYLAW 2023/23

BYLAW 2023/23 is a Bylaw of the County of Wetaskiwin No. 10 in the Province of Alberta, for the purpose of authorizing the adoption of an Area Structure Plan for the purpose of providing a framework for subsequent subdivision of two lots, one being 4.37 hectares (10.80 acres) and the other 4.36 hectares (10.79 acres), located on NE 4-47-24-W4M Plan 3489TR, Lot 4, in accordance with Section 633 of the *Municipal Government Act*, Chapter M-26, Revised Statutes of Alberta 2000, and amendments thereto.

WHEREAS per Requirements of Area Structure Plan Policy, an Area Structure Plan has been prepared for the NE 4-47-24-W4M Plan 3489TR, Lot 4.

AND WHEREAS the proposed Area Structure Plan has been widely circulated and discussed within the County pursuant to Section 230, 606 (1), and 633(1) of the *Municipal Government Act*,

NOW THEREFORE the Council of the County of Wetaskiwin No. 10, in the Province of Alberta, duly assembled, hereby enacts as follows:

1. The document attached to this Bylaw as "Schedule A", together with accompanying maps, is hereby adopted for NE 4-47-24-W4M Plan 3489TR Lot 4.
2. This Bylaw shall come into full force and effect upon passing of the third reading.

READ: First time this 25 day of April, 2023

READ: A Second time this 8 day of May, 2023

READ: A Third time and finally passed this 8 day of May, 2023

REEVE

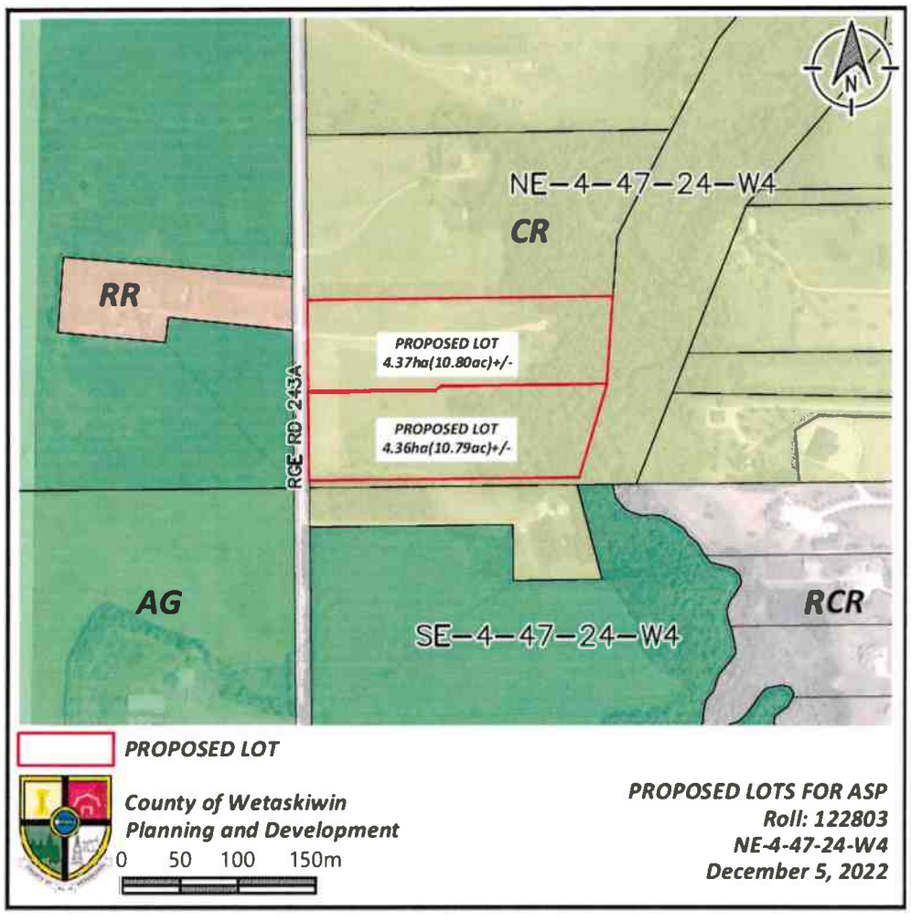
ASSISTANT CHIEF ADMINISTRATIVE OFFICER

Schedule "A"

Proposed Area Structure Plan (10 pages)

Israel Wasserman

NE 4-47-24-W4M Plan 3489TR Lot 4



Israel Wasserman

Area Structure Plan

Proposed subdivision

NE 4-47-24 W4 Wetaskiwin

Lot 4, Plan 3489TR

of Wetaskiwin

*March 15 Version

ovember 17, 2022

Ac Municipal Policy & Procedures Manual

Contents

Introduction and Background

The intent of this area structure plan is to outline the proposal of subdividing the current 21.59 acre parcel, (NE 4-47-24 W4), into 2 individual parcels. The 21.59-acre parcel lot is to be split into two lots... the first lot will contain the current residential lot with the existing dwelling and is proposed to be 10.80 acres and the second residential lot is proposed to be 10.79 acres. This entire parcel of land is already zoned as country residential and has no current agricultural purposes. This quarter section has been previously subdivided and developed as part of the Bigstone Subdivision. The various lots within the Bigstone subdivision range from 28.17 acres to 3.47 acres, with the average lot size being 13.18 acres. The proposed lot size of the two resulting parcels will be closer to the average of the existing lots.

This land has been included in "the Millet /Wetaskiwin acreage study", as suitable for development. Surrounding land uses include many country residential acreages, and hobby farms, and some farm land. The proposed development also supports a majority of the County's current agricultural and residential objectives identified within its Municipal Development Plan.

There are no intensive or confined feeding operations in this area. We do not foresee any conflicts with existing land uses. Adjacent landowners have been notified of this plan and were invited to meet at our house or submit any comments through email. Feedback has been provided in Appendix D of this plan. Should the proposal be accepted by council and the County of Wetaskiwin we will proceed with an application for sub- division immediately.

Item 1: Geotechnical & Groundwater Percolation Reports

The field investigation, supervised by a Shelby representative, was conducted on September 6, 2022 and comprised of drilling four test holes to depths ranging from 3.05m to 4.25m below existing grade.

The stabilized groundwater table on the subject site appears to range from a depth of approximately 0.90m to 4.10m below grade based on measurements taken 7 days after installation of standpipes.

The shallow groundwater elevation was found to comply with AEP's guidelines at two test hole locations (TH-1 and TH-2) with respect to a minimum depth to groundwater table of 1.8m below existing grade.

Based on measured groundwater depth and a visual inspection of the site, portions of the eastern parts of the proposed lots (where test holes TH-1 and TH-2 are located) are considered developable (with areas having elevations a minimum of 1.8m higher than the water table considered developable).

Groundwater, at Test Locations TH-a and TH-2, (these two test locations are where the two dwellings will be located on the proposed lots) was encountered in ranges from 2.79 to 4.10 meters below ground level. The water table bore-hole results show areas of high water table in some areas on the property.

The current dwellings on the parcel of land being subdivided, and dwellings adjacent to the land being developed, have found that there is no issue with water in basements as a result of high-water tables.

Report attached – See Appendix A

Item 2: Sewage treatment

Based on the tests performed within the report prepared for Item 1, the proposed methods for private sewage disposal systems are either a septic tank or treatment mound. The groundwater assessment report prepared by Shelby Engineering indicated that based on their preliminary tests that a waste disposal field is not feasible.

Item 3: Stormwater Management

The site surface elevation ranges from 765 metres above sea level along the west border of the site to 758 m above sea level near the northeast of the property. The site gently dips towards the east then rises in the south east.

The site has an undulating topography with a low area noted around the dugout and higher areas generally noted north of the access road and on the east portion of the site around test hole TH-2. (see Appendix A report) The cleared areas are generally covered by tall grass, weeds and a few trees. The natural areas are generally vegetated with mature spruce trees and undergrowth.

Drainage off the site is clearly defined by Bigstone Creek, which flows immediately East of the site. The one "new" proposed building site sits at the top of a hill and all runoff makes its way into Bigstone Creek via natural water runoff pathways. Surface soils are primarily sand and/or clay. There is very rarely surface water even after heavy rains. The ditches surrounding the proposed new building site development and the current building site very rarely have standing water, even in the spring runoff. This has been observed during the last 22 years that we have lived next door to the development parcel. The sandy soil helps to soak up any storm-water accumulation. No additional flows should be expected by placement of approaches and culverts on any of the proposed locations.

As a result of the topography being steeply dropping towards the creek on adjacent parcel there should be no upstream flows to consider. See Appendix C for location of steep slope.

With regards to on-site collection or retention of storm water; all slopes on-site flow towards the existing dug-out and drainage ditch that flows into the Bigstone creek. The existing dug-out has an outflow drain into the Bigstone creek.

Over the last 22 years that we have lived next door to this site, we have never seen standing water any where, other than in the dug-out. The dug-out has never over-flowed.

Item 4: Water Supply

A groundwater supply assessment report was prepared by Groundwater Resources Information Technologies Ltd. in accordance with section 23 of the water act. The report finds that there is more than the required 1,250 m^3 per year available to each lot.

"Projected water yields from wells completed within these units are likely within or above the range 10 and 25 m^3/day (3,653 - 9,131 m^3/year or 1.5 - 3.8 imperial gallons per minute) based on pumping test data from surrounding wells and maps generated in previous consulting reports."

"Based on available pumping test data, sufficient aquifer supplies should exist to provide water for residential purposes at the proposed subdivision at a rate as specified in the Water Act of 1,250 m^3/year without causing adverse affects to existing domestic, licensed, or traditional agricultural users."

The report recommends the use of individual wells as a source for water supply.

Report attached – See Appendix B

Item 5: Traffic and Roads

Both proposed lots will have a significant amount of land bordering Range Road 243A. Approximately 99.3 meters of land, per lot, will be adjacent to the road. There are many suitable locations for an approach for the proposed new lot. One of the proposed lots already has an approach with culvert, accessing Range Road 243A; as such only one new approach will be required. Closest new Lot to a provincial highway, (2A) is 3.2 km.

The final approach locations will be determined through County inspections. There is no internal public road design required and all lots will be accessed from the County Public road system.

Since the resulting new residents of the new lots, my children, already reside next door to the proposed development, there is no expected increase to future road traffic in the immediate future.

We acknowledge that the creation of one new residential lot does increase density, and that future road traffic will have a minimal increase in the distant future.

We acknowledge that there is a rural road contribution fee of $2,000 per lot addition, and agree to pay once approved.

Item 6: Historical Resources Assessment

A historical resource screening report was prepared on November 17, 2022 for the proposed development property. The search did not find any historical resource value assigned to the land.

Report attached: See Appendix F

Item 7: Land Uses and Maps

This area structure plan proposes the division of a single existing lot, into two new lots approximately between 10.80 acres each; see maps attached. (Appendix E) There are no foreseeable conflicts with the proposed development and existing land uses.

Lot 1: As per survey prepared by Wilde Bros Surveys, lot one to include all existing structures, utilities and approaches; and will have an area of 10.79 acres.

Lot 2: As per survey prepared by Wilde Bros Surveys, lot two to include the existing dug out and will have an area of 10.79 acres

Item 8: Zoning

No re-zoning will be required, as the current parcel of land is already zoned country residential.

Most parcels in the area are zoned country residential, creating another parcel creates more continuity in the area

Item 9: Reserves

County reserves were previously provided with the original subdivision.

Item 10: Plan of Subdivision

Upon approval of ASP subdivision will proceed as follows:

Phase 1 - Immediate action to subdivide the 2 lots with access off of Range Road 243A.

Phase 2 – Immediate application for development permit for second lot.

Expiry: This area structure plan will expire three years from the date of approval by council, if the subdivision has not been registered.

Item 11: Compatibility with County Planning

This proposal is supported by the Counties Municipal Development Plan and the Wetaskiwin Millet Acreage Study Area Structure Plan. The proposal is supported by the MDP, Wetaskiwin Millet Acreage Study ASP, and County Policies such as policy 61.1.5 - "Re-Subdivision in Multiple Lot Subdivisions".

"Objective 2.1 of the County's Municipal Development Plan is to 'Cluster residential development to hamlets and close to services." In this regard, the proposed development is in an ideal location, right between the City of Wetaskiwin and Town of Millet where there are existing services and existing multi-lot developments.

Appendix A – Shelby Engineering Ltd. Report

SHELBY ENGINEERING
40 YEARS 1982 2022
Shelby Engineering Ltd.
172, 2693 Broadmoor Boulevard, Sherwood Park, AB T8H 0G1
T: (780) 438-2540 F: (780) 434-3089
www.shelbyeng.ca

Israel Wasserman
5010 51 Street
Wetaskiwin, AB,
T9A 1L3

October 14, 2022
File No. 1-23481

RE: Groundwater Assessment
Proposed Residential Subdivision
470049 Range Road 243A (Lot 4, Plan 3489TR)
County of Wetaskiwin No. 10, AB

1.0 INTRODUCTION

Shelby Engineering Ltd. (Shelby) has completed a Groundwater Assessment for the proposed subdivision of the above noted property.

Mr. Israel Wasserman authorized this evaluation on August 3, 2022 subsequent to acceptance of our proposal (#20904) dated July 25, 2022.

The subject property is comprised of 21.59 acres of land that contains a house and a shop within the northeast portion, and a dugout within the central portion. The proposed development comprises subdividing this parcel into two lots (with one containing the existing house and the second one containing the dugout), if feasible based on the requirements of the County.

It is understood that the client is considering to construct two single family residential buildings (one in each future lot) with basements. It has been assumed that the proposed basements will be established at depths ranging from approximately 1.5m to 2.5m below existing grades. Redevelopment was ongoing within the northeast portion at the time of site inspection.

The site is a portion of the quarter section legally described as NE ¼ Section 4-47-24-W4M, and is located on the east side of Range Road 243A, approximately 800m north of Township Road 470, as shown on the site location plan enclosed as Figure 1, Appendix II.

2.0 FIELD INVESTIGATION

The field investigation, supervised by a Shelby representative, was conducted on September 6, 2022 and comprised drilling four test holes to depths ranging from 3.05m to 4.25m below existing grade using a truck mounted drill rig equipped with solid stem augers.

Disturbed soil samples were obtained at 300mm below existing grade and thereafter at regular depth intervals of 0.76m for moisture content determination. Standard Penetration Tests (SPTs) were conducted at selected depth intervals. A continuous field log was maintained and all samples were returned to our laboratory for visual confirmation of our field logs and for pertinent laboratory testing.

Laboratory testing included visual classification and determination of moisture content on all soil samples. Tests to determine Atterberg limits and concentrations of water-soluble sulphate salts were also conducted on select samples. All field and laboratory test results are presented and/or referenced on the test hole logs.

Site Plan showing the test hole locations is enclosed as Figure 2, Appendix II. The test hole logs are enclosed as Figures 3 to 6, Appendix II.

2.1 SUBSURFACE CONDITIONS

The general stratigraphy encountered at the test hole locations was comprised of surficial fill underlain by native silt and/or clay.

The reader is advised that the consistency and extent of the various soil strata evidenced at test hole locations will vary between test borings and in areas of the site that have not been explored. All depths indicated below are referenced to site grades as existed at the time of the fieldwork described herein.

2.1.1 Fill

Surficial fill was encountered at all test hole locations and extended to depths ranging from 1.4m to 2.1m below grade. The fill was generally comprised of topsoil underlain by sand and/or clay. The topsoil extended to depths ranging from 65mm to 600mm below grade.

The sand fill was generally described as silty and fine grained. The clay fill was generally described as silty, sandy, soft and medium plastic. The fill was generally moist to wet except for the saturated conditions encountered at depths starting from 600mm to 1.5m below grade in three test holes (TH-1, TH-3 and TH-4)

Differing thickness of fill/organics may be present in areas of the site between and apart from the test hole locations. As such, actual stripping volumes may differ from those calculated using the thicknesses encountered at the test hole locations. To mitigate potential discrepancies, additional investigation using shallow test pits or hand augered probe holes could be considered.

2.1.2 Native Silt

Native silt was encountered underlying the fill or clay at two test hole locations (TH-1 and TH-2), extending to the maximum depth of drilling (i.e., at least 4.25m below grade). The silt had variable sand and/or clay content, and was generally non-plastic to low plastic, soft and wet to saturated. The silt contained medium plastic clay lenses/layers.

2.1.3 Native Clay

Native clay was encountered underlying the fill at three test hole locations (TH-1, TH-3 and TH-4), extending to depths ranging from 2.9m to the maximum depth of drilling in TH-3 and TH-4 (i.e., 3.05m below grade). The clay had a high silt content and was generally described sandy, medium plastic, soft and saturated.

3.0 SHALLOW GROUNDWATER TABLE EVALUATION

One standpipe was installed in each test hole upon completion of drilling to monitor the groundwater levels.

The table below provides a summary of slough and groundwater measurements taken upon completion of drilling, and groundwater measurements taken 7 days after standpipe installation (each relative to surface grades at the time of drilling). Slough and groundwater conditions measurements are also recorded on the test hole logs enclosed in Appendix II.

Table 3.1: Slough and Groundwater Observations

Test Hole Location	Depth Below Existing Grade (m)		
	On completion of drilling		Water Level After 7 Days
	Slough	Water	
TH-1	3.00	Trace (3.00)	2.79
TH-2	None	Dry	4.10
TH-3	None	2.70	0.90
TH-4	None	Trace (3.05)	1.30

Groundwater levels fluctuate seasonally and in response to precipitation. Variation on the order of 1m or more is possible within any given year, with higher groundwater levels expected in spring and summer months. As such, different groundwater levels may be encountered at the time of construction.

Although sloughing was not noted within the glaciolacustrine deposit during fieldwork, large vacuum pressures that can develop during drilling of open bore piles could initiate sloughing during pile installation.

3.1 DISCUSSIONS

Alberta Environmental Protection (AEP) guidelines defines a high water table area is as any area where the water table is within 1.8 metres (6 feet) of the ground surface during the frost free period up until the end of August and within 2.4 metres (8 feet) of the ground surface during the remainder of the year.

Shelby installed groundwater monitoring wells at all test hole locations to investigate the shallow groundwater regime. The stabilized groundwater table on the subject site appears to range from a depth of approximately 0.90m to 4.10m below grade based on measurements taken 7 days after installation of standpipes.

The shallow groundwater elevation was found to comply with AEP's guidelines at two test hole locations (TH-1 and TH-2) with respect to a minimum depth to groundwater table of 1.8m below existing grade.

Based on measured groundwater depth and a visual inspection of the site, portions of the eastern parts of the proposed lots (where test holes TH-1 and TH-2 are located) are considered developable (with areas having elevations a minimum of 1.8m higher than the water table considered developable). Delineation and determination of the size of developable areas within each lot is beyond the current scope of this report in the absence of site topographic contours.

4.0 PRIVATE SEWAGE DISPOSAL

The following two criteria must be met for a site to be considered suitable for a waste disposal field:

1) AEP guidelines requires percolation testing to be undertaken in addition to particle size analysis if the particle size analysis reveals that a soil sample is a sand or loamy sand (a minimum of 70% sand and a maximum of 16% clay), or the clay component of the soil is 35% or greater. The guidelines require soil percolation rates between 2.0 min/cm and 23.6 min/cm. The soil percolation test is terminated when three consecutive readings are within 10% of each other and the percolation rate taken as the average of the final three readings.

2) AEP recommends that a low water table exist for the efficient operation of disposal fields. AEP defines a low water table as one where the water table is more than 1.8m below existing grade during the frost-free season up until the end of August and below 2.4m for the remainder of the year. The groundwater elevations are recorded on the test hole log included in Appendix II and summarized in Section 3.0 of this report.

The groundwater table at two test hole locations (TH-1 and TH-2) exceeds 1.8m below grade. The groundwater elevation at the two locations meets the AEP requirement for a low groundwater table. However, based on a review of near-surface soils at the site, Shelby does not recommend percolation tests at the site due to the presence of sand layers (which will not meet the percolation rate criteria) within the upper soils.

Onsite waste disposal fields are not considered feasible for the site. Other types of private sewage disposal system, such as a septic tank and treatment mound, should be used on the proposed lots.

5.0 PRELIMINARY SLOPE ASSESSMENT

Shelby has completed a preliminary slope stability assessment for the site. The assessment comprised a site reconnaissance completed on October 11, 2022. Photographs taken during the site visit are enclosed in Appendix III.

The site generally consists of cleared area within a larger west portion and a natural, tree covered area within the east portion, as evidenced by the site plan enclosed as Figure 2, Appendix II. A homestead, where construction works were ongoing during the site visit, is present near the northeast corner of the property. An access road leads to the homestead from Range Road 243A.

The site has an undulating topography with a low area noted around the dugout and higher areas generally noted north of the access road and on the east portion of the site around test hole TH-2. The cleared areas were generally covered by tall grass, weeds and a few trees. The natural areas were generally vegetated with mature spruce trees and undergrowth.

Within the forested area in and adjacent to the east portion of the site, the ground slopes (at a gradient estimated at 30°) to a wide creek valley base. The creek channel is located some distance away from the base of the slope. The slope is estimated to be approximately 4m to 6m high.

Apart from the above-mentioned slope, and the sloping sides of the dugout, no other slope with gradients exceeding 15% were noted during the site inspection. The site reconnaissance did not reveal any current or past signs of slope instability in the vicinity of these areas. Overall, the slope at the site appeared stable, with no visual indications of recent slope instability or failure noted during our inspection.

It has been assumed that any proposed dwelling at the site will be constructed a minimum of 30m away from the slopes with gradients exceeding 15%. Additional slope stability analyses will be required if a lesser setback is required.

6.0 CLOSURE

This report has been prepared for the exclusive use of Mr. Israel Wesserman and his agents. It has been prepared in accordance with generally accepted professional standards at the location and time of preparation, for application as noted by the specific proposed development, site location and/or scope of work described herein. No other warranty is made, either expressed or implied. Any use of this report by any third party, or any reliance or decisions made based on it, are the responsibility of any such third party. Shelby will accept no responsibility for any claims, losses, liabilities, damages, expenses and/or costs arising out of claims, howsoever arising, by third parties related to use, reuse, alteration or reliance upon the findings herein.

Shelby's scope did not include any Biophysical Assessment or Hydrogeological assessment as well as any Civil/Municipal engineering related requirements of the County (such as grading plans, topographic survey, detailed slope stability study, development setbacks, water wells, sanitary level 2 assessments, foundation considerations, Phase 1 groundwater assessment, wetland assessment, floodplain assessment, existing private sewage assessments, domestic water well assessments, etc.) if required for the proposed development.

All services provided by Shelby Engineering Ltd. are subject to the attached Terms and General Conditions for Services Provided by Shelby Engineering Ltd.

Respectfully Submitted,
SHELBY ENGINEERING LTD.

PROFESSIONAL ENGINEER ALBERTA
HARON K. CHEROGONY
ID 79578
Oct. 14/2022

Haron K. Cherogony, P.Eng.
hcherogony@shelbyeng.ca

PROFESSIONAL ENGINEER ALBERTA
SURESH J. DAS
ID 94608
Oct. 14, 2022

Suresh J.K. Das, M. Eng., P.Eng.
sdas@shelbyeng.ca

PERMIT TO PRACTICE
SHELBY ENGINEERING LTD
RM SIGNATURE:
RM APEGA ID #: 94608
DATE: Oct. 14, 2022
PERMIT NUMBER: P003580
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

APPENDIX I

Terms and General Conditions

Terms and General Conditions for Services Provided by Shelby Engineering Ltd.

All professional services provided by Shelby Engineering Ltd. ("**Shelby**") to the client (the "**Client**") with respect to the project ("**Project**") and at the site ("**Site**") identified in the attached report, proposal and/or project set-up form (the "**Purchase Order**") are subject to the terms and conditions set forth in the Professional Services Agreement ("**PSA**").

1. Scope of Services and Standard of Care. Shelby will provide only those services and scope of work outlined in the Purchase Order (the "**Services**"). If a service, work or activity is not specifically identified, it is expressly excluded from the Services. Shelby will perform the Services in a manner consistent with the level of care and skill ordinarily exercised by other engineers currently practicing in the same or similar locality, under the same or similar conditions, subject to the time limits and financial, physical or any other constraints applicable to the Services. No other warranty, express or implied, is made or intended to be made with respect to the Services and the same are specifically disclaimed.

2. Fees. The fees charged by Shelby are as set out in the Purchase Order and based upon the condition that the Project, works or services that form the subject of the Purchase Order shall be carried out in one continuous phase (without the Project being temporarily suspended by the Client). If the Project is suspended for any amount of time and restarted, additional consulting and field services may be required, which shall be subject to a separate proposal and additional fees.

3. Terms of Payment. Invoices shall be issued by Shelby monthly and shall be payable on receipt. Within 14 days of receipt of an invoice the Client shall notify Shelby of any dispute with the invoice. Invoices not paid within 28 days of invoice date shall be subject to a charge of 1.5% per month or the maximum rate allowed by law, whichever is less. If the Client fails to pay any invoice within 28 days of the invoice date and such failure continues 15 days after Shelby gives the Client notice of such failure, Shelby shall have the right to terminate this PSA immediately and/or suspend performance of the Services. The Client shall have no right of setoff against any billings of Shelby for disputed claims or withholding of Services. The Client expressly acknowledges and agrees that Shelby may file a lien against a Project and/or Site for any and all fees that are due and payable by the Client under this PSA and/or any Purchase Order.

4. Data and Information. Shelby shall be entitled to rely on the accuracy and completeness of all testing, services, reports, data, and other information furnished by the Client or other consultants regarding the Project, the Services or the location of the Project (the "**Site**") and assumes no responsibility or liability with respect to such information. The Client acknowledges that the Services entail an investigation which by its nature involves the risk that certain conditions between points investigated will not be detected, and that certain other conditions may change with time after provision of the written report of the Services. The Client acknowledges and accepts such risk and is aware that the Purchase Order or in any Work Product can only provide for the conditions at the investigated points at the time of investigation. Extrapolation between the investigated points is at the Client's risk. If the Client requires additional or special investigations outside the scope of the Purchase Order or Work Product, the Client must request such additional investigations from Shelby.

5. Differing Conditions. Prior to commencement of the Services, the Client will inform Shelby in writing of all known materials categorized as hazardous or toxic by any federal, provincial or local law, or regulation and of any conditions existing on or near the Site that are relevant to the Services or that may present a danger to health, the environment or Shelby's equipment or personnel. If Shelby believes that any condition encountered at the Site or during the course of the Project is inaccurate or differs materially from the conditions disclosed, indicated, reflected or referred to by the Client at the time of the Purchase Order, Shelby shall notify the Client within a reasonable time. In such a case, Shelby shall not be required to continue performing the Services until such time as a resolution to address the differing condition has been mutually agreed to the Client and Shelby, including any change in compensation, time for performance or both. Shelby shall have no responsibility for the discovery, presence, handling, removal, disposal of, or exposure of persons to, hazardous materials in any form at the Site, except to the extent directly caused by the sole negligence of Shelby. Shelby shall not be liable for any costs or damages resulting from any concealed condition of the Site or other condition of the Site not disclosed to Shelby in writing.

7. Changes and Delays. Shelby shall be entitled to an increase in fees or time, or both, for performance of the Services where any changes are required or made to the scope of Services, to the extent that such changes do not arise from the direct and sole negligence of Shelby. Shelby shall not be required to perform any Services related to a change unless the parties have agreed on the amount of or the basis for calculating the time and fees associated with such change. Shelby shall be entitled to additional time or fees, or both, for any delays caused by or resulting from acts of the Client, consultants, contractors, subcontractors, suppliers or other third parties over whom Shelby has no control, to the extent that such delay is not caused by Shelby's negligence. Should Shelby terminate this PSA in accordance with section 12 herein, Shelby shall not be responsible for any delays or damages resulting from such termination.

8. Ownership of Documents. All plans, designs, drawings, specifications, notes, data, samples, materials, reports, reproducibles and other work developed by Shelby (the "**Work Product**") and all patent, trademark, copyright, industrial or other intellectual property rights therein shall remain the property of Shelby after the Services have been completed or terminated. The Client agrees not to use, reuse, or adapt any of the Purchase Order for any other project or application. The Client shall release, defend, indemnify and hold harmless Shelby from all claims, losses, liabilities, damages, expenses, and costs arising out of the unauthorized use, reuse, alteration or reliance on the Purchase Order. The Work Product has been prepared for a specific purpose the Site. No responsibility for the findings will be accepted by Shelby if they are applied to a different site or for a purpose different from the specific purpose outlined in the Work Product. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT THE WRITTEN CONSENT OF SHELBY.

9. Limitation of Liability. Shelby and the Client each waive their rights to recover from the other any consequential, indirect or incidental damages (including, but not limited to, loss of use, income, profits, financing or reputation), arising out of, or related to, this PSA, the Project or the performance of the Services. To the maximum extent permitted by law, Shelby's liability to the Client for any and all causes of action whatsoever, including, without limitation, tort, contract, strict liability, indemnity or otherwise, arising out of, or in connection with this PSA, the Project or Shelby's performance of the Services shall be limited in the aggregate to the total fees paid by the Client to Shelby under this PSA. The Client further agrees that, to the fullest extent permitted by law, no shareholder, officer, director, partner, principal or employee of Shelby shall have any personal liability under any provision of this PSA, or for any matter in connection

with the Services provided. The Client expressly agrees to the limitation of liability.

10. Indemnification. The Client acknowledges that the Purchase Order is based upon testing, services, reports, data, and other information furnished by the Client or other consultants and that the Purchase Order would be impacted by any changes to such data. As such, Shelby makes no representation or warranty regarding the use of or reliance upon the Work Product by third parties and the Client shall release, defend, indemnify and hold harmless Shelby from all claims, losses, liabilities, damages, expenses and costs arising out of claims by third parties related to use, reuse, alteration or reliance upon the Purchase Order. Nothing in this PSA shall be interpreted or construed as giving any rights or benefits to any person or third party other than Shelby and Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT THE WRITTEN CONSENT OF SHELBY.

11. Performance by Consultants, Contractors, Subcontractors and Suppliers and Construction Means and Safety. Unless Shelby is identified in the Purchase Order as the "prime contractor" (with respect to the Alberta Health and Safety Act), the Client is responsible to retain competent and qualified consultants, contractors, subcontractors and suppliers for the Project. The Services do not include supervision or direction of the means, methods or actual work of other consultants, contractors, subcontractors or suppliers not retained by Shelby. No acceptance or approval by Shelby of the work of consultants, contractors, subcontractors or suppliers not retained by Shelby, whether express or implied, shall relieve such persons of their obligations to the Client for the proper performance of their work and Shelby shall have no liability to the Client or a third party with respect to the work performed by such persons, including any field review of such work performed by Shelby. Shelby shall have no responsibility for, control, right of control or liability with respect to the means, methods, techniques, sequences, procedures and equipment used or not used by such parties in their performance of any phase of the work at the Site or with respect to any safety precautions or programs related to the Project or the Site.

In the event Shelby is appointed as "prime contractor" in the Purchase Order, Shelby shall comply with all applicable laws, including, without limitation, occupational health, workers' compensation, safety and fire regulations of any governmental authority having jurisdiction over the Project or the Services. Shelby shall ensure that all its employees, agents and its subcontractors, their employees and agents, comply with and respect all requirements of this provision.

12. Termination. In the event of a material breach of this PSA by one of the parties, and the failure to remedy such breach within seven days of receiving written notice of the breach, provided that the breach was not caused or contributed to by the party seeking to exercise the right of termination, either party may terminate this PSA upon seven days' written notice to the other party, without further liability. Shelby may terminate this PSA should the Client be adjudged bankrupt, or make a general assignment for the benefit of creditors because of its insolvency or a receiver is appointed because of its insolvency, provided notice of such termination is provided in writing by Shelby. Shelby shall be entitled to terminate this PSA upon seven days' written notice to the Client. Should Shelby terminate this PSA pursuant to the provisions herein, all representations, indemnities and obligations shall survive the termination of this PSA indefinitely. Upon termination, the Client shall pay Shelby for all Services performed to the date of termination

13. Governing Law and Severability. This PSA shall be governed by the law of the Province of Alberta. If any term, condition or provision of this PSA or the application thereof is determined to be invalid or unenforceable, the remaining provisions of this PSA shall not be affected but shall instead remain valid and fully enforceable. This PSA incorporates and supersedes all prior negotiations, agreements and representations, either written or oral. No cancellation, modification, amendment, deletion, addition, waiver or other change in this PSA shall have effect unless specifically set forth in writing and signed by both parties.

14. Confidentiality and Publication. Both parties shall keep all information designated as "confidential", whether disclosed in writing or orally, strictly confidential and shall not disclose any such information to any other person except (i) as required for performance of the Services, provided that any person to whom such information is disclosed is subject to similar obligations of confidentiality or (ii) where required by law. Shelby shall have the right to include references to the Project in its promotional and professional materials.

15. Changing Conditions. The characteristics of materials tested or assessed throughout the provision of the Services may vary from that reported due to the passage of time, use, environmental conditions, inherent variability, construction effects and other factors beyond Shelby's knowledge or control. The results reported in any Work Product represent only the material characteristics and conditions at the specific location and time that the Services are performed. Shelby provides no assurances that conditions consistent with the reported results existed elsewhere or that the reported conditions will persist for any period of time.

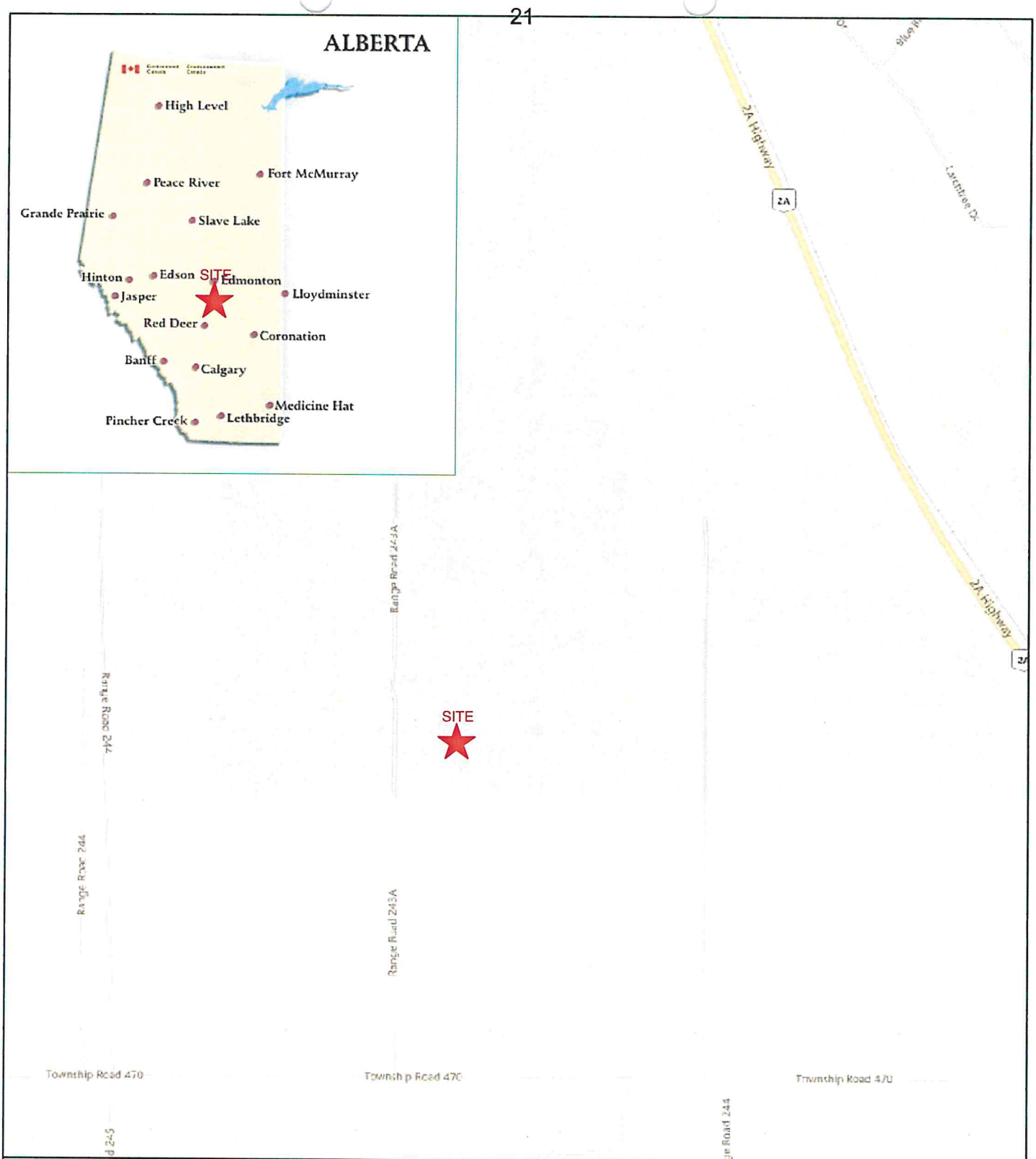
16. On-Site Services. The presence of Shelby personnel at a Site is for the sole purpose of providing the Services; their presence shall not be assumed to include the provision of the Services for any other purpose. Shelby's testing and assessing personnel cannot provide direction, including, but not limited to, the acceptance or rejection of materials, interpretation of specifications, or the means, methods, sequence, and timing of construction. Conditions of non-compliant work or materials may be found by Shelby through the provision of the Services. It is the responsibility of others to arrange for any necessary retesting of remediated non-compliant work or materials. Shelby does not supply surveying as part of the Services. Locations are approximations based upon information supplied by others' site personnel or existing points of reference. Shelby is not responsible for errors by others or the movement or removal of reference points. For any material testing services provided, material samples will be retained for their original intended purpose, after which, samples will be discarded at Shelby's discretion, unless arrangements have been made prior to receipt of samples.

17. Conflicts. The Purchase Order is incorporated by reference into the terms of this PSA. In the event of a conflict between the terms of the Purchase Order and this PSA, the terms of this PSA shall govern and prevail. No amendments to the Purchase Order or PSA shall be effective unless specifically agreed to in writing by Shelby's authorized representative. The following are hereby expressly excluded and extinguished from the Purchase Order: (a) terms and conditions in any work order, purchase order, correspondence, or other document used, prepared, or provided by the Client (excluding the Purchase Order); and (b) terms and conditions implied by applicable law (to the fullest extent that any such Law may be waived by the Client) or by trade custom, practice or course of dealing. Prior to the Client's acceptance of the Purchase Order, the Client may, by written notice to Shelby, request that Shelby amend particular terms and conditions set forth in the Purchase Order; however, such amendments will only be effective by Shelby's written acceptance of the Client's proposed revisions and such amendments may result in price increases.

Rev July 2021

APPENDIX II

Figures and Test Hole Logs



NOTES:

MAPS OBTAINED FROM GOVERNMENT OF CANADA WEBSITE ENVIRONMENT CANADA AND MICROSOFT CORPORATION BING MAPS

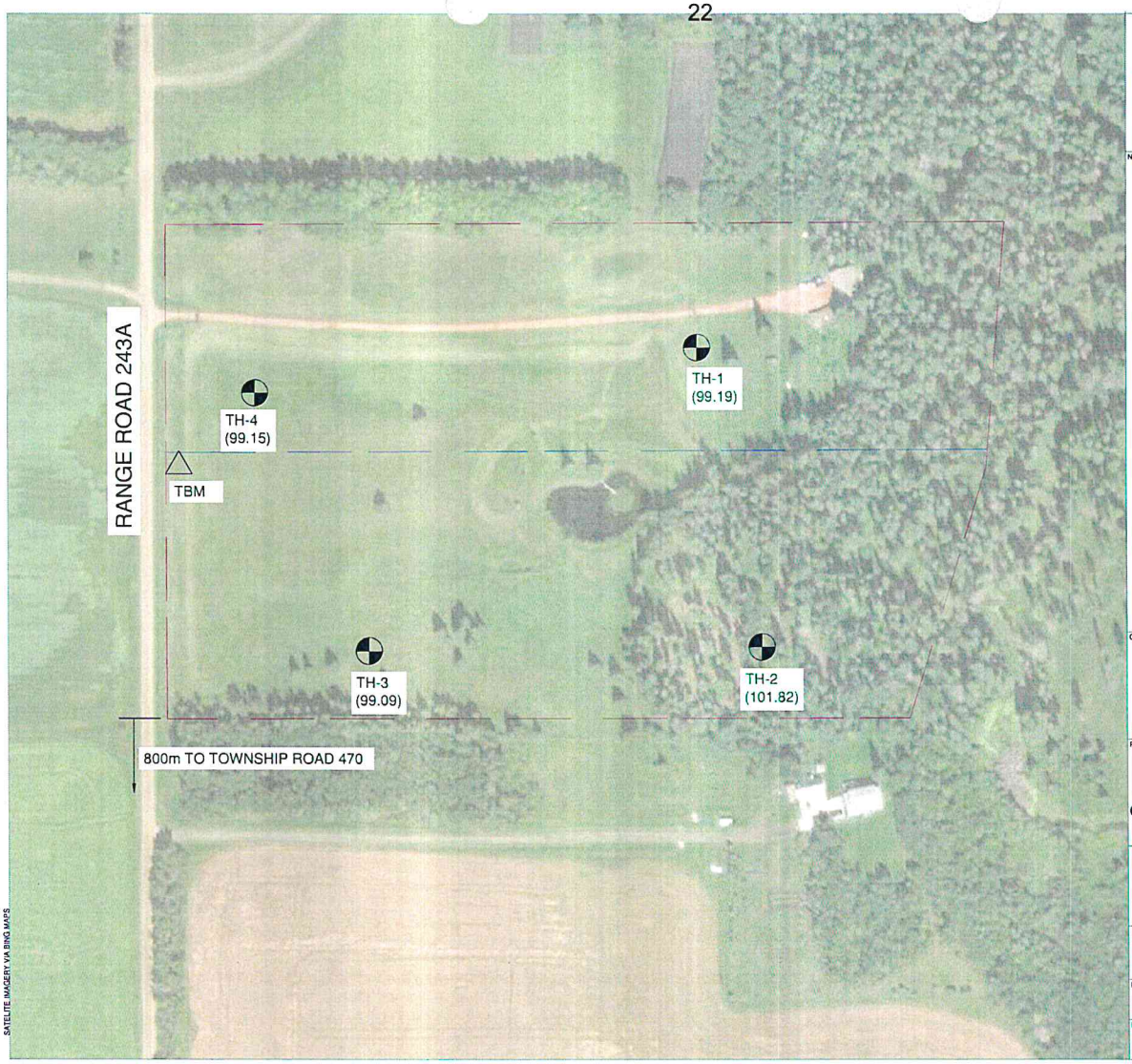
CLIENT: ISRAEL WASSERMAN

PROJECT: WASSERMAN - SUBDIVISION
470049 RANGE ROAD 243A
COUNTY OF WETASKIWIN NO. 10, AB

SHELBY ENGINEERING

SITE LOCATION PLAN

DWN BY:	CKD BY:	REVISION:
VG	HC	1
PROJECT NO.:	DATE:	FIGURE NO.:
1-23481	OCT. 2022	1



N

NOTES:
- EXISTING LOT LINE
- PROPOSED LOT LINE

0m 100m
SCALE: 1:2500

△ TBM: TOP OF NAIL IN BOTTOM OF POWER LINE POST ON WEST SIDE OF SITE
ASSUMED ELEVATION: (100.00m)

CLIENT:
ISRAEL WASSERMAN

PROJECT:
WASSERMAN - SUBDIVISION
470049 RANGE ROAD 243A
COUNTY OF WETASKIWIN NO. 10, AB

SHELBY ENGINEERING

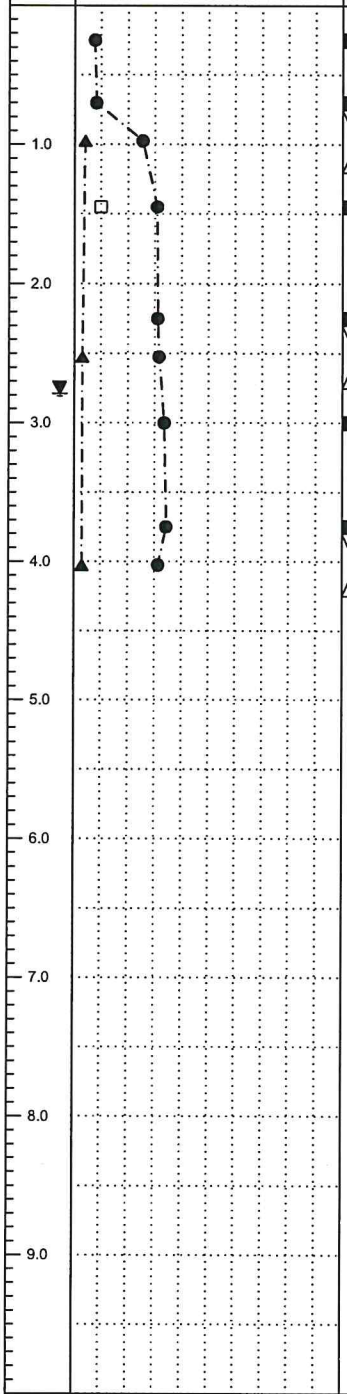
BORE HOLE LOCATION PLAN

DWN BY:	CKD BY:	REVISION:
VG	HKC	1
PROJECT NO.:	DATE:	FIGURE NO.:
1-23481	OCT. 2022	2

WASSERMAN - SUBDIVISION	ISRAEL WASSERMAN	TEST HOLE NO.: TH-1
470049 RGE RD 243A, WETASKIWIN COUNTY, AB	START DATE: 9/6/22	PROJECT NO.: 1-23481
PROJECT ENGINEER: HC	SOLID STEM AUGERS AND SPTS	ELEVATION.: 99.19 m

SAMPLE TYPE: GRAB, SHELBY TUBE, SPT, NO RECOVERY, HOLLOW STEM, CORE

BACKFILL TYPE: BENTONITE, PEA GRAVEL, SLOUGH, GROUT, DRILL CUTTINGS, SAND



SAMPLE NO.	SPT (N)	SOIL DESCRIPTION	USC	SOIL SYMBOL	ADDITIONAL TESTING	Elevation (m)
1		FILL: Topsoil, loamy, black, moist, trace rootlets, sand to 600mm.				99.0
2						
3	4	-Sand, loose, fine, moist, dark brown, trace organics, siltstone to 1.1m.	FILL			98.0
4		-Clay, silty, sandy, soft to firm, medium plastic, moist to wet, brown, trace gravel, organics to 2.1m. -and silt, wet to saturated from 1.5m.				
5		CLAY: Silt, sandy, soft, medium plastic, saturated, brown, trace oxides, coal to 2.9m.	CI		SO4=0%	97.0
6	3					
7		SILT: Sandy, soft, low plastic, saturated, brown, trace oxides, coal, clay.	SASI		Water level at 2.79m after 7 days.	96.0
8						
9	3	-and clay, low to medium plastic.	CI-ML			95.0
		DEPTH OF HOLE 4.25 METRES TRACE WATER UPON COMPLETION SLOUGH TO 3.0 METRES UPON COMPLETION STANDPIPE INSTALLED				94.0
						93.0
						92.0
						91.0
						90.0

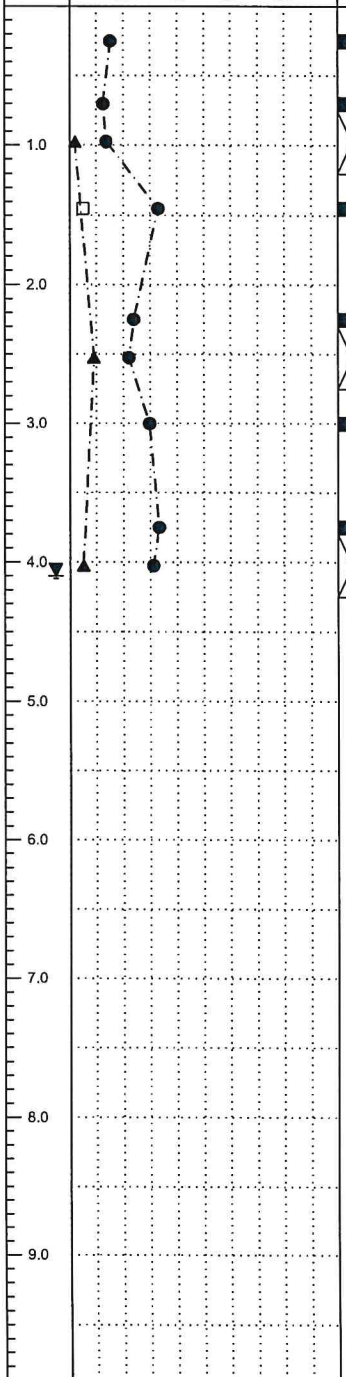
SHELBY ENGINEERING
#172, 2693 BROADMOOR BLVD.
SHERWOOD PARK, AB
T8H 0G1

LOGGED BY: NG	COMPLETION DEPTH: 4.25 m
REVIEWED BY: SD	COMPLETION DATE: 9/6/22
FIGURE NO.: 3	Page 1 of 1

WASSERMAN - SUBDIVISION	ISRAEL WASSERMAN	TEST HOLE NO.: TH-2
470049 RGE RD 243A, WETASKIWIN COUNTY, AB	START DATE: 9/6/22	PROJECT NO.: 1-23481
PROJECT ENGINEER: HC	SOLID STEM AUGERS AND SPTS	ELEVATION.: 101.82 m

SAMPLE TYPE: GRAB | SHELBY TUBE | SPT | NO RECOVERY | HOLLOW STEM | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND



Depth (m)	SAMPLE TYPE	SAMPLE NO.	SPT (N)	SOIL DESCRIPTION	USC	SOIL SYMBOL	ADDITIONAL TESTING	Elevation (m)
0.0		1		FILL: Topsoil, loamy, black, moist, trace rootlets, sand to 600mm.				101.82
		2		-Sand, loose, fine grained, moist, brown, trace rootlets to 1.7m.	FILL			
1.0		3	2	-silty from 900mm.				101.0
		4		-Clay lens, silty, sandy, soft, high plastic, moist, brown, trace siltstone, oxides from 1.7m to 1.8m.				100.0
2.0		5		SILT: Sandy, soft, non to low plastic, moist to wet, brown, trace clay lumps, oxides to 2.6m.	SASI			
		6	9	-and clay, low to medium plastic, trace of coal from 2.6m.				99.0
3.0		7		-low plastic, saturated from 3.0m.				
		8			CL-ML			98.0
4.0 ▼		9	5				Water level at 4.10m after 7 days.	
				DEPTH OF HOLE 4.25 METRES DRY UPON COMPLETION NO SLOUGH UPON COMPLETION STANDPIPE INSTALLED				97.0
5.0								
6.0								96.0
7.0								95.0
8.0								94.0
9.0								93.0
								92.0

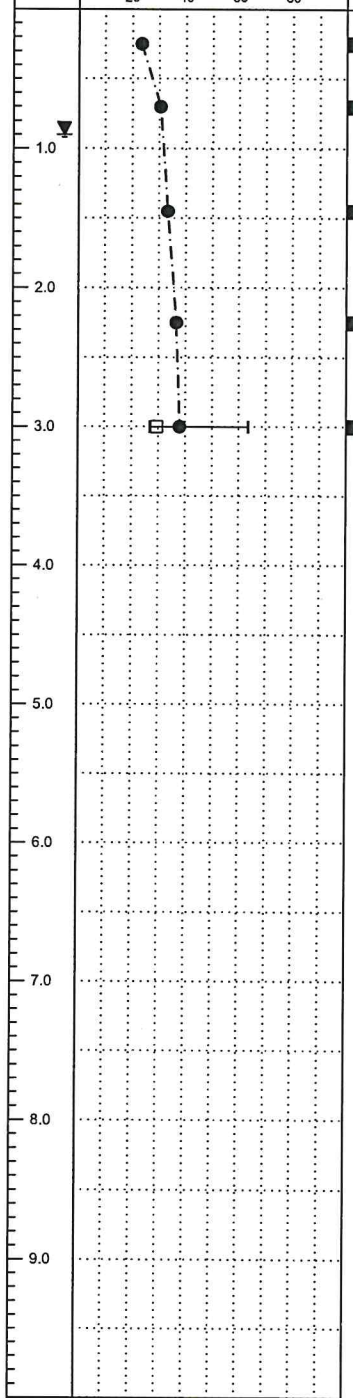
SHELBY ENGINEERING
#172, 2693 BROADMOOR BLVD.
SHERWOOD PARK, AB
T8H 0G1

LOGGED BY: NG	COMPLETION DEPTH: 4.25 m
REVIEWED BY: SD	COMPLETION DATE: 9/6/22
FIGURE NO.: 4	Page 1 of 1

WASSERMAN - SUBDIVISION	ISRAEL WASSERMAN	TEST HOLE NO.: TH-3
470049 RGE RD 243A, WETASKIWIN COUNTY, AB	START DATE: 9/6/22	PROJECT NO.: 1-23481
PROJECT ENGINEER: HC	SOLID STEM AUGERS	ELEVATION.: 99.09 m

SAMPLE TYPE: GRAB | SHELBY TUBE | SPT | NO RECOVERY | HOLLOW STEM | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND



SAMPLE TYPE	SAMPLE NO.	SPT (N)	SOIL DESCRIPTION	USC	SOIL SYMBOL	ADDITIONAL TESTING	Elevation (m)
							99.0
	1		FILL: Topsoil to 75mm.				
	2		-Clay, silty, sandy, soft, medium plastic, moist to wet, grey, trace of organics, rootlets to 1.4m.	FILL			
			-low plastic, saturated, brown from 600mm.			Water level at 0.9m after 7 days.	98.0
	3		CLAY: And silt, sandy, soft, medium plastic, saturated, grey, trace oxides, coal to 3.0m.				
	4		-trace sand from 2.1m.	CI-ML			97.0
	5		-silty, high plastic stiff, moist from 2.9m.	CH		SO4=0%	96.0
			DEPTH OF HOLE 3.05 METRES WATER AT 2.7 METRES UPON COMPLETION NO SLOUGH UPON COMPLETION STANDPIPE INSTALLED				95.0
							94.0
							93.0
							92.0
							91.0
							90.0

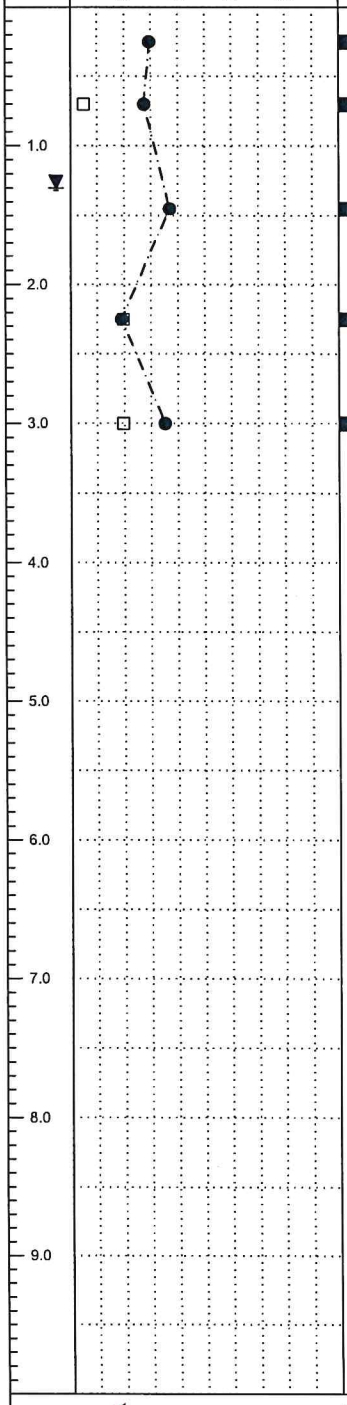
SHELBY ENGINEERING
#172, 2693 BROADMOOR BLVD.
SHERWOOD PARK, AB
T8H 0G1

LOGGED BY: NG	COMPLETION DEPTH: 3.05 m
REVIEWED BY: SD	COMPLETION DATE: 9/6/22
FIGURE NO.: 5	Page 1 of 1

WASSERMAN - SUBDIVISION	ISRAEL WASSERMAN	TEST HOLE NO.: TH-4
470049 RGE RD 243A, WETASKIWIN COUNTY, AB	START DATE: 9/6/22	PROJECT NO.: 1-23481
PROJECT ENGINEER: HC	SOLID STEM AUGERS	ELEVATION.: 99.15 m

SAMPLE TYPE: GRAB | SHELBY TUBE | SPT | NO RECOVERY | HOLLOW STEM | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND



SAMPLE TYPE	SAMPLE NO.	SPT (N)	SOIL DESCRIPTION	USC	SOIL SYMBOL	ADDITIONAL TESTING	Elevation (m)
	1		FILL: Topsoil to 65mm depth.				99.0
	2		-Clay silty, sandy, soft, medium plastic, moist to wet, grey, trace organics, rootlets, coal to 600mm depth.	FILL			
			-Sand, some clay, saturated, brown to 1.4m depth				98.0
	3		CLAY: And silt, sandy, soft, medium plastic, saturated, grey, trace oxides, coal to 3.0m.			Water level at 1.30m after 7 days.	
	4		-firm to stiff from 2.1m.	CI			97.0
	5		-some high plastic lenses from 2.9m.				96.0
			DEPTH OF HOLE 3.05 METRES TRACE WATER UPON COMPLETION NO SLOUGH UPON COMPLETION STANDPIPE INSTALLED				95.0
							94.0
							93.0
							92.0
							91.0
							90.0

SHELBY ENGINEERING
#172, 2693 BROADMOOR BLVD.
SHERWOOD PARK, AB
T8H 0G1

LOGGED BY: NG	COMPLETION DEPTH: 3.05 m
REVIEWED BY: SD	COMPLETION DATE: 9/6/22
FIGURE NO.: 6	Page 1 of 1

SOIL CLASSIFCATION SYSTEM (MODIFIED U.S.C.)

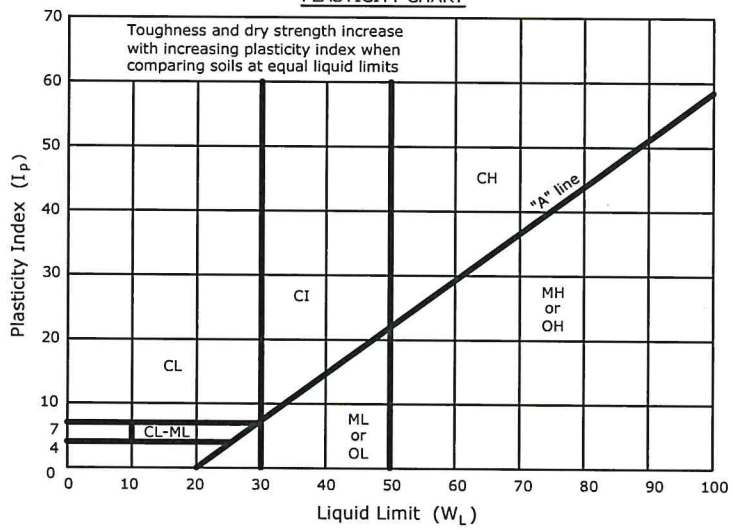
MAJOR DIVISION			GROUP SYMBOL	GRAPHIC SYMBOL	GROUP NAME	LABORATORY CLASSIFICATION CRITERIA
HIGHLY ORGANIC SOILS			PT		PEAT AND OTHER HIGHLY ORGANIC SOILS	STRONG COLOR OR ODOR, AND OFTEN FIBROUS TEXTURE
COARSE-GRAINED SOILS (MORE THAN 50% RETAINED ON NO.200 SIEVE)	GRAVELS (MORE THAN 50% OF COARSE FRACTION RETAINED ON NO.4 SIEVE)	CLEAN GRAVELS (LESS THAN 5% FINES)	GW		WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, < 5% FINES	$Cu=\frac{D_{60}}{D_{10}}>4$ $1\le Cc=\frac{(D_{30})^2}{D_{10}\times D_{60}}\le 3$
			GP		POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, < 5% FINES	NOT MEETING ALL ABOVE REQUIREMENTS
		DIRTY GRAVELS (MORE THAN 12% FINES)	GM		SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, > 12% FINES	ATTERBERG LIMITS BELOW "A" LINE OR $I_p < 4$
			GC		CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, > 12% FINES	ATTERBERG LIMITS ABOVE "A" LINE OR $I_p > 7$
	SANDS (MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE)	CLEAN SANDS (LESS THAN 5% FINES)	SW		WELL-GRADED SANDS, GRAVELLY SANDS, < 5% FINES	$Cu>6$ and $1\le Cc\le 3$
			SP		POORLY-GRADED SANDS, OR GRAVELLY SANDS, < 5% FINES	NOT MEETING ALL ABOVE REQUIREMENTS
		DIRTY SANDS (MORE THAN 12% FINES)	SM		SILTY SANDS, SAND-SILT MIXTURES, > 12% FINES	ATTERBERG LIMITS BELOW "A" LINE OR $I_p < 4$
			SC		CLAYEY SANDS, SAND-CLAY MIXTURES, > 12% FINES	ATTERBERG LIMITS ABOVE "A" LINE OR $I_p > 7$
FINE-GRAINED SOILS (MORE THAN 50% PASSES NO. 200 SIEVE)	SILTS (BELOW "A" LINE ON PLASTICITY CHART; NEGLIGIBLE ORGANIC CONTENT)		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY SANDS OF SLIGHT PLASTICITY	$W_L < 50$
			MH		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOILS	$W_L > 50$
	CLAYS (ABOVE "A" LINE ON PLASTICITY CHART; NEGLIGIBLE ORGANIC CONTENT)		CL		INORGANIC CLAYS OF LOW PLASTICITY, GRAVELLY, SANDY, OR SILTY CLAYS, LEAN CLAYS	$W_L < 30$
			CI		INORGANIC CLAYS OF MEDIUM PLASTICITY, SILTY CLAYS	$30 < W_L < 50$
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	$W_L > 50$
	ORGANIC SILTS AND ORGANIC CLAYS (BELOW "A" LINE ON PLASTICITY CHART)		OL		ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	$W_L < 50$
			OH		ORGANIC CLAYS OF HIGH PLASTICITY	$W_L > 50$

SEE PLASTICITY CHART BELOW

1. All sieve sizes mentioned on this chart are U.S. Standard, ASTM E11
2. Boundary classifications possessing characteristics of two groups are given combined group symbols. eg. GW-GC is a well-graded gravel-sand mixture with clay binder of between 5% and 12%.
3. Soil fractions and limiting textural boundaries are in accordance with the Unified Soil Classification System (ASTM D2487), except that an inorganic clay of medium plasticity (CI) is recognized.
4. The following adjectives may be employed to define percentage ranges by weight of minor components (per Canadian Foundation Engineering Manual, 1992):

And	35% to 50%
(y/ey)	20% to 35%
Some	10% to 20%
Trace	1% to 10%

PLASTICITY CHART



SHELBY ENGINEERING

SOIL CLASSIFICATION CHART

APPENDIX III

Site Photographs

Photo 1: Access Road and North Side of site (looking west)

Photo 2: Dugout and Homestead (looking northeast)

Photo 3: Wider view of site (looking west)

Photo 4: Treed Area within southwest portion of site

Photo 5: Creek to the east of site

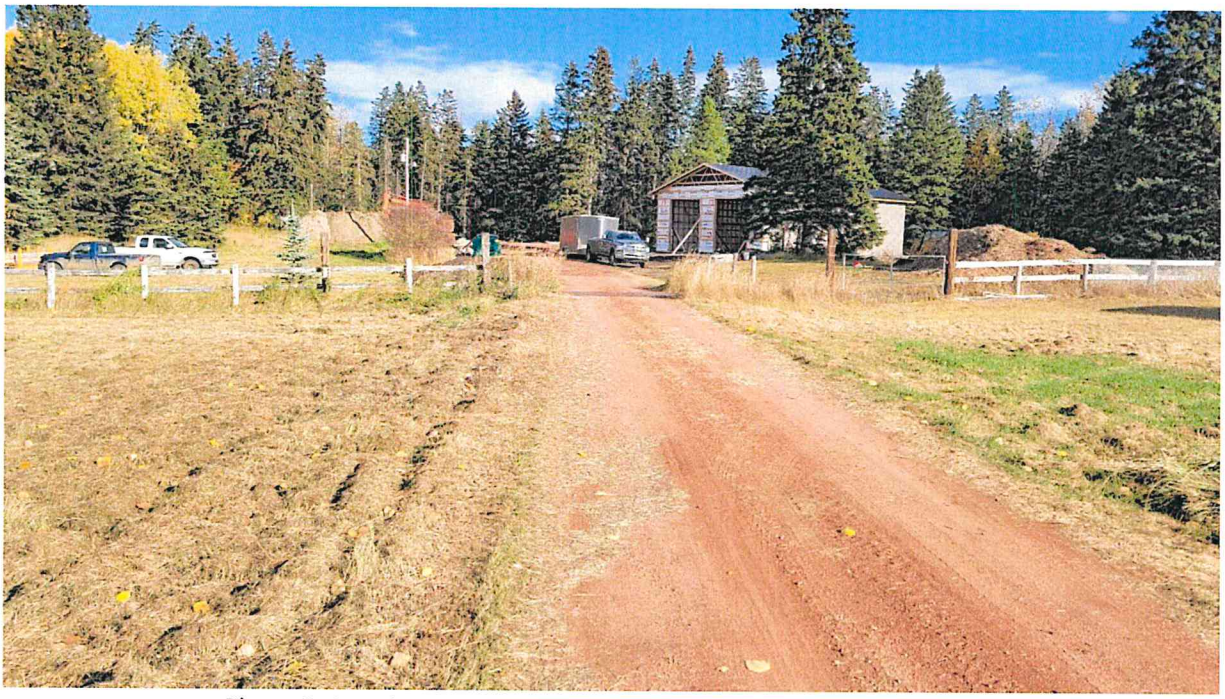
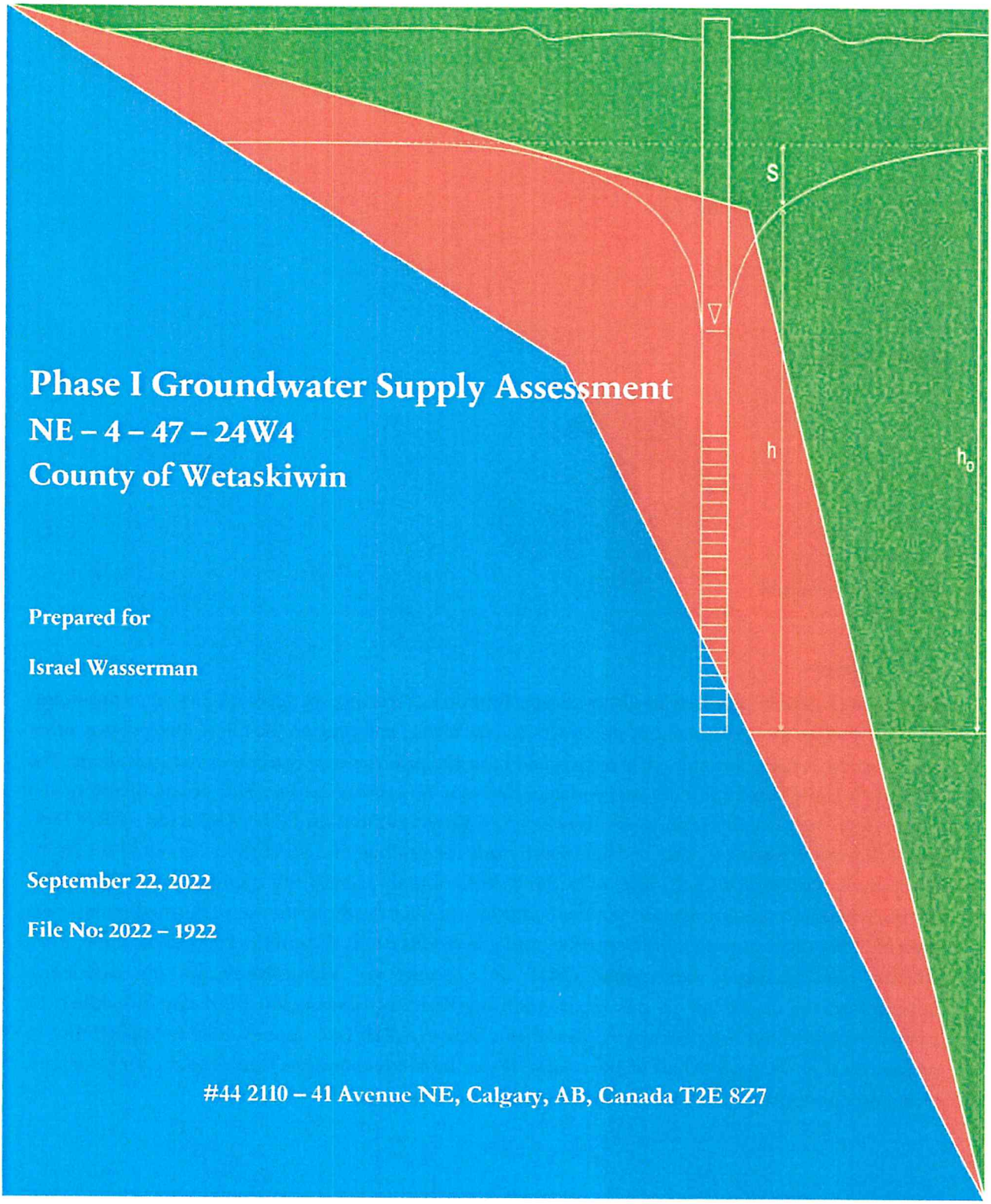


Photo 6: Ongoing construction within the homestead (looking west)

Appendix B - Groundwater Resources Information Technologies Ltd.

Groundwater Resources
Information Technologies Ltd.



Phase I Groundwater Supply Assessment
NE – 4 – 47 – 24W4
County of Wetaskiwin

Prepared for

Israel Wasserman

September 22, 2022

File No: 2022 – 1922

#44 2110 – 41 Avenue NE, Calgary, AB, Canada T2E 8Z7

Signatures

Prepared by:

Alanna Felske, GIT
Hydrogeologist

Reviewed by:

Ken Hugo, P.Geol
Senior Hydrogeologist

Disclaimer

This report has been prepared by Groundwater Resources Information Technologies (the consultant) for the exclusive use and benefit of the addressee (the client) and may not be relied upon by any other person or third party, for any other purpose without the prior written consent of the consultant. The consultant is not responsible for any damages that may be suffered as the result of any unauthorized use of, or reliance on, this report. Groundwater Resources Information Technologies Ltd. (GRIT Ltd.) has performed the work as described below and made the findings and conclusions set out in the report in a manner consistent with the level of care and skill normally exercised by members of the geological science profession practicing under similar conditions at the time the work was performed. This report presents a reasonable review of information available to GRIT Ltd. Within the established scope, work schedule and budgetary constraints. GRIT Ltd. accepts no responsibility for any deficiency, misstatement or inaccuracy in this report resulting from misinformation from any individuals or parties that provided information as part of this report. GRIT Ltd. appreciates the opportunity to present these finding on behalf of the Client. If you have any questions regarding the above report, please do not hesitate to contact the above signed.

Executive Summary

A Phase I Groundwater Supply Assessment was undertaken for a proposed two-lot residential subdivision located in NE – 4 – 47 – 24W4 to understand the quality and distribution of aquifer resources in the area as they relate to the future development of the property and its water requirements.

The best aquifer target for a well installed on site are the sandstone units belonging to the Horseshoe Canyon Formation. The aquifer is present near or underlying the subject site at depths of 35 – 40 meters and 50 – 60 metres below ground surface. Projected water yields from wells completed within these units are likely within or above the range 10 and 25 m^3/day (3,653 – 9,131 m^3/year or 1.5 – 3.8 imperial gallons per minute) based on pumping test data from surrounding wells and maps generated in previous consulting reports. These yields would meet the required rate, as defined in the Water Act, of 1250 m^3/year, required for a domestic well.

A low volume of the groundwater supply is currently utilized by existing domestic, licensed, or traditional groundwater users in the area. Based on available pumping test data, sufficient aquifer supplies should exist to provide water for residential purposes at the proposed subdivision at a rate as specified in the *Water Act* of 1,250 m^3/year.

The proposed subdivision of two (2) additional parcels of land for residential use within NE 4-47-27-W4, increases the total number of approved and registered residential parcels within the quarter section from nine to 11 and there is sufficient water in the aquifer to support the diversion of 1,250 cubic meters of water per year for household purposes for 11 residential parcels without interfering with existing household users, licensees or traditional agriculture users, as provided for in Section 23{3)(a) of the *Water Act*, and as required under Section 6(4)(a) of the Matters Related to Subdivision and Development Regulation.

Groundwater chemistry reports from wells in the area were evaluated for their suitability of the water to be used as a drinking water source. Groundwater in the area was generally alkaline (pH ~8.5) and contained a low to moderate concentration of dissolved solids (TDS = 608 – 968 mg/L). Aesthetic objective exceedances were detected for the concentration of sodium and total dissolved solids. The maximum allowable concentration guideline for fluoride was exceeded in all wells. The water quality of future wells completed in the aquifer units underlying the site should be of similar water chemistry and may require water treatment prior to use if fluoride concentrations are too high.

Table of Contents

List of Figures

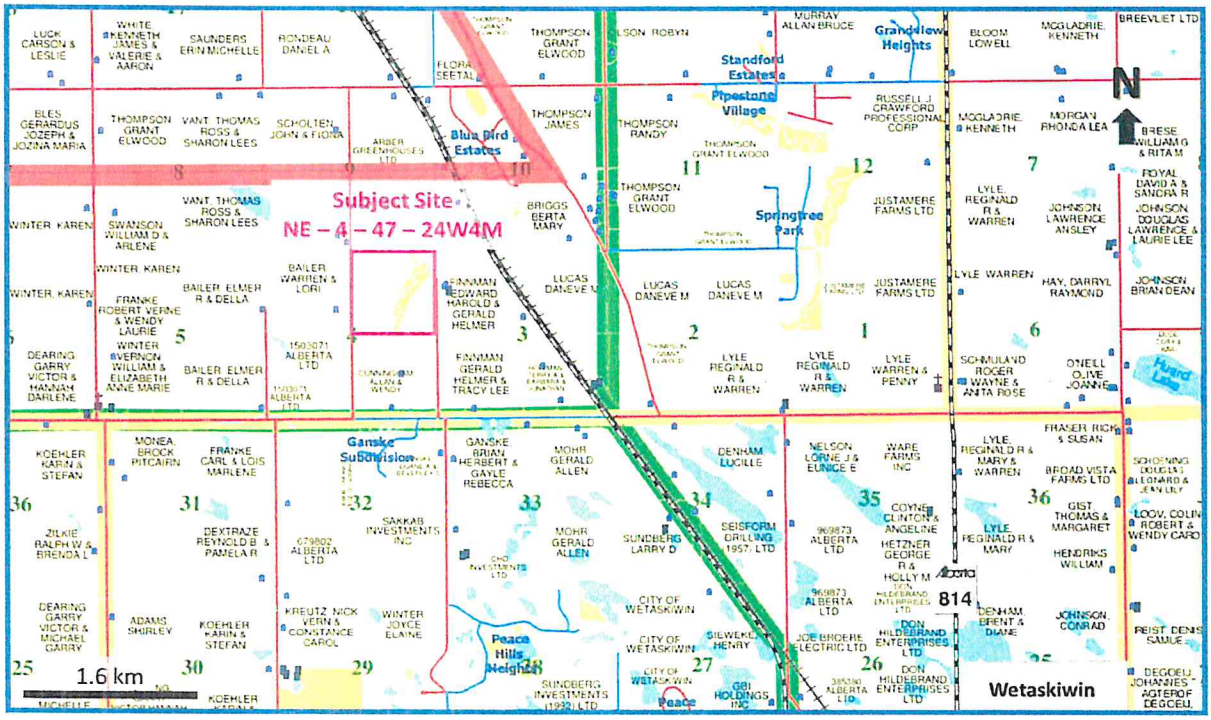
List of Tables

[1.0] Introduction

A Phase I Groundwater Supply Assessment was undertaken for a two-lot residential subdivision located in NE – 4 – 47 – 24W4 to understand the quality and location of aquifer resources in the area as they relate to the future development of the property.

The site is located approximately 6 kilometres northwest of the City of Wetaskiwin, Alberta in the County of Wetaskiwin. A portion of the County of Wetaskiwin landownership map and subject site quarter section location is shown below:

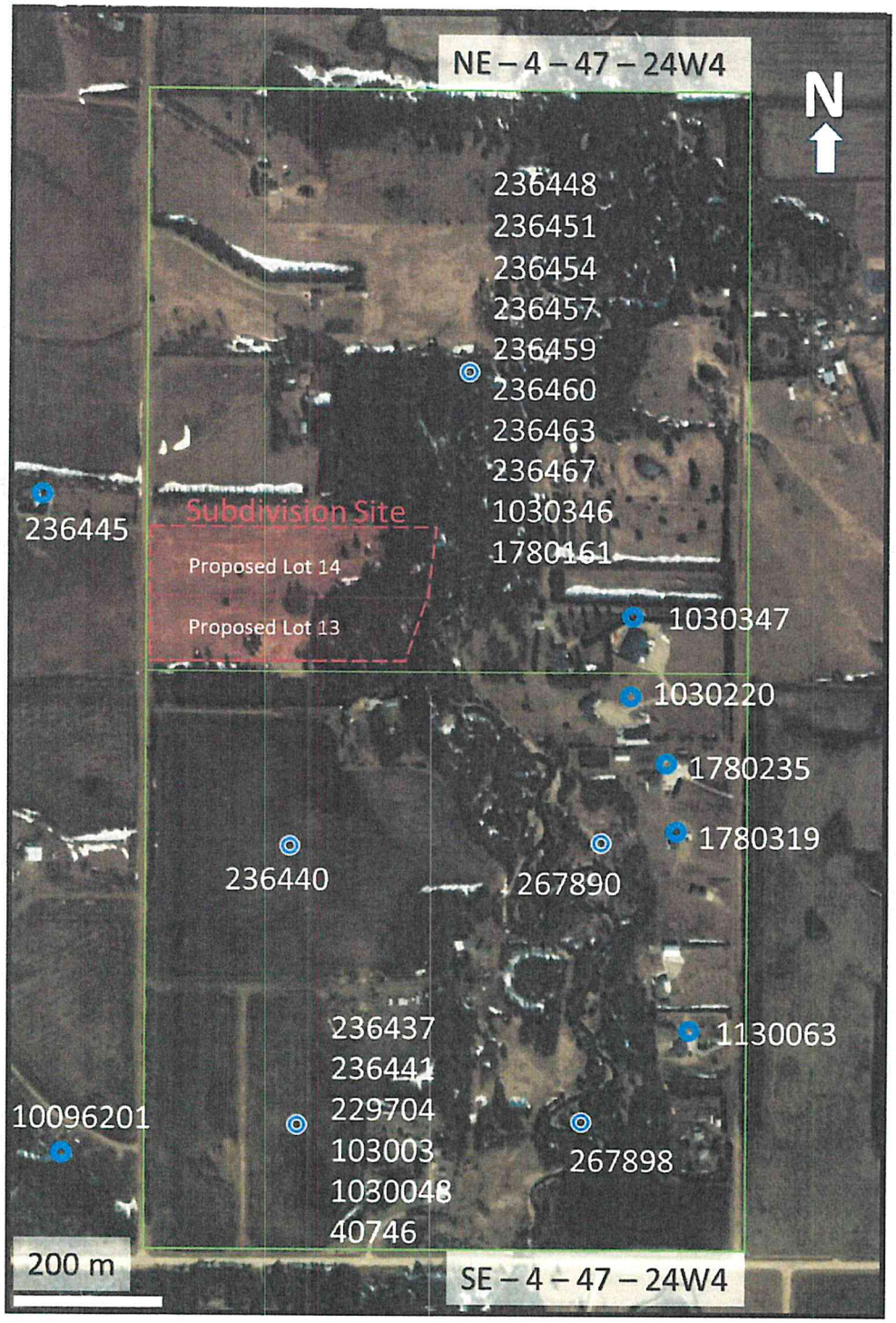
Figure 1. County of Wetaskiwin landownership map and site ¼ section location



The water is to be used to supply a proposed two-lot residential subdivision. According to the *Water Act* each residential subdivision lot is to be supplied with 1,250 m^3/year of water without causing adverse effects on existing domestic, licensed, or traditional agricultural users.

A relatively recent aerial photo of the site showing the current state of the property and existing well locations within the subject site quarter sections is as follows:

Figure 2. Air photo of the site location and existing well locations with listed GIC well ID's

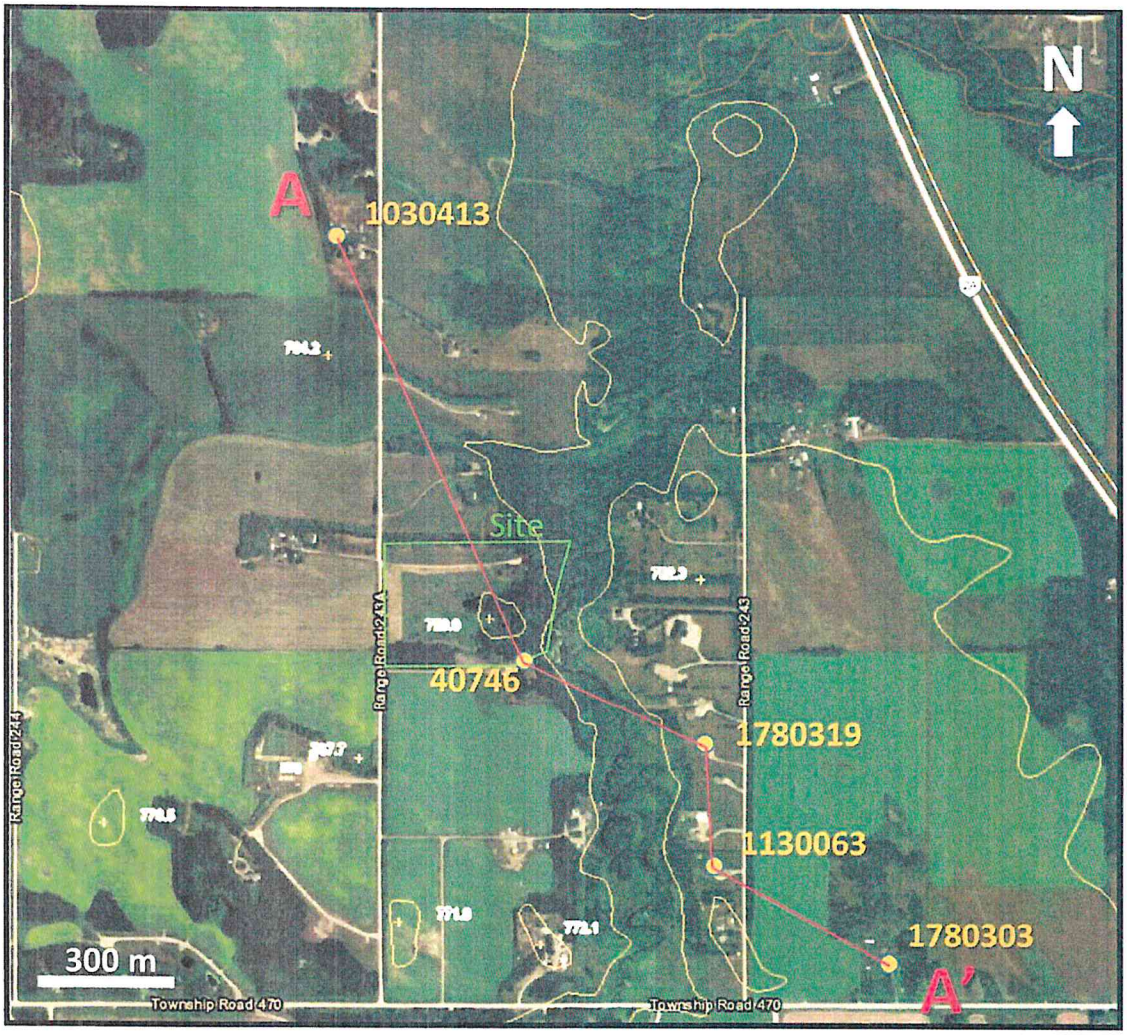


Additional subdivision boundary information is included in Appendix A.

[2.0] Topography

The site surface elevation ranges from 765 metres above seal level along the west border of the site to 758 m asl near the northeast of the property. The site gently dips towards the east. Drainage off the site is clearly defined by Bigstone Creek, which flows immediately east of the site. A topographic map showing surface topography and surface drainage is as follows:

Figure 3. Topographic map of surface elevation and surface drainage relative to subject site and geologic cross section well locations (A – A')



[3.0] Nature of Regional Aquifers

[3.1] Surficial Geology

The upper 12 – 29 meters of sediment is described in Water Well Drilling Reports from the site quarter section as till comprised of a mixture of clay, sand and gravel.

The surficial strata in the area are mapped in Map 143 *Surficial Geology -Edmonton* (NTS 83H, L.A. Bayrock, 2005) as Pleistocene glaciofluvial outwash deposits consisting of coarse to medium grained sand with pebbles and small gravel lenses of variable thickness. Topography is described as level to gently undulating. To the east of the site surficial strata also include modern stream alluvium deposits alongside Bigstone Creek, consisting of silt, clay, and sand.

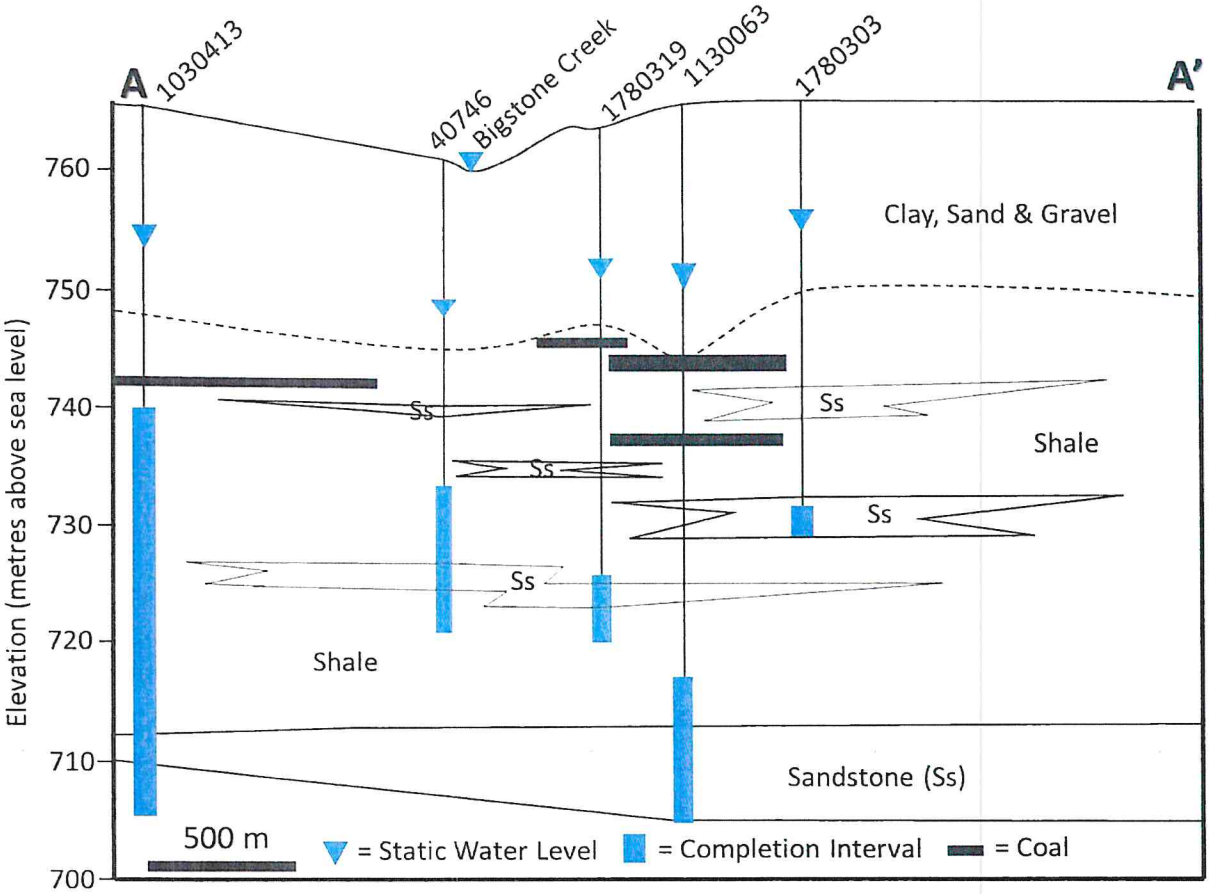
No useable aquifers are believed to exist within these surficial deposits near the site and future aquifer targets would be bedrock aquifer units.

[3.3] Bedrock Geology

The underlying bedrock geology consists of the Upper Cretaceous marginal marine to non-marine deposits of the Horseshoe Canyon Formation. The Horseshoe Canyon Formation consists of interbedded feldspathic clay-rich fine-grained sandstone and siltstone, bentonitic and carbonaceous mudstone, concretionary sideritic layers and coal seams. Wells in the immediate area of the site appear to be primarily completed in the Upper Horseshoe Canyon Aquifer. The lithology of the Horseshoe Canyon Aquifer includes fine-grained sandstones, siltstone, and coal seams. This aquifer is characteristically variable.

A cross section (A-A') showing the relationship between topography, completed aquifers and water levels is presented in Figure 4 using existing Water Well Drilling Reports in the area.

Figure 4. Geologic Cross Section A – A'



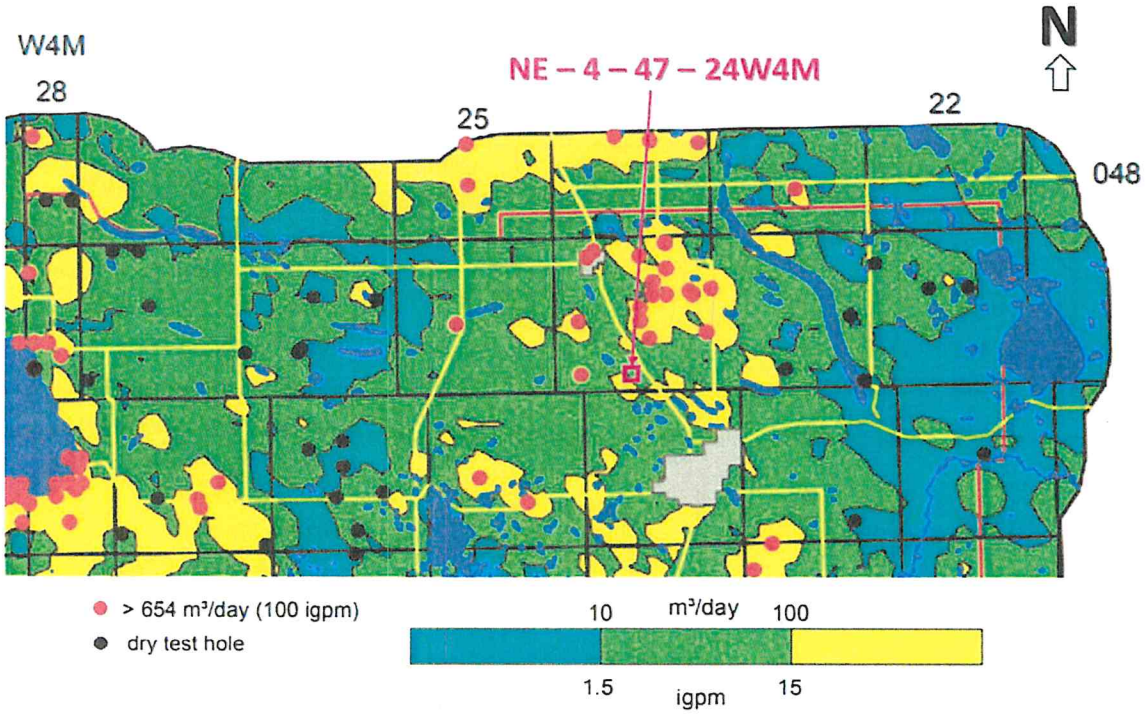
The sandstone aquifer units in the area are relatively thin and interbedded at shallow depths with a thicker, more laterally extensive sandstone aquifer unit located 50 – 60 metres below surface. Wells in the area appear to produce from several different sandstone units. Static water levels in the wells do not correlate with one another, indicating the wells are producing from hydraulically isolated aquifers.

The static water level in the nearby wells do not correlate with the surface water levels in Bigstone Creek indicating the wells are not in hydraulic connection with this surface water body.

The sandstone aquifer accessed by Well ID 1780319 (~35 metres deep) shows a relatively high safe yield and would be a suitable aquifer target for the future development (see Section 5.0). The thicker sandstone unit present from 50 – 60 metres deep would be a secondary aquifer target.

The future supply wells could have an anticipated yield of 10 – 100 m^3/day in the north half of the development and 100+ m^3/day within the south half of the development based on data shown in Figure 5, compiled as part of a regional groundwater assessment of Wetaskiwin County (Hydrogeological Consultants Ltd. Report, 2008). Based on projected yields discussed further in Section 5 it appears well yields fall within the range outlined in the HCL report.

Figure 5. Apparent yield for wells completed in upper bedrock aquifers



(Portion of Figure 22 from Hydrogeological Consultants Report – County of Wetaskiwin, March 2008).

[4.0] Area Groundwater Users

A search of Alberta Environment and Parks water well data base was done to determine the number of water wells and their associated use in the area. A search was conducted of the wells within 1.6 km (1-mile) of the site. The search shows a total of 50 wells within the area. Of these wells a majority are designated for domestic use, four wells are designated for domestic and stock watering, and three wells for stock use. A summary of the well information from AEP database is included in Appendix B.

There are 23 groundwater wells currently within the eastern half of the section that the site is found on (GIC Well ID's listed in Figure 2). These wells were installed between 1974 and 2014. Further information on each of the water wells found in the quarter sections is included in Appendix B.

[4.1] Licensed Water Users

A search of the AEP water license database was undertaken for the subject section and adjoining 8 sections to determine if any water licenses are present in the area. A summary of groundwater licenses and registrations in the area is as follows:

Table 1. Groundwater licenses and registrations

Location	Licenses/ Registrations	Depth Interval (m)	Volume (m^3/year)	Licensee/*Registrant*
4 – 47 – 24W4	-/2	-	-	*Ed Breitkreuz* *Jarvis and Marilyn Massey*
5 – 47 – 24W4	-/1	-	-	*TransAlta Corporation*
8 – 47 – 24W4	-/1	-	-	*Hillside Road Farms*
9 – 47 – 24W4	1/-	28.9 – 41.1	100	Arber Greenhouses Ltd.
10 – 47 – 24W4	-/1	-	-	*Alberta Transportation*
32 – 46 – 24W4	-/4	-	-	*Telus Communications Inc.* *Dennis Dickau* *Art Westender* *Brain & Gayle Ganske*
33 – 46 – 24W4	-/1	-	-	*Brian & Gayle Ganske*

Licenses for surface water withdrawals were not included in the Table 1 summary. One license for groundwater extraction was found in the area for a maximum licensed annual groundwater diversion of 100 m^3. There were also 10 registrations found in the area. Registrations are typically for traditional agricultural use (water used prior to January 1999) and may include surface water use, allowing for the diversion of up to 6,250 m^3/year.

The groundwater use in the area can be described as low, consisting largely of individual, unregistered domestic groundwater users.

[5.0] Aquifer Properties in the Area

Three of the groundwater wells within the site quarter sections have a pumping test available in their Water Well Drilling Report. These pumping tests were analyzed using a radial flow model for confined aquifer conditions with the aid of AQTESOLV software developed by Hydrosoft Inc. to estimate aquifer properties. Well locations relative to the subject site are shown in Figure 2. A summary of well yield and associated aquifer properties produced from this analysis are as follows:

Table 2. Well and aquifer properties

GIC Well ID	Depth to Top of Aquifer (m)	Aquifer Thickness (m)	Aquifer Transmissivity (m^2/day)	Safe Well Yield (Q_{20}) (m^3/day)
1780235	36.6	3.0	9.3	124.7
1780319	39.0	2.1	2.5	22.1
1130063	53.6	7.3	65.9	684.6

All three wells are located within the subject site quarter section and are completed within confined sandstone or interbedded sandstone-shale aquifer units.

Analysis of pumping test data from the Water Well Drilling Reports for these wells produces safe yield values between 22.1 and 684.6 m^3/day, which generally falls within the range of 10 – 100 + m^3/day interpreted in Figure 5. Based off pumping test data and regional maps generated in previous reports (Figure 5), a conservative anticipated yield for a future well installed in the aquifer units below the site could be between 10 and 25 m^3/day (3,653 – 9,131 m^3/year or 1.5 – 3.8 imperial gallons per minute).

The aquifer quality in the area appears high with good quality wells. Sufficient aquifer supplies should exist to supply the future subdivision lots at the rate of 3.4 m^3/day (1,250 m^3/year) required by the County.

[6.0] Area Water Quality

A search of the AEP water well database for water chemistry information in the area was done. Six wells within the site section had water quality reporting data available. The locations of the wells relative to the subdivision site are shown in Figure 2. The water analysis reports for the six existing wells are attached in Appendix D and a summary of the results, with a comparison to Health Canada (2020) drinking water standards is as follows:

Table 3. Area water chemistry summary

Parameter	Well ID 236445	Well ID 236451	Well ID 236459	Well ID 236467	Well ID 236437	Well ID 236468	Drinking Water Standards
Date Sampled	November 25 1983	February 15 1982	Sept 2, 1975	March 8 1984	January 29, 1976	July 25, 1984	
Well Depth (m)	79	30	30	49	40	37	
Lab pH	8.8	9	8.6	8.80	8.5	8.70	7.0 – 10.5
Lab EC	1244	1213	1125	1241	1130	1540	
Analyte /Parameter							
Total Alkalinity	589	656	716	7.5	523	595	
Calcium	<1.0	<1.0	<1.0	<1.0	<1.0	2.0	
Magnesium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Sodium	**310**	**303**	**306**	**300**	**275**	**375**	200 (AO)
Potassium	0.61	0.72	0.51	0.61	0.61	0.82	
Chloride	43.1	17.02	37.1	43.1	73.1	3.0	250 (AO)
Nitrate							10 (MAC)
Sulfate	10.0	10.0	56.1	14.0	37.1	229	500 (AO)
Fluoride	**3.5**	**2.2**	**1.95**	**2.2**	**2.0**	**1.84**	1.5 (MAC)
Iron	0.06	<0.02	0.1	0.15	0.2	<0.02	0.3 (AO)
Bicarbonate	660.1	709	842	678	625	678	
Total Dissolved Solids	**719**	**726**	**830**	**608**	**700**	**968**	500 (AO)
All analyte values in mg/L, except pH in pH units and electrical conductivity in µS/cm							

The groundwater in the area represents a sodium bicarbonate type with a low to moderate concentration of dissolved solids (TDS = 608 – 968 mg/L).

The aesthetic objectives (AO) for the concentration of sodium and total dissolved solids and the maximum allowable concentration (MAC) guideline for fluoride are exceeded in all wells examined.

The water quality of future wells completed in the aquifer units underlying the site should be of similar water chemistry. The presence of high fluoride is a possibility that will require treatment if observed in the water chemistry of future wells.

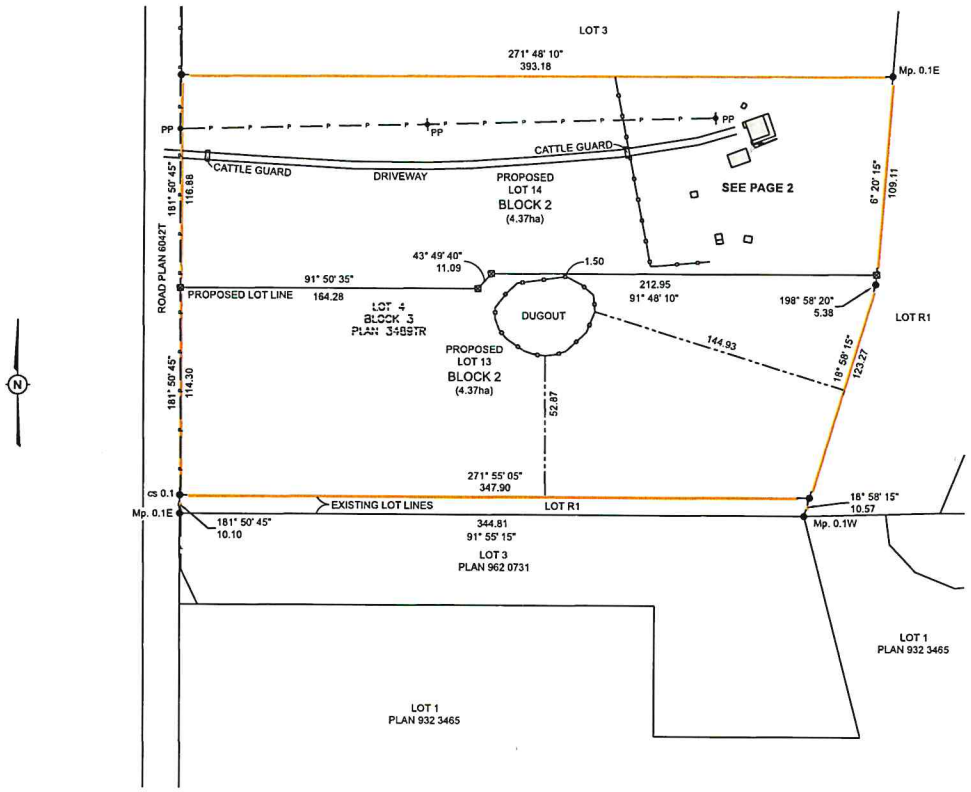
[7.0] References

Health Canada (2020). Guidelines for Canadian Drinking Water Quality – Summary Table. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

L.A. Bayrock (2005). *Surficial Geology Edmonton -NTS 83H* .1:250,000. Alberta Energy Regulator – Alberta Geological Survey.

Hydrogeological Consultants Ltd (2008). *County of Wetaskiwin Regional Groundwater Assessment*. Retrieved from HCL website: https://www.hcl.ca/reports

Appendix A: Subdivision Map



SCALE 1:2000

0 25 50 100 150 200 Metres

SUBDIVISION AUTHORITY

Name: Municipal Planning Services

REGISTERED OWNER(S)

Certificate of Title: 212 230 672 - Lot 4
Owner(s): Israel Wasserman

LEGEND/NOTES

cs - Countersunk
Mp. - Marker Post
Calculated positions shown thus: ■
Statutory Iron Post found shown thus: ●
Overhead powerline & powerpoles shown thus: —ᵖ—ᵖ—ᵖ—┼ PP
Lands dealt with by this plan bounded thus: ——
and contains 8.73 hectares
Distances shown are in metres and decimals thereof.
Bearings are grid and derived from GNSS observations.
UTM NAD 83, Reference Meridian 114° West, CSF=0.9999106
Subject to revision by final survey.
There are no abandoned wells on the parcel that is the subject of this application.

Tentative Plan Showing

PROPOSED SUBDIVISION AND EXISTING/PROPOSED SETBACKS - OPTION B

of

Lot 4, Plan 3489TR

County of Wetaskiwin No. 10 - Alberta

ALBERTA LAND SURVEYORS' ASSOCIATION PERMIT NUMBER P321 WILDE BROS. SURVEYS LTD.

Certified Correct this XXnd day of Month, 2022

Randall C. Smith, ALS

WILDE BROS Surveys

WILDE.CA - p 403 752.0186 42 N. Broadway, Box 150, Raymond, AB T0K 2S0

File: 21130Was Drawing Name: 21130Was_TENT_R1-OPTION B.dwg Page 1 of 2

Appendix B: Water Well Reconnaissance Report

wells in 1.6 km of site boundary

Alberta

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)
40746	SE	4	47	24	4	ACTION WATER WELLS LTD.	2002-06-13	39.62	New Well	Domestic		15	18	WASSERMAN, ISRAEL	13.11	45.46	15.24
166036	NW	3	47	24	4	WARNKE DRILLING LTD.	1980-04-30	30.48	New Well	Stock		6		FINNMAN, GERALD	6.71	45.46	12.70
166471	NW	3	47	24	4	WARNKE DRILLING LTD.	1992-03-13	33.53	New Well	Domestic		12		FINMAN, GERALD	6.71	45.46	15.24
215034	NE	4	47	24	4	UNKNOWN DRILLER		24.38	Chemistry	Domestic	1						10.16
229704	SE	4	47	24	4	WARNKE DRILLING LTD.	1993-10-04	48.77	New Well	Domestic		15	25	BREDLOW, STEVE	14.39	54.55	15.24
236428	SW	3	47	24	4	UNKNOWN DRILLER		24.38	Chemistry	Domestic	1			KNUDSEN, R.	6.10		0.00
236429	SW	3	47	24	4	UNKNOWN DRILLER		30.48	Federal Well Survey	Unknown				NELSON			0.00
236431	NW	3	47	24	4	WARNKE DRILLING LTD.	1970-05-28	30.48	New Well	Domestic		6		FINMAN, HELMAR	5.79	36.37	11.43
236434	NW	3	47	24	4	UNKNOWN DRILLER		60.96	Chemistry	Domestic	1			FINNMAN, H.			0.00
236437	SE	4	47	24	4	GLEN JOHNSON WATER WELL DRILLING	1974-02-18	39.62	New Well	Domestic & Stock	2	3		BREDLOW, HERBERT	11.43	90.92	10.49
236440	7	4	47	24	4	UNKNOWN DRILLER	1933-01-01	65.53	Federal Well Survey	Unknown				BREDLOW			5.08
236441	SE	4	47	24	4	DOUBLE B WATER WELL DRILLING	1988-11-04	54.86	New Well	Stock		10		BREDLOW, HERB	9.14	22.73	13.97
236443	SW	4	47	24	4	WARNKE DRILLING LTD.	1975-05-01	24.38	New Well	Domestic & Stock		5		STANLEY, RON	1.52	36.37	10.49
236445	11	4	47	24	4	UNKNOWN DRILLER		79.25	Chemistry	Domestic	1			BECK			0.00
236448	NE	4	47	24	4	WARNKE DRILLING LTD.	1974-06-01	36.58	New Well	Domestic	1	8		PIERCE, FRANK L.	5.49	36.37	11.43
236451	NE	4	47	24	4	WARNKE DRILLING LTD.	1974-06-01	30.48	New Well	Domestic	1	7		MEYER, BEN	3.96	40.91	11.43
236454	NE	4	47	24	4	BECKETT DRILLING LTD.	1977-06-01	30.48	New Well	Domestic		12		GREENE, EARL	5.79	50.01	11.43
236457	NE	4	47	24	4	WARNKE DRILLING LTD.	1975-07-04	30.48	New Well	Domestic & Stock	1	8		MCCRAKEN, JERRY	6.28	31.82	11.43
236459	NE	4	47	24	4	WARNKE DRILLING LTD.	1975-06-02	30.48	New Well	Domestic	1	8		LYNCH, BOB	3.35	27.28	11.43
236460	NE	4	47	24	4	FRASER, RON	1981-09-21	28.96	New Well	Domestic		6		BREITKREUS, ED	8.53	45.46	11.43

not much data

14

50 wells total
43 D total

9 D
2 S
3 D+S

Alberta

Reconnaissance Report

View in Imperial

Export to Excel

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)
236463	NE	4	47	24	4	BIG IRON DRILLING LTD.	1983-04-05	45.72	New Well	Domestic		5		MARTIN, FRITZ	6.10	45.46	14.12
236467	NE	4	47	24	4	BIG IRON DRILLING LTD.	1984-02-25	48.77	New Well	Domestic	1	9		PLETZ, ERHARD	8.84	72.74	14.12
236468	NE	4	47	24	4	UNKNOWN DRILLER		36.58	Chemistry	Domestic	2			MCCRACKEN, CAROL			0.00
236470	NE	4	47	24	4	UNKNOWN DRILLER		30.48	Chemistry	Domestic				WOODS, JACK R.			0.00
236471	1	5	47	24	4	BRANDON DRILLING LTD.	1983-06-10	77.72	New Well	Domestic	1	23		BAILER, ELMER	10.67	27.28	14.12
236484	NE	5	47	24	4	UNKNOWN DRILLER		54.86	Chemistry	Domestic				BAILER, WARREN			0.00
236503	SW	9	47	24	4	UNKNOWN DRILLER		0.00	Chemistry	Domestic				CLARKE, ROSS			0.00
236504	11	9	47	24	4	UNKNOWN DRILLER		2.44	Federal Well Survey	Unknown				DUGGER, PAUL			0.00
236529	SW	10	47	24	4	WARNKE BROS	1965-08-13	27.43	New Well	Domestic & Stock	2	7		STENGEL, ART	6.10	45.46	10.16
241959	NE	5	47	24	4	WARNKE DRILLING LTD.	1974-04-01	76.20	New Well	Stock		14		BAILER, ELMER	9.14	45.46	11.43
267890	8	4	47	24	4	ACTION WATER WELLS LTD.	1995-10-26	73.15	New Well	Domestic		31	19	MASSEY, JARVIS/MARILYN	13.41	36.37	15.24
267898	1	4	47	24	4	ACTION WATER WELLS LTD.	1995-10-06	67.06	New Well	Domestic		31	17	MASSEY, JARVIS/MARILYN	12.19	40.91	15.24
288841	NE	5	47	24	4	WARNKE DRILLING LTD.	1997-07-03	71.63	New Well	Domestic		9	19	BAILER, LAURIE/WARREN	10.00	45.46	15.24
1030003	SE	4	47	24	4	ACTION WATER WELLS LTD.	2005-01-21	60.96	New Well	Domestic		28	25	CUNNINGHAM, AL	8.84	54.55	15.24
1030022	6	10	47	24	4	ACTION WATER WELLS LTD.	2005-04-21	48.77	New Well	Domestic		22	7	JENSEN, JACK & CONNIE	9.14	54.55	15.24
1030048	SE	4	47	24	4	ACTION WATER WELLS LTD.	2004-04-28	51.82	New Well	Domestic		19	5	SONNENBERG, SCOTT	12.19	45.46	15.24
1030154	6	10	47	24	4	ACTION WATER WELLS LTD.	2007-02-22	51.21	New Well	Domestic		18	14	WILLIS, ANDY	7.92	45.46	15.24
1030209	11	10	47	24	4	ACTION WATER WELLS LTD.	2008-10-11	54.86	New Well	Domestic		22	20	MOISAN, DANNY & JAININE	9.14	45.46	15.24
1030220	8	4	47	24	4	ACTION WATER WELLS LTD.	2009-05-13	60.96	New Well	Domestic		20	17	SWITZER, BLAINE & JOY	12.19	54.55	15.24
1030340	5	10	47	24	4	ACTION WATER WELLS LTD.	2014-05-30	51.21	New Well	Domestic		14	12	STRYDOM, PHILIP	3.66	54.55	15.24

52

15

13 D
1 S
1 D+S

Alberta

Reconnaissance Report

View in Imperial

Export to Excel

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)
1030346	NE	4	47	24	4	ACTION WATER WELLS LTD.	2014-07-24	42.67	New Well	Domestic		9	21	SWITZER, BLAINE	9.14	31.82	15.24
1030347	9	4	47	24	4	ACTION WATER WELLS LTD.	2014-07-29	47.24	New Well	Domestic		11	22	JANSSEN, JEREMY	10.06	36.37	15.24
1030413	SW	9	47	24	4	ACTION WATER WELLS LTD.	2016-09-20	59.44	New Well	Domestic		14	25	CRABTREE, DALE	12.80	45.46	15.24
1030430	11	10	47	24	4	ACTION WATER WELLS LTD.	2017-08-08	42.67	New Well	Domestic		13	25	PETERS, BERND	8.23	45.46	15.24
1030462	14	32	46	24	4	ACTION WATER WELLS LTD.	2019-01-16	51.82	New Well	Domestic		20	20	BREITKREUZ, ALFRED	10.06	31.82	15.24
1030464	14	32	46	24	4	ACTION WATER WELLS LTD.	2019-01-21	47.24	New Well	Domestic		12	5	STEFFENSEN, MATT	11.28	81.83	15.24
1030472	13	32	46	24	4	ACTION WATER WELLS LTD.	2019-10-22	60.96	New Well	Domestic		18	19	GOODRICH, NICHOL	17.07	45.46	15.24
1030501	15	32	46	24	4	ACTION WATER WELLS LTD.	2021-08-26	72.54	New Well	Domestic		17	25	WIEDMER, RUDY	11.28	54.55	15.24
1030505	11	10	47	24	4	ACTION WATER WELLS LTD.	2021-10-04	47.24	New Well	Domestic		16	25	GINTER, JASON	8.53	68.19	15.24
1130063	1	4	47	24	4	BIG IRON DRILLING LTD.	2004-02-04	60.96	New Well	Domestic		13	25	WOMBOLD, JASON & RACHEL	15.48	45.46	15.24
1576889	SW	10	47	24	4	PAPLEY DRILLING LTD.	2022-05-05	33.53	New Well	Domestic		5	25	SHERBIET HOMES	7.71	63.65	15.24
1780161	NE	4	47	24	4	WARNKE DRILLING LTD.	2007-04-04	48.77	New Well	Domestic		6	21	DICK, TED	10.00	45.46	15.24
1780167	12	10	47	24	4	WARNKE DRILLING LTD.	2007-07-13	36.58	New Well	Domestic		7	21	LETOURNEAU, JOE	9.00	45.46	16.84
1780180	12	10	47	24	4	WARNKE DRILLING LTD.	2007-10-02	36.58	New Well	Domestic		7	21	FILLION, KELLY & CARRIE	7.00	45.46	15.24
1780194	11	10	47	24	4	WARNKE DRILLING LTD.	2007-05-21	36.58	New Well	Domestic		8	21	FLEWELLING, JOHN & ANNAMARIE	7.80	36.37	15.24
1780235	8	4	47	24	4	WARNKE DRILLING LTD.	2007-09-20	39.62	New Well	Domestic		4	21	CRAWFORD, RUSS	10.50	36.37	15.24
1780286	SW	10	47	24	4	WARNKE DRILLING LTD.	2009-10-27	36.58	New Well	Domestic		10	22	HENDRICKS, OTIS	8.41	40.10	15.24
1780303	SW	3	47	24	4	WARNKE DRILLING LTD.	2010-05-03	36.58	New Well	Domestic		8	21	HORSLEY, ALISON	11.12	27.28	15.24
1780319	8	4	47	24	4	WARNKE DRILLING LTD.	2010-09-09	42.67	New Well	Domestic		17	22	QUINTON, DEXTER & SUE	11.66	18.18	15.24
9701157	11	10	47	24	4	WARNKE DRILLING 2014 LTD	2021-07-14	56.08	New Well	Domestic		16	26	VIVIAN, JON	8.63	45.46	15.24

20 D

53

Alberta

Reconnaissance Report

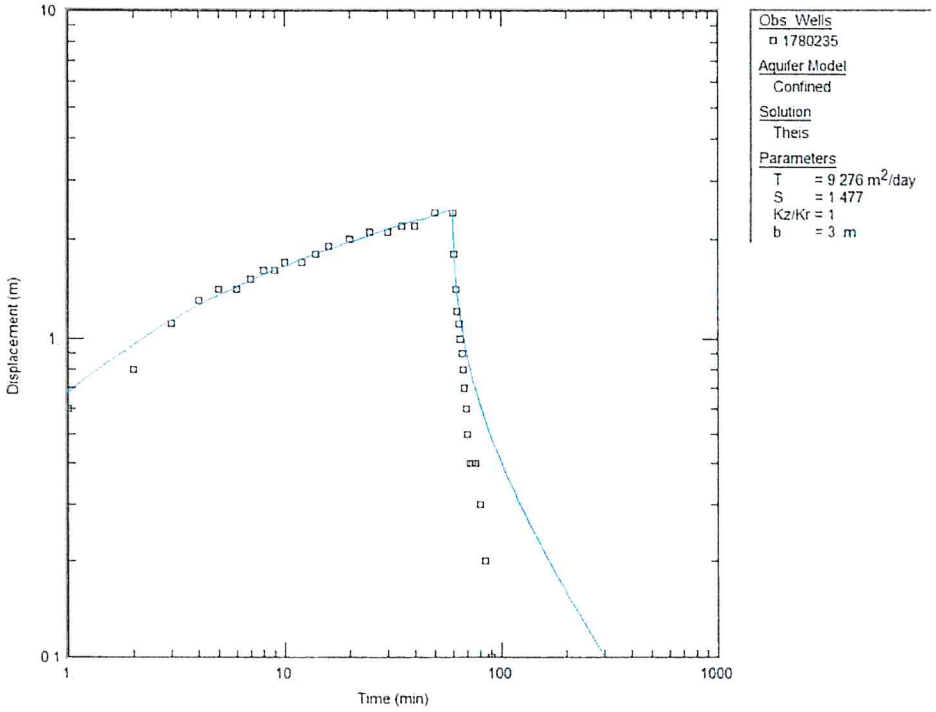
View in Imperial

Export to Excel

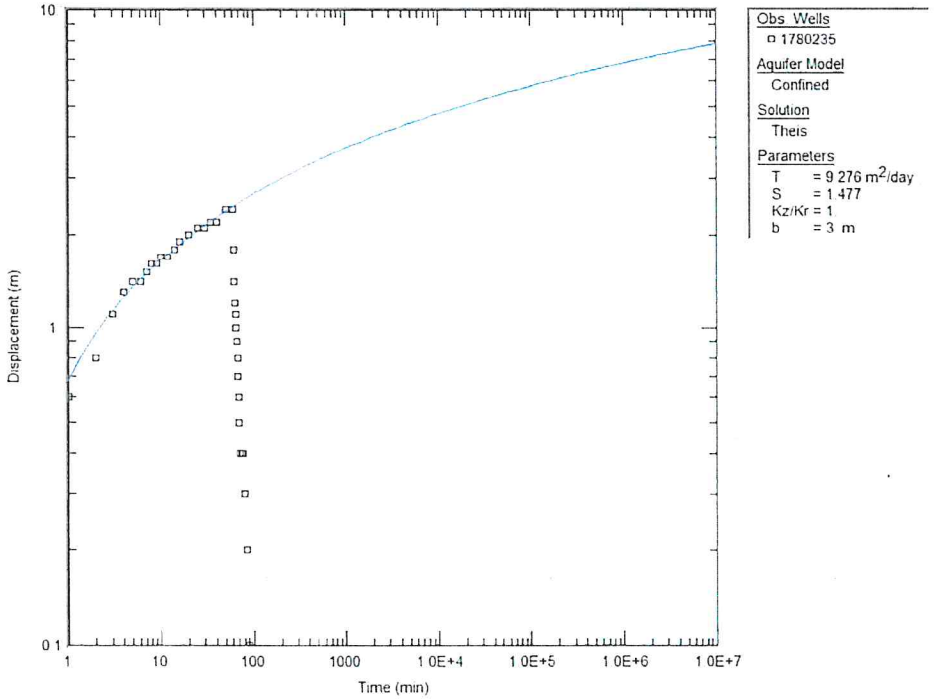
GIC Well ID	LSD	SEC	TWP	RGE	M	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	CHM	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)	SC_DIA (cm)
10096201	3	4	47	24	4	SUMMERS DRILLING INC.	2021-11-08	65.53	New Well	Domestic		16	15	PEDERSEN, JENS & VIVIAN	13.97	109.11	15.24

54

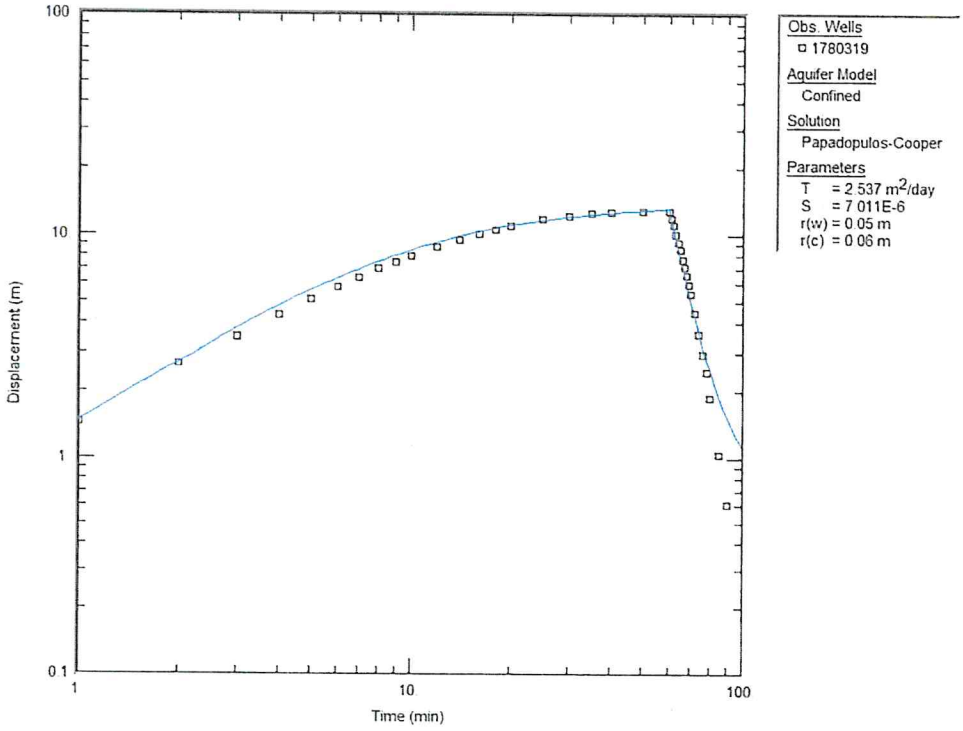
Appendix C: AQTESOLV Plots



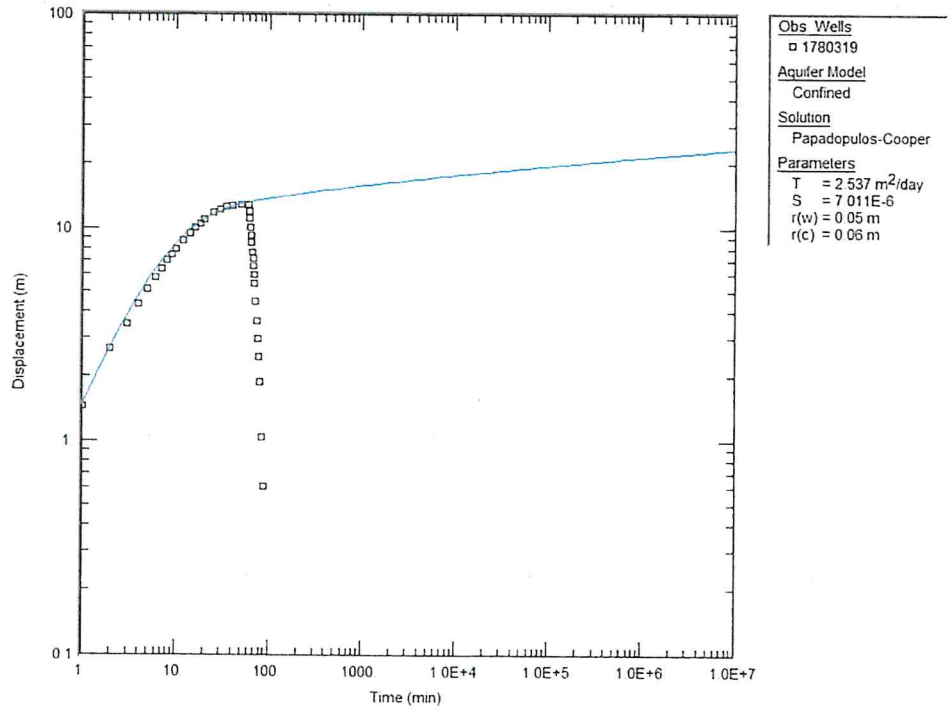
C1. Solution fit to pumping test data for well 1780235



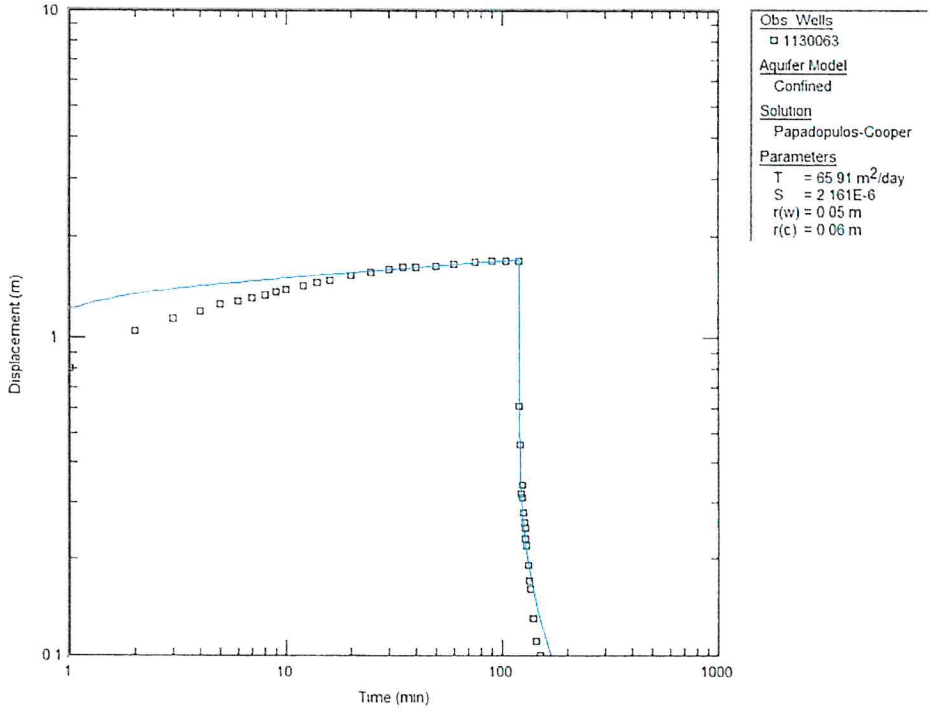
C2. Solution extrapolated to 20 years of pumping



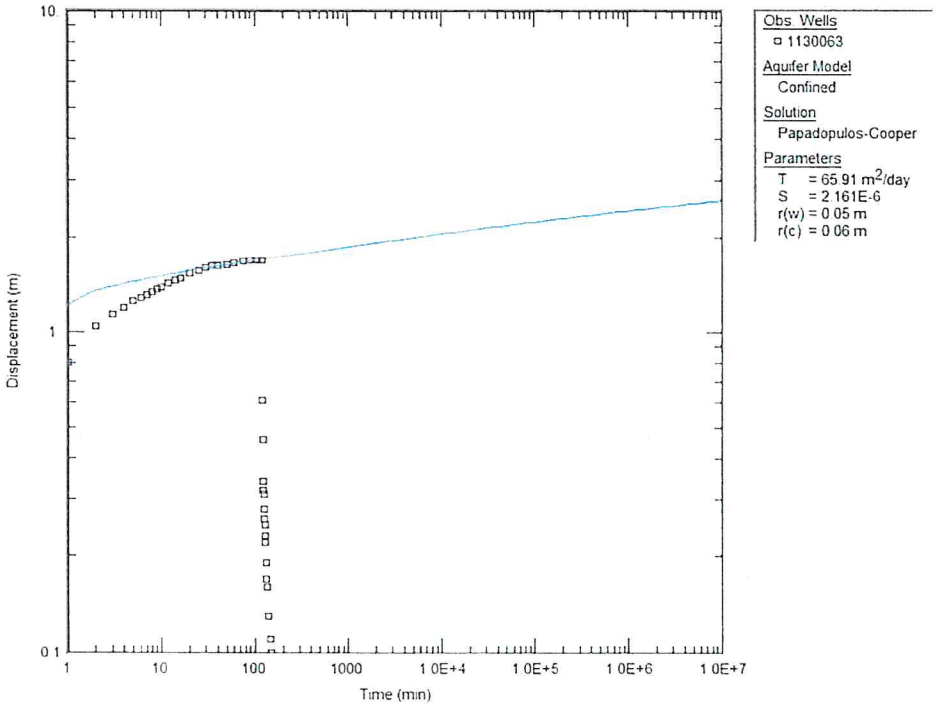
C3. Solution fit to pumping test data for well 1780319



C4. Solution extrapolated to 20 years of pumping



C5. Solution fit to pumping test data for well 1130063



C6. Solution extrapolated to 20 years of pumping

Appendix D: Water Chemistry Report

Alberta

CHEMICAL ANALYSIS REPORT

WELL NAME	BECK	**GIC WELL ID**	236445
LOCATION	LSD 11 SEC 4 TWP 47 RG 24 M 4	**SAMPLE NO.**	15362-W
WELL DEPTH	260.00 ft	**WATER LEVEL**	ft
AQUIFER		**LABORATORY**	VG
SAMPLING DATE	1983-11-25		

FIELD	MG/L	FIELD	MG/L
BICARBONATE		CARBONATE	
CHLORIDE		CONDUCTIVITY	
DISSOLVED OXYGEN		EH	
IRON		MANGANESE	
PH		SULPHATE	
S2		TEMPERATURE(C)	0
TOTAL ALKALINITY		TOTAL HARDNESS	

LABORATORY		Analysis Date	1983-12-16
COD		CONDUCTIVITY	1,244
DIC		FLUORIDE	3.5000
ION BALANCE	1.0200	PH	8.80
SAR		SIO2	7.3000
TOTAL ALKALINITY	589.0000	TC	
TDS	719	TN	
DOC			
AMMONIUM-N		BICARBONATE	660.0633
CALCIUM	-1.0000	CARBONATE	29.0010
CHLORIDE	43.0615	MAGNESIUM	-1.0008
NITRATE-N		NITRITE-N	-0.0504
PHOSPHATE		POTASSIUM	0.6120
SODIUM	310.0009	SULPHATE	10.0144
NO2 + NO3	-0.0504	TOTAL HARDNESS	-5.0000

ALUMINUM		ARSENIC	
BARIUM		BERYLLIUM	
CADMIUM		CHROMIUM	
COBALT		COPPER	
IRON	0.0600	LEAD	
MANGANESE		MERCURY	
MOLYBDENUM		NICKEL	
SELENIUM		STRONTIUM	
VANADIUM		ZINC	

HYDROCARBONS	PESTICIDES
PHENOLICS	

Remarks:

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total. '-' indicates concentrations less than.

EH	- Oxidation-Reduction Potential	SAR	- Sodium Adsorption Ratio	DIC	- Dissolved Inorganic Carbon
COD	- Chemical Oxygen Demand	DOC	- Dissolved Organic Carbon	TN	- Total Particulate Nitrogen
TDS	- Total Dissolved Solids	TC	- Total Particulate Carbon		

Alberta

CHEMICAL ANALYSIS REPORT

WELL NAME	LYNCH, BOB	**GIC WELL ID**	236459
LOCATION	LSD NE SEC 4 TWP 47 RG 24 M 4	**SAMPLE NO.**	9863
WELL DEPTH	100.00 ft	**WATER LEVEL**	17.00 ft
AQUIFER		**LABORATORY**	AE
SAMPLING DATE	1975-09-02		

FIELD	MG/L	FIELD	MG/L
BICARBONATE		CARBONATE	
CHLORIDE		CONDUCTIVITY	
DISSOLVED OXYGEN		EH	
IRON		MANGANESE	
PH		SULPHATE	
S2		TEMPERATURE(C)	0
TOTAL ALKALINITY		TOTAL HARDNESS	
LABORATORY		Analysis Date 1975-10-20	
COD		CONDUCTIVITY	1,125
DIC		FLUORIDE	1.9500
ION BALANCE	0.8000	PH	8.60
SAR		SIO2	
TOTAL ALKALINITY	716.0000	TC	
TDS	830	TN	
DOC			
AMMONIUM-N		BICARBONATE	842.0856
CALCIUM	-1.0000	CARBONATE	15.0000
CHLORIDE	37.0514	MAGNESIUM	-1.0008
NITRATE-N		NITRITE-N	-0.0994
PHOSPHATE		POTASSIUM	0.5120
SODIUM	305.9989	SULPHATE	56.0798
NO2 + NO3	-0.0994	TOTAL HARDNESS	-1.0000
ALUMINUM		ARSENIC	
BARIUM		BERYLLIUM	
CADMIUM		CHROMIUM	
COBALT		COPPER	
IRON	0.1000	LEAD	
MANGANESE		MERCURY	
MOLYBDENUM		NICKEL	
SELENIUM		STRONTIUM	
VANADIUM		ZINC	
HYDROCARBONS		PESTICIDES	
PHENOLICS			

Remarks:

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total. '-' indicates concentrations less than.

EH	- Oxidation-Reduction Potential	SAR	- Sodium Adsorption Ratio	DIC	- Dissolved Inorganic Carbon
COD	- Chemical Oxygen Demand	DOC	- Dissolved Organic Carbon	TN	- Total Particulate Nitrogen
TDS	- Total Dissolved Solids	TC	- Total Particulate Carbon		

Alberta

CHEMICAL ANALYSIS REPORT

WELL NAME	PLETZ, ERHARD	**GIC WELL ID**	236467
LOCATION	LSD NE SEC 4 TWP 47 RG 24 M 4	**SAMPLE NO.**	2946
WELL DEPTH	160.00 ft	**WATER LEVEL**	29.00 ft
AQUIFER		**LABORATORY**	AE
SAMPLING DATE	1984-03-08		

FIELD	MG/L	FIELD	MG/L
BICARBONATE		CARBONATE	
CHLORIDE		CONDUCTIVITY	
DISSOLVED OXYGEN		EH	
IRON		MANGANESE	
PH		SULPHATE	
S2		TEMPERATURE(C)	0
TOTAL ALKALINITY		TOTAL HARDNESS	
LABORATORY		Analysis Date 1984-03-22	
COD		CONDUCTIVITY	1,241
DIC		FLUORIDE	2.2000
ION BALANCE	724.0000	PH	8.80
SAR		SIO2	
TOTAL ALKALINITY	7.5000	TC	
TDS	608	TN	0.9600
DOC			
AMMONIUM-N		BICARBONATE	678.0660
CALCIUM	-1.0000	CARBONATE	30.9990
CHLORIDE	43.0615	MAGNESIUM	-1.0008
NITRATE-N		NITRITE-N	
PHOSPHATE		POTASSIUM	0.6120
SODIUM	300.0005	SULPHATE	14.0212
NO2 + NO3	-0.0504	TOTAL HARDNESS	-5.0000
ALUMINUM		ARSENIC	
BARIUM		BERYLLIUM	
CADMIUM		CHROMIUM	
COBALT		COPPER	
IRON	0.1500	LEAD	
MANGANESE		MERCURY	
MOLYBDENUM		NICKEL	
SELENIUM		STRONTIUM	
VANADIUM		ZINC	
HYDROCARBONS		PESTICIDES	
PHENOLICS			

Remarks:

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total. '-' indicates concentrations less than.

EH	- Oxidation-Reduction Potential	SAR	- Sodium Adsorption Ratio	DIC	- Dissolved Inorganic Carbon
COD	- Chemical Oxygen Demand	DOC	- Dissolved Organic Carbon	TN	- Total Particulate Nitrogen
TDS	- Total Dissolved Solids	TC	- Total Particulate Carbon		

Alberta

CHEMICAL ANALYSIS REPORT

WELL NAME	MEYER, BEN	**GIC WELL ID**	236451
LOCATION	LSD NE SEC 4 TWP 47 RG 24 M 4	**SAMPLE NO.**	1431-W
WELL DEPTH	100.00 ft	**WATER LEVEL**	ft
AQUIFER		**LABORATORY**	VG
SAMPLING DATE	1982-02-15		

FIELD	MG/L	FIELD	MG/L
BICARBONATE		CARBONATE	
CHLORIDE		CONDUCTIVITY	
DISSOLVED OXYGEN		EH	
IRON		MANGANESE	
PH		SULPHATE	
S2		TEMPERATURE(C)	0
TOTAL ALKALINITY		TOTAL HARDNESS	
LABORATORY		Analysis Date	1982-03-03
COD		CONDUCTIVITY	1,213
DIC		FLUORIDE	2.2000
ION BALANCE	0.9600	PH	9.00
SAR		SIO2	7.1000
TOTAL ALKALINITY	656.0000	TC	
TDS	726	TN	
DOC			
AMMONIUM-N		BICARBONATE	709.0672
CALCIUM	-1.0000	CARBONATE	44.0010
CHLORIDE	17.0223	MAGNESIUM	-1.0008
NITRATE-N		NITRITE-N	-0.0504
PHOSPHATE		POTASSIUM	0.7160
SODIUM	302.9997	SULPHATE	10.0144
NO2 + NO3	-0.0504	TOTAL HARDNESS	-5.0000
ALUMINUM		ARSENIC	
BARIUM		BERYLLIUM	
CADMIUM		CHROMIUM	
COBALT		COPPER	
IRON	-0.0200	LEAD	
MANGANESE		MERCURY	
MOLYBDENUM		NICKEL	
SELENIUM		STRONTIUM	
VANADIUM		ZINC	
HYDROCARBONS		PESTICIDES	
PHENOLICS			

Remarks:

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total. '-' indicates concentrations less than.

EH	- Oxidation-Reduction Potential	SAR	- Sodium Adsorption Ratio	DIC	- Dissolved Inorganic Carbon
COD	- Chemical Oxygen Demand	DOC	- Dissolved Organic Carbon	TN	- Total Particulate Nitrogen
TDS	- Total Dissolved Solids	TC	- Total Particulate Carbon		

Note: this data may not be fully checked. The Province disclaims all responsibility for its accuracy

Alberta

CHEMICAL ANALYSIS REPORT

WELL NAME	BREDLOW, HERBERT	**GIC WELL ID**	236437
LOCATION	LSD SE SEC 4 TWP 47 RG 24 M 4	**SAMPLE NO.**	11163
WELL DEPTH	130.00 ft	**WATER LEVEL**	30.00 ft
AQUIFER		**LABORATORY**	AE
SAMPLING DATE	1974-12-02		

FIELD	MG/L	FIELD	MG/L
BICARBONATE		CARBONATE	
CHLORIDE		CONDUCTIVITY	
DISSOLVED OXYGEN		EH	
IRON		MANGANESE	
PH		SULPHATE	
S2		TEMPERATURE(C)	0
TOTAL ALKALINITY		TOTAL HARDNESS	

LABORATORY		Analysis Date	1974-12-13
COD		CONDUCTIVITY	1,230
DIC		FLUORIDE	1.0000
ION BALANCE	0.9100	PH	8.90
SAR		SIO2	
TOTAL ALKALINITY	640.0000	TC	
TDS	757	TN	
DOC			
AMMONIUM-N		BICARBONATE	714.0713
CALCIUM	-1.0000	CARBONATE	33.0000
CHLORIDE	9.0135	MAGNESIUM	-1.0008
NITRATE-N	-0.0994	NITRITE-N	-0.0994
PHOSPHATE		POTASSIUM	0.5120
SODIUM	300.0005	SULPHATE	58.0856
NO2 + NO3		TOTAL HARDNESS	4.0000

ALUMINUM		ARSENIC	
BARIUM		BERYLLIUM	
CADMIUM		CHROMIUM	
COBALT		COPPER	
IRON	-0.1000	LEAD	
MANGANESE		MERCURY	
MOLYBDENUM		NICKEL	
SELENIUM		STRONTIUM	
VANADIUM		ZINC	

HYDROCARBONS	PESTICIDES
PHENOLICS	

Remarks:

SAMPLED FROM TAP.

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total. '-' indicates concentrations less than.

EH	- Oxidation-Reduction Potential	SAR	- Sodium Adsorption Ratio	DIC	- Dissolved Inorganic Carbon
COD	- Chemical Oxygen Demand	DOC	- Dissolved Organic Carbon	TN	- Total Particulate Nitrogen
TDS	- Total Dissolved Solids	TC	- Total Particulate Carbon		

Note: this data may not be fully checked. The Province disclaims all responsibility for its accuracy

Alberta

CHEMICAL ANALYSIS REPORT

WELL NAME	BREDLOW, HERBERT	**GIC WELL ID**	236437
LOCATION	LSD SE SEC 4 TWP 47 RG 24 M 4	**SAMPLE NO.**	826-W
WELL DEPTH	130.00 ft	**WATER LEVEL**	ft
AQUIFER		**LABORATORY**	AE
SAMPLING DATE	1976-01-29		

FIELD	MG/L	FIELD	MG/L
BICARBONATE		CARBONATE	
CHLORIDE		CONDUCTIVITY	
DISSOLVED OXYGEN		EH	
IRON		MANGANESE	
PH		SULPHATE	
S2		TEMPERATURE(C)	0
TOTAL ALKALINITY		TOTAL HARDNESS	
LABORATORY		Analysis Date 1976-02-20	
COD		CONDUCTIVITY	1,130
DIC		FLUORIDE	2.0000
ION BALANCE	0.8900	PH	8.50
SAR		SIO2	
TOTAL ALKALINITY	523.0000	TC	
TDS	700	TN	
DOC			
AMMONIUM-N		BICARBONATE	625.0588
CALCIUM	-1.0000	CARBONATE	6.0000
CHLORIDE	73.1016	MAGNESIUM	-1.0008
NITRATE-N		NITRITE-N	-0.0994
PHOSPHATE		POTASSIUM	0.6120
SODIUM	274.9995	SULPHATE	37.0562
NO2 + NO3	-0.0994	TOTAL HARDNESS	-1.0000
ALUMINUM		ARSENIC	
BARIUM		BERYLLIUM	
CADMIUM		CHROMIUM	
COBALT		COPPER	
IRON	0.2000	LEAD	
MANGANESE		MERCURY	
MOLYBDENUM		NICKEL	
SELENIUM		STRONTIUM	
VANADIUM		ZINC	
HYDROCARBONS		PESTICIDES	
PHENOLICS			

Remarks:

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total. '-' indicates concentrations less than.

EH	- Oxidation-Reduction Potential	SAR	- Sodium Adsorption Ratio	DIC	- Dissolved Inorganic Carbon
COD	- Chemical Oxygen Demand	DOC	- Dissolved Organic Carbon	TN	- Total Particulate Nitrogen
TDS	- Total Dissolved Solids	TC	- Total Particulate Carbon		

Alberta

CHEMICAL ANALYSIS REPORT

WELL NAME	MCCRACKEN, CAROL	**GIC WELL ID**	236468
LOCATION	LSD NE SEC 4 TWP 47 RG 24 M 4	**SAMPLE NO.**	9051-W
WELL DEPTH	120.00 ft	**WATER LEVEL**	ft
AQUIFER		**LABORATORY**	VG
SAMPLING DATE	1984-07-25		

FIELD	MG/L	FIELD	MG/L
BICARBONATE		CARBONATE	
CHLORIDE		CONDUCTIVITY	
DISSOLVED OXYGEN		EH	
IRON		MANGANESE	
PH		SULPHATE	
S2		TEMPERATURE(C)	0
TOTAL ALKALINITY		TOTAL HARDNESS	
LABORATORY		Analysis Date 1984-08-17	
COD		CONDUCTIVITY	1,540
DIC		FLUORIDE	1.8400
ION BALANCE	0.9800	PH	8.70
SAR		SIO2	7.3000
TOTAL ALKALINITY	595.0000	TC	
TDS	968	TN	
DOC			
AMMONIUM-N		BICARBONATE	678.0660
CALCIUM	2.0000	CARBONATE	23.0010
CHLORIDE	3.0033	MAGNESIUM	-1.0008
NITRATE-N		NITRITE-N	0.3304
PHOSPHATE		POTASSIUM	0.8200
SODIUM	374.9989	SULPHATE	229.3360
NO2 + NO3	0.3304	TOTAL HARDNESS	-5.0000
ALUMINUM		ARSENIC	
BARIUM		BERYLLIUM	
CADMIUM		CHROMIUM	
COBALT		COPPER	
IRON	-0.0200	LEAD	
MANGANESE		MERCURY	
MOLYBDENUM		NICKEL	
SELENIUM		STRONTIUM	
VANADIUM		ZINC	
HYDROCARBONS		PESTICIDES	
PHENOLICS			

Remarks:

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total. '-' indicates concentrations less than.

EH	- Oxidation-Reduction Potential	SAR	- Sodium Adsorption Ratio	DIC	- Dissolved Inorganic Carbon
COD	- Chemical Oxygen Demand	DOC	- Dissolved Organic Carbon	TN	- Total Particulate Nitrogen
TDS	- Total Dissolved Solids	TC	- Total Particulate Carbon		

Note: this data may not be fully checked. The Province disclaims all responsibility for its accuracy

Alberta

CHEMICAL ANALYSIS REPORT

WELL NAME	MCCRACKEN, CAROL	**GIC WELL ID**	236468
LOCATION	LSD NE SEC 4 TWP 47 RG 24 M 4	**SAMPLE NO.**	2946-W
WELL DEPTH	120.00 ft	**WATER LEVEL**	ft
AQUIFER		**LABORATORY**	VG
SAMPLING DATE	1984-03-08		

FIELD	MG/L	FIELD	MG/L
BICARBONATE		CARBONATE	
CHLORIDE		CONDUCTIVITY	
DISSOLVED OXYGEN		EH	
IRON		MANGANESE	
PH		SULPHATE	
S2		TEMPERATURE(C)	0
TOTAL ALKALINITY		TOTAL HARDNESS	
LABORATORY		Analysis Date	1984-03-22
COD		CONDUCTIVITY	1,241
DIC		FLUORIDE	2.2000
ION BALANCE	0.9600	PH	8.80
SAR		SIO2	7.5000
TOTAL ALKALINITY	608.0000	TC	
TDS	724	TN	
DOC			
AMMONIUM-N		BICARBONATE	678.0660
CALCIUM	-1.0000	CARBONATE	30.9990
CHLORIDE	43.0615	MAGNESIUM	-1.0008
NITRATE-N		NITRITE-N	-0.0504
PHOSPHATE		POTASSIUM	0.6120
SODIUM	300.0005	SULPHATE	14.0212
NO2 + NO3	-0.0504	TOTAL HARDNESS	-5.0000
ALUMINUM		ARSENIC	
BARIUM		BERYLLIUM	
CADMIUM		CHROMIUM	
COBALT		COPPER	
IRON	0.1500	LEAD	
MANGANESE		MERCURY	
MOLYBDENUM		NICKEL	
SELENIUM		STRONTIUM	
VANADIUM		ZINC	
HYDROCARBONS		PESTICIDES	
PHENOLICS			

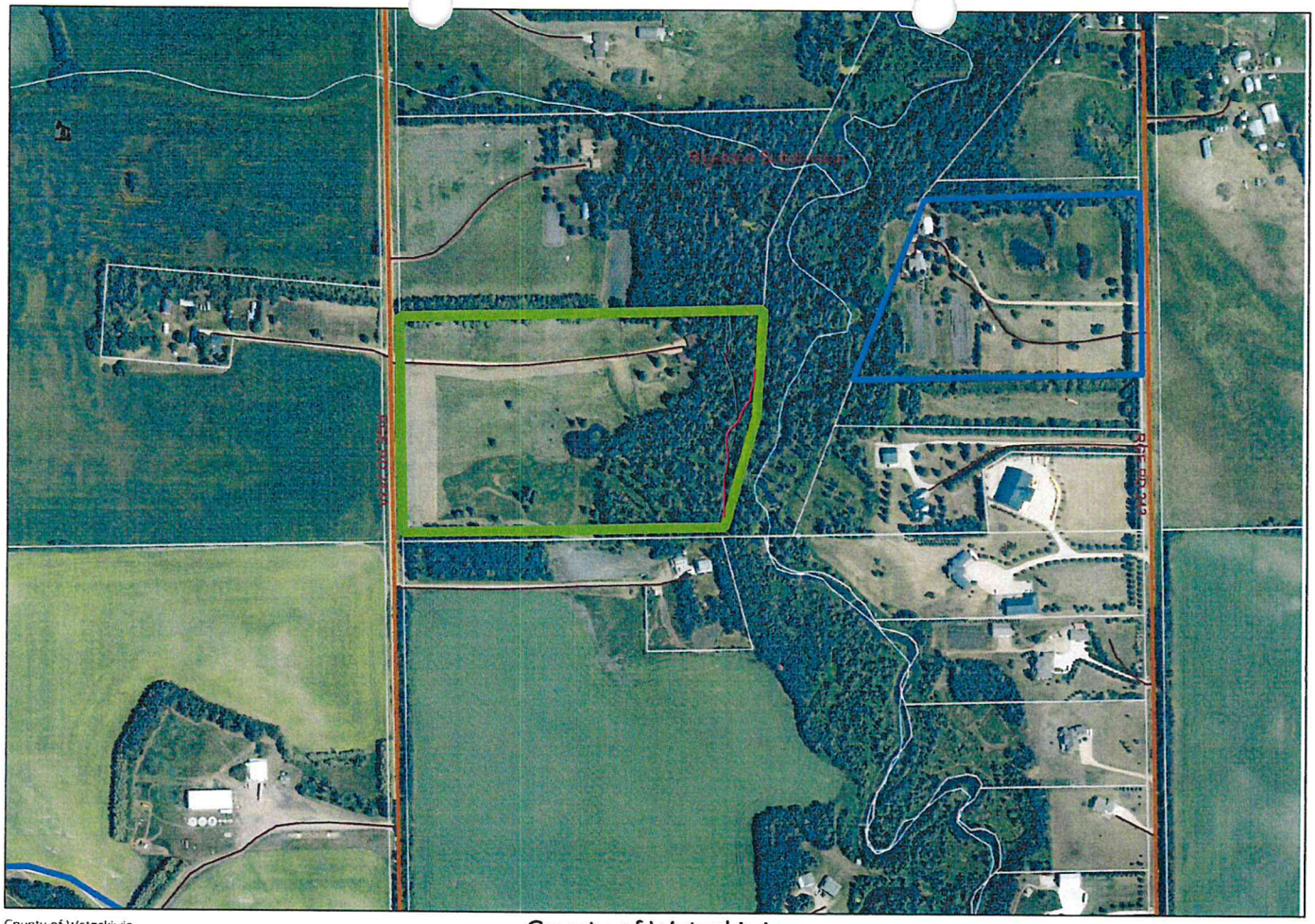
Remarks:

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total. '-' indicates concentrations less than.

EH	- Oxidation-Reduction Potential	SAR	- Sodium Adsorption Ratio	DIC	- Dissolved Inorganic Carbon
COD	- Chemical Oxygen Demand	DOC	- Dissolved Organic Carbon	TN	- Total Particulate Nitrogen
TDS	- Total Dissolved Solids	TC	- Total Particulate Carbon		

Note: this data may not be fully checked. The Province disclaims all responsibility for its accuracy

Appendix C - Maps of subdivision and utilities



County of Wetaskiwin

County of Wetaskiwin

Date Created: 2023-02-07

Existing lot is outlined in green. The "steep slop" is marked in red, along the south east side of the lot.

Appendix D - Adjacent land owner feedback

(Map of feedback locations is at the end of this appendix.)

Applicant of proposed subdivision went door to door, and left surveys in mail boxes. The following are those that have responded.

Adjacent land owner, located at 470050A, provided verbal feedback and support for the proposed subdivision. His phone number is 604-308-8019, if confirmation is required.

Adjacent Land Owner Feedback

1) Do you have any objections to the proposed subdivision? **NO**

2) Do you agree that the proposed subdivision will improve the general security of the surrounding area, the community and the County of Wetaskiwin as a whole? **YES**

3) Do you agree that the proposed subdivision will improve beatification of the surrounding area, the community and the County of Wetaskiwin as a whole? **YES**

4) Do you agree that the proposed subdivision will improve weed control for local farming and agricultural activities of the surrounding area, the community and the County of Wetaskiwin as a whole? **YES**

5) Do you agree that the proposed subdivision will improve the maintenance of the Bigstone creek trail system and ravine areas? **YES**

6) Do you feel that the proposed subdivision will create undue stress on the utilities and road system of the surrounding area, the community and the County of Wetaskiwin as a whole? In particular, range road 243A, township road 470 or Hillside road? **NO**

Name: Melissa Matiko

Address: 470055 Range Rd. 243A

Signature: 

Adjacent Land Owner Feedback

1) Do you have any objections to the proposed subdivision? NO

2) Do you agree that the proposed subdivision will improve the general security of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

3) Do you agree that the proposed subdivision will improve beatification of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

4) Do you agree that the proposed subdivision will improve weed control for local farming and agricultural activities of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

5) Do you agree that the proposed subdivision will improve the maintenance of the Bigstone creek trail system and ravine areas? Yes

6) Do you feel that the proposed subdivision will create undue stress on the utilities and road system of the surrounding area, the community and the County of Wetaskiwin as a whole? In particular, range road 243A, township road 470 or Hillside road? NO

Name: Marilyn Sonnenberg

Address: RR1 Site 11 Box 16 470020 RRd 243

Signature: ~~Wetaskiwin~~

Adjacent Land Owner Feedback

No 1) Do you have any objections to the proposed subdivision?

Yes 2) Do you agree that the proposed subdivision will improve the general security of the surrounding area, the community and the County of Wetaskiwin as a whole?

Yes 3) Do you agree that the proposed subdivision will improve beatification of the surrounding area, the community and the County of Wetaskiwin as a whole?

Don't Know 4) Do you agree that the proposed subdivision will improve weed control for local farming and agricultural activities of the surrounding area, the community and the County of Wetaskiwin as a whole?

Don't Know 5) Do you agree that the proposed subdivision will improve the maintenance of the Bigstone creek trail system and ravine areas?

No 6) Do you feel that the proposed subdivision will create undue stress on the utilities and road system of the surrounding area, the community and the County of Wetaskiwin as a whole? In particular, range road 243A, township road 470 or Hillside road?

Name: Jens Pedersen Vivian Pedersen

Address: 6-470008 Rng Rd 243 A,

Signature: Jens Pedersen Vivian Pedersen

Blue Sign # 470019 RRd 243A

Adjacent Land Owner Feedback

1) Do you have any objections to the proposed subdivision? No

2) Do you agree that the proposed subdivision will improve the general security of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

3) Do you agree that the proposed subdivision will improve beatification of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

4) Do you agree that the proposed subdivision will improve weed control for local farming and agricultural activities of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

5) Do you agree that the proposed subdivision will improve the maintenance of the Bigstone creek trail system and ravine areas? Yes

6) Do you feel that the proposed subdivision will create undue stress on the utilities and road system of the surrounding area, the community and the County of Wetaskiwin as a whole? In particular, range road 243A, township road 470 or Hillside road? No

Name: Allan + Wendy Cunningham

Address: RR#1, Wetaskiwin, AB, T9A-1W8

Signature: W. Cunningham
A. Cunningham

Adjacent Land Owner Feedback

1) Do you have any objections to the proposed subdivision? No

2) Do you agree that the proposed subdivision will improve the general security of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

3) Do you agree that the proposed subdivision will improve beatification of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

4) Do you agree that the proposed subdivision will improve weed control for local farming and agricultural activities of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

5) Do you agree that the proposed subdivision will improve the maintenance of the Bigstone creek trail system and ravine areas? Yes

6) Do you feel that the proposed subdivision will create undue stress on the utilities and road system of the surrounding area, the community and the County of Wetaskiwin as a whole? In particular, range road 243A, township road 470 or Hillside road? NO

Name: Dale Crabtree / Wendy Crabtree

Address: 471025

Signature: _____

Blue Sign #

Adjacent Land Owner Feedback

1) Do you have any objections to the proposed subdivision? No

2) Do you agree that the proposed subdivision will improve the general security of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

3) Do you agree that the proposed subdivision will improve beatification of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

4) Do you agree that the proposed subdivision will improve weed control for local farming and agricultural activities of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

5) Do you agree that the proposed subdivision will improve the maintenance of the Bigstone creek trail system and ravine areas? Yes

6) Do you feel that the proposed subdivision will create undue stress on the utilities and road system of the surrounding area, the community and the County of Wetaskiwin as a whole? In particular, range road 243A, township road 470 or Hillside road? No

Name: Tracey Bredlow

Address: RR#1 Wetaskiwin, AB T9A 1W8

Signature: Tracy Bredlow

Blue Sign #

Adjacent Land Owner Feedback

1) Do you have any objections to the proposed subdivision? NO

2) Do you agree that the proposed subdivision will improve the general security of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

3) Do you agree that the proposed subdivision will improve beatification of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

4) Do you agree that the proposed subdivision will improve weed control for local farming and agricultural activities of the surrounding area, the community and the County of Wetaskiwin as a whole? Yes

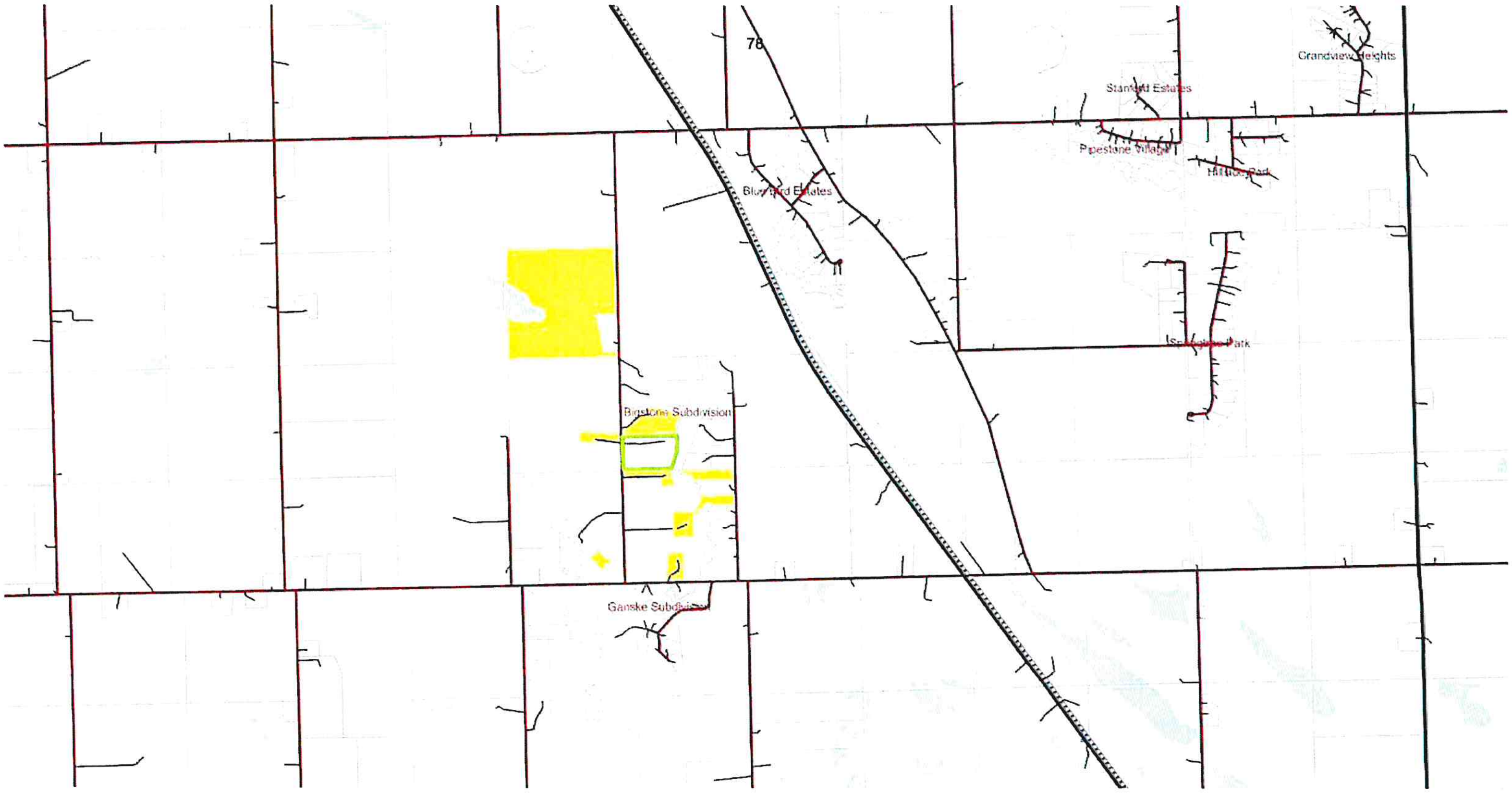
5) Do you agree that the proposed subdivision will improve the maintenance of the Bigstone creek trail system and ravine areas? Yes

6) Do you feel that the proposed subdivision will create undue stress on the utilities and road system of the surrounding area, the community and the County of Wetaskiwin as a whole? In particular, range road 243A, township road 470 or Hillside road? NO

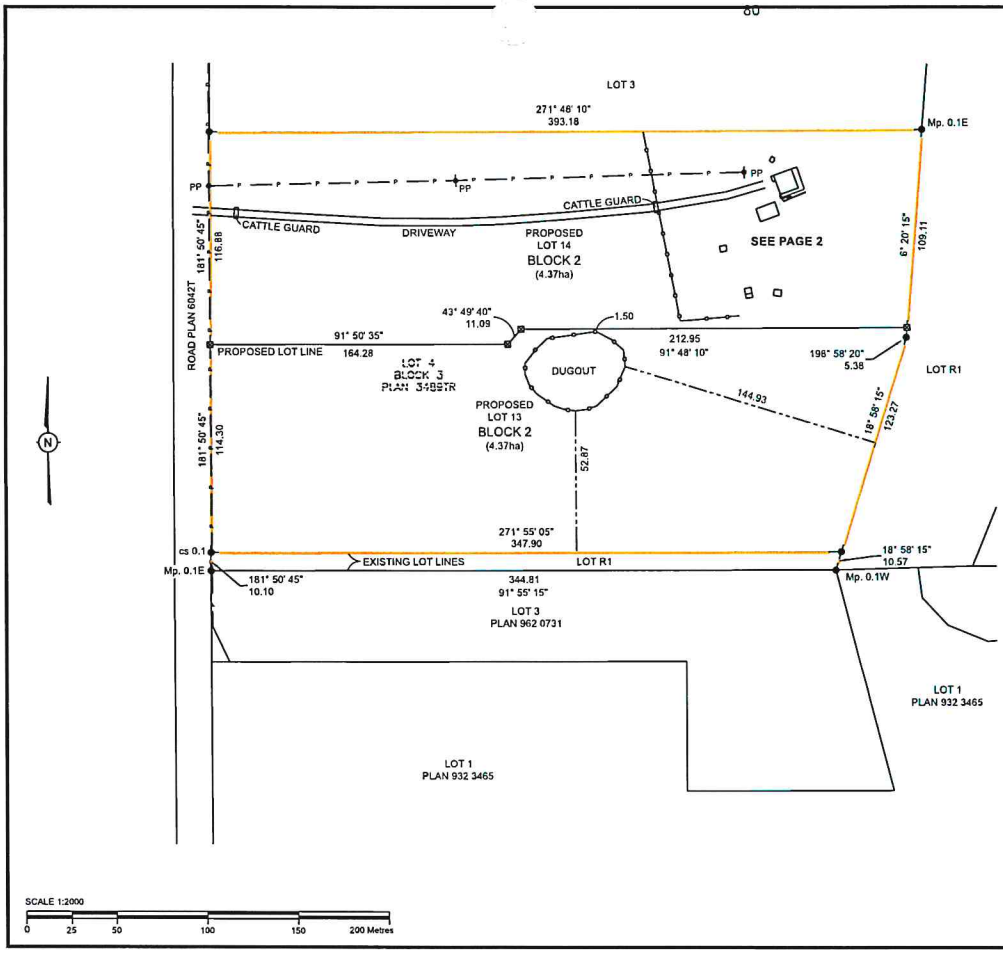
Name: Blaine Switzer

Address: Site 11 Box 11 RR1 T9A 1W8

Signature: 


78
Grandview Heights
Pipestone Village
Bigstone Subdivision

Appendix E - Proposed Development Map



SUBDIVISION AUTHORITY

Name: Municipal Planning Services

REGISTERED OWNER(S)

Certificate of Title: 212 230 672 - Lot 4
Owner(s): Israel Wasserman

LEGEND/NOTES

cs - Countersunk
Mp. - Marker Post
Calculated positions shown thus:
Statutory Iron Post found shown thus:
Overhead powerline & powerpoles shown thus: PP
Lands dealt with by this plan bounded thus:
and contains 8.73 hectares
Distances shown are in metres and decimals thereof.
Bearings are grid and derived from GNSS observations.
UTM NAD 83, Reference Meridian 114° West, CSF=0.9999106
Subject to revision by final survey.
There are no abandoned wells on the parcel that is the subject of this application.

Tentative Plan Showing

PROPOSED SUBDIVISION AND EXISTING/PROPOSED SETBACKS - OPTION B

of

Lot 4, Plan 3489TR

County of Wetaskiwin No. 10 - Alberta

ALBERTA LAND SURVEYORS' ASSOCIATION PERMIT NUMBER P321 WILDE BROS. SURVEYS LTD.

Certified Correct this XXnd day of Month, 2022

Randall C. Smith, ALS

WILDE BROS Surveys

WBS.CA - p 403 752 0180 41 N. Broadway, Box 150 Raymond, AB T0K 2S0

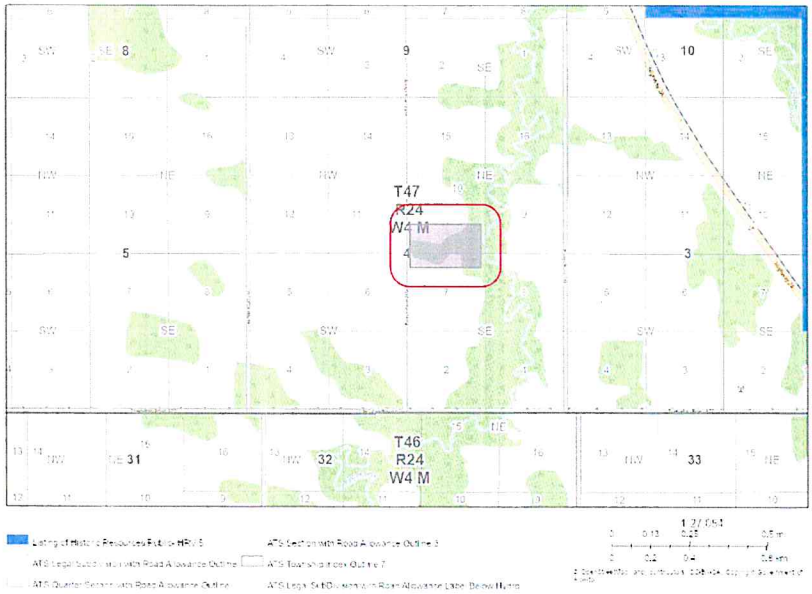
Appendix F – Historical Resources Screening Report

Listing of Historic Resources Screening Report

Area of Interest (AOI) Information

Area : 232,455.17 m²

Nov 17 2022 15:54:07 Mountain Standard Time



Summary

Name	Count	Area(m²)	Length(m)
HRV 1	0	0	N/A
HRV 3	0	0	N/A
HRV 4	0	0	N/A
HRV 5	0	0	N/A

Activities planned for lands not included in the Listing of Historic Resources may still require Historical Resources Act approval. The results of a Listing search MUST be used in conjunction with the information provided in the Instructions for Use of the Listing of Historic Resources.

Appendix G – Land Title

GOVERNMENT OF THE PROVINCE OF ALBERTA

LAND TITLE CERTIFICATE

S
LINC
0014 853 998

SHORT LEGAL
3489TR;;4

TITLE NUMBER
212 230 672

LEGAL DESCRIPTION
PLAN 3489TR
LOT 4
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 8.74 HECTARES (21.59 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;24;47;4;NE

MUNICIPALITY: COUNTY OF WETASKIWIN NO. 10

REFERENCE NUMBER: 102 230 326

REGISTERED OWNER(S)

REGISTRATION	DATE (DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
212 230 672	20/10/2021	TRANSFER OF LAND	$450,000	$450,000

OWNERS

ISRAEL WASSERMAN
OF RR 1
WETASKIWIN
ALBERTA T9A 1W8

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
842 037 849	21/02/1984	UTILITY RIGHT OF WAY GRANTEE - ICG UTILITIES (PLAINS-WESTERN) LTD.
212 230 673	20/10/2021	MORTGAGE MORTGAGEE - ATB FINANCIAL. 5202 50 AVENUE WETASKIWIN ALBERTA T9A0S8 ORIGINAL PRINCIPAL AMOUNT: $360,000

(CONTINUED)

TOTAL INSTRUMENTS: 002

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 23 DAY OF NOVEMBER, 2022 AT 11:58 A.M.

ORDER NUMBER: 45927436

CUSTOMER FILE NUMBER:

REGISTRAR OF LAND TITLES

END OF CERTIFICATE
