NTS073D and 073E

ASSESSMENT REPORT FOR GRIZZLY DISCOVERIES INC.'S, NORTH (LLOYDMINSTER) BLOCK PERMITS, ALBERTA POTASH PROJECT, EAST-CENTRAL ALBERTA

North (Lloydminster) Claim Block Permits: 9308110331-9308110357, 9310110389-9310110401 and 9310120521-9310120524

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1 Summary

APEX Geoscience Ltd. (APEX) was retained during 2008 to 2012 by Grizzly Discoveries Inc. (Grizzly) to manage exploration for Grizzly's Lloydminster Claim Block (the Property), a part of the Alberta Potash Project (the Project). This Assessment Report (the Report) summarizes the data compilation and exploration performed by APEX on behalf of Grizzly on Grizzly's 100% owned Lloydminster Claim Block. The Lloydminster Claim Block of the Alberta Potash Project is located approximately 130 km east of Edmonton, overlaps the city of Lloydminster, and comprises 271,486.9 hectares (670,859 acres) within 44 Metallic and Industrial Mineral (MAIM) permits. The Lloydminster Claim Block is part of the larger Alberta Potash Project, which is comprised of 101 MAIM permits, totalling 706,637.38 hectares (1,746,138.99 acres). The Alberta Potash Project is divided into the Grizzly wholly owned South Claim and Lloydminster Claim Blocks, and the Wainwright Claim Block, which is partially owned 100% by Grizzly and partially a 50/50 joint ownership Project between Grizzly and Pacific Potash Corporation (Pacific). Exploration between 2008 and 2012 on the Lloydminster Claim Block consisted of a compilation of all existing publically available data and assessment reports, a compilation and analysis of available historic drill core and down hole geophysical logs and the commission of a seismic geophysical study.

Potash is a potassium-rich salt (potassium chloride [KCl]) mined from mostly evaporite horizons around the world. Approximately 95% of the world's potash is used in fertilizers. Canada is the world's largest producer of potash, with the potash ore bodies in Saskatchewan being the world's largest, richest and most economical to mine. The Prairie Evaporite Formation is the host to most of Saskatchewan's potash, where the potash mineral sylvite (KCl) has been found in substantial quantities throughout the first 20 to 30 metres (m) of the Prairie Evaporite Formation. The Lloydminster Claim Block of the Alberta Potash Project encompasses (but does not include) the historic Vermillion Consolidated Oils No. 15 well (VCO #15), the first recorded occurrence of potash in east-central Alberta. The potash minerals recovered from drill core of VCO #15 are of the same composition, depositional sequence and depth as those found at a number of potash mines located in Saskatchewan, such as those near the municipalities of Unity and Saskatoon. The Prairie Evaporite Formation in east-central Alberta underlies most of Grizzly's Lloydminster Claim Block.

The 2008 and 2009 data compilation indicated that only limited historic data was available for previous potash exploration in Alberta. Much of the current information for the potash potential in Alberta was obtained from historic oil and gas drill hole data and archived drill core that was accessed at the Core Research Centre of the Energy Resources and Conservation Board (ERCB) in Calgary, Alberta. The regional compilation included the entire area of the Alberta Potash Project, as well as a buffer zone, in order to gain a better understanding of the regional Potash potential of the area. A total of 14,651 wells were compiled, with 167 wells determined to have penetrated the Prairie Evaporite Formation. Of the 167 wells, 27 wells are located on, or within the confines of Grizzly's Lloydminster Claim Block. A total of 110 of the 167 wells, which intersect the Prairie Evaporite Formation, have available downhole geophysical

logs, including a gamma log, however, a number of those wells were either not drilled deep enough to intersect the Prairie Evaporite Formation, their gamma logs did not completely test the Prairie Evaporite Formation, or their gamma logs were of poor quality and were therefore unable to evaluate the potash potential. As an example, out of the 27 wells that were drilled deep enough to intersect the Prairie Evaporite Formation on, or within the confines of the Lloydminster Claim Block, only 20 contain a gamma log and/or core that permitted an evaluation of the Prairie Evaporite Formation for the presence of potash. Additionally, of the 167 wells that intersect the Prairie Evaporite Formation, 38 contain identifiable potash beds. Of those 38 wells, which contain identifiable potash beds, a total of 4 are located on, or within the confines of, Grizzly's Lloydminster Claim Block. A total of 15 wells (including one re-entry well) within the compilation area had core from the Prairie Evaporite Formation and were available at the ERCB. A total of 4 of those cores are located on or within the confines of the Alberta Potash Project, with 3 specifically on Grizzly's Lloydminster Claim Block.

Preliminary analysis of the Lloydminster Claim Block, determined that a number of locations appear to indicate the presence of potash within the Prairie Evaporite Formation. Based upon X-Ray Fluorescence (XRF) geochemical analyses or calculated values from gamma logs, a total of 6 wells within the compilation area yielded greater than 10% K_2O (15.8% KCl), with 2 of those wells from within the confines of Grizzly's Lloydminster Claim Block. The best measured or calculated grade obtained from within the confines of the Lloydminster Claim Block was from Vermilion Consolidated Oils well #15 (06-12-049-06W4; VCO #15) and yielded 18.6% K_2O (29.4% KCl) within an interval from 1,061.27 to 1,065.7 metres.

In March 2009, a compilation of formation water chemistry data was completed for wells in the area of Grizzly's Alberta Potash Project. A total of 2,426 wells were available with formation water data and were accessed from the Geofluids module of the GeoSCOUT™ software package. A total of these 302 wells (including re-entry wells) with formation water data are located on Grizzly's Lloydminster Claim Block. A number of wells were identified with >1% up to 8.6% K in formation waters within Devonian carbonate hosted aquifers immediately above the Prairie Evaporite Formation. The highest K value recovered for the Lloydminster Claim Block was 6,486 parts per million (ppm; 0.6 % K). Historic scientific work by the Alberta Geological Survey (AGS) also identified high concentrations of K in Devonian carbonate hosted aquifers in the region of the Alberta Potash project.

In the summer of 2011, Grizzly retained RPS Boyd Petro Search of Calgary, Alberta, to compile and interpret all available seismic data in two areas of the Alberta Potash Project. One of the Seismic study area, deemed "Albert Lake," was located on the Lloydminster Claim Block. Existing 2D (2 dimensional) seismic data was reprocessed, modelled and then correlated to local geology using well bore data. Depth conversion of the data produced structure maps for the tops of the Prairie Evaporite and Winnipegosis Formations and a resultant isopach map for the Prairie Evaporite Formation.

The total cost to complete exploration on the Grizzly Lloydminster Claim Block between 2008 and 2012 was $481,301.12.

Based upon the results of the data compilation, evaluation of historic core and seismic study, further potash exploration, including drilling, is strongly recommended on the Lloydminster Claim Block, specifically in the vicinity of well VCO#15, in order to identify further potash zones with higher grades and better thicknesses, which could lead to a maiden resource. Strong consideration should be given to finding an appropriate technique to conduct water sampling of Devonian carbonate hosted aquifers immediately above the Prairie Evaporite Formation in order to compare concentrations of K in the aquifers versus the potash content of the Prairie Evaporite Formation obtained from well intersections.

Consideration should also be given to conducting some preliminary scoping level-type engineering studies in order to ascertain what grade and thickness of an Alberta potash deposit will be required to support a possible future solution mine, based upon the infrastructure that is in place, availability of water and Alberta's favourable tax regime.

A drilling focused program is recommended on the Lloydminster Claim Block of the Alberta Potash Project and should be conducted in two stages. Stage 1 should consist of drilling 1 to 2 wells on the Lloydminster Claim Block. The wells to be drilled should include, but not be limited to locations just northeast of well VCO #15. The budget is comprised of drilling a total of approximately 3,400 m in 2 wells at an average all up per metre cost of $725 per metre for a total cost of $2,465,000 along with $135,000 for assaying, reclamation, and collection and analysis of water samples, yielding a total cost for the Stage 1 program of approximately $2.6 million. If the Stage 1 results are positive, then further drilling will be required as part of Stage 2 to progress the Project to a resource stage along with the appropriate metallurgical work and engineering studies.

2 Introduction

APEX Geoscience Ltd. (APEX) was retained during 2008 to 2012 by Grizzly Discoveries Inc. (Grizzly) to manage exploration and evaluate the potential of economic potash deposits on Grizzly's Lloydminster Claim Block (the Property; the Block), a part of the Alberta Potash Project (the Project). This Assessment Report (the Report) is prepared by APEX on behalf of Grizzly and details the work completed on the Property from 2008 to 2012. Exploration on the Lloydminster Claim Block included a data compilation of all existing publically available data and assessment reports, a compilation and analysis of available historic drill core and down hole geophysical logs and the commission of a seismic geophysical study. The total cost to complete exploration on the Grizzly Lloydminster Claim Block between 2008 and 2012 was $481,301.12.

The Lloydminster Claim Block of the Alberta Potash Project is comprised 271,486.9 hectares (670,859 acres) within 44 Metallic and Industrial Mineral (MAIM) permits.

Mr. Michael B. Dufresne, M.Sc., P.Geol., the lead author, is a principal of APEX and has conducted fieldwork on and in the vicinity of the Alberta Potash Project, along with supervising a number of exploration programs for a variety of commodities across Alberta. Mr. Dufresne visited the Alberta Potash Project on June 5th and October 23rd and 24th, 2008.

3 Property Description and Location

3.1 Lloydminster Claim Block Location

The Lloydminster Claim Block is located in east Central Alberta, approximately 130 kilometres (km) east of Edmonton and partially overlaps the city of Lloydminster (Figure 1). The approximate centre of the Block is within 01-14-51-5W4 using the Alberta Township System (ATS) or is at 524855E (Easting) and 5916331N (Northing), relative to the North American Datum 1927 (NAD 27) and is projected using the Universal Transverse Mercator (UTM) Zone 12. The Lloydminster Claim Block is part of the larger Alberta Potash Project, which is comprised of 101 Metallic and Industrial Mineral (MAIM) permits, totalling approximately 706,637 hectares (1,746,139 acres). The Lloydminster Claim Block consists of 44 MAIM permits, covering an area of approximately 271,487 hectares (670,859 acres) and are held in the name of APEX Geoscience Ltd. as the designated representative on behalf of Grizzly (Figure 2). Table 1 is a summary of the permits, for the detailed legal descriptions the reader is referred to appendix 1.

The Interactive Metallic and Industrial Minerals Map located on the Alberta Energy website shows that the permits are active and in good standing as of the date of this report (http://gis.energy.gov.ab.ca/redirect_imf_metallic/imf.jsp?site=Metallic).

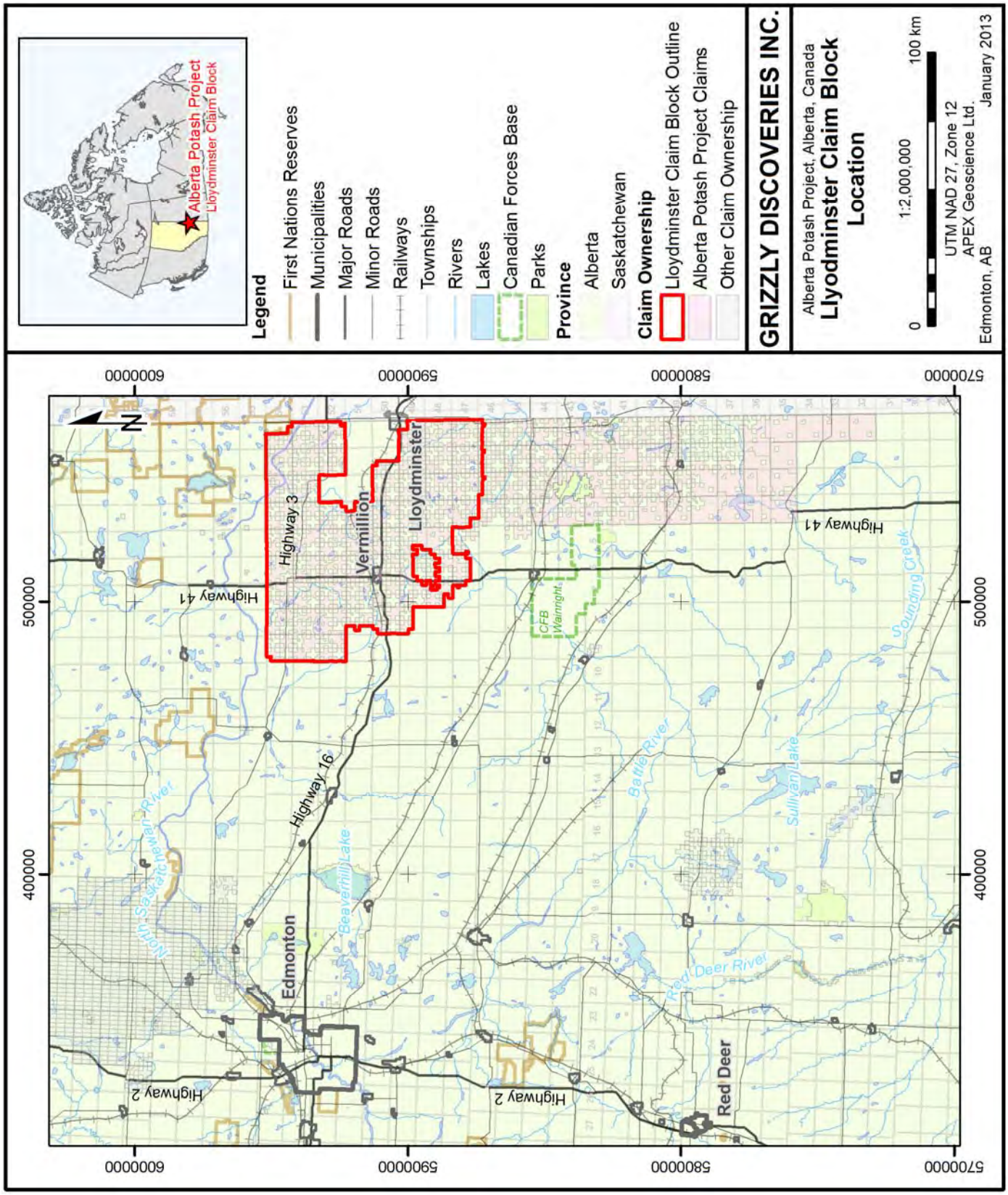


Figure 1 Lloydminster Claim Block Location

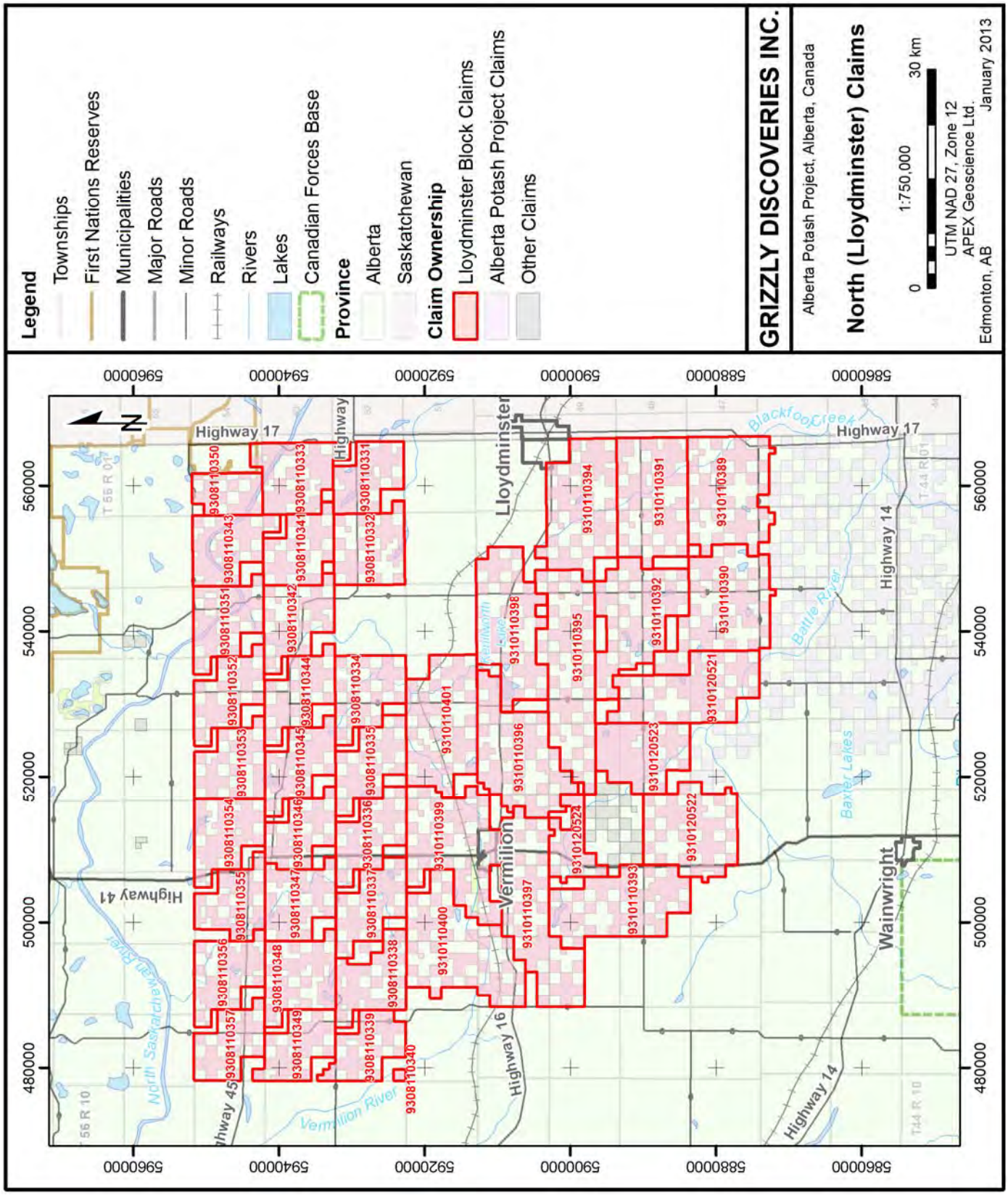


Figure 2 North (Lloydminster) Claims

Table 1 Grizzly Discoveries Inc.'s North (Lloydminster) Claim Block MAIM Permits Summary

Permit Number*	Record Date*	Permit Holder*	Area (Ha)*
Lloydminster Claim Block			
9308110331	06-Nov-08	APEX Geoscience Ltd.	**4573.9**
9308110332	06-Nov-08	APEX Geoscience Ltd.	**4913.5**
9308110333	06-Nov-08	APEX Geoscience Ltd.	**5639.3**
9308110334	06-Nov-08	APEX Geoscience Ltd.	**4497.6**
9308110335	06-Nov-08	APEX Geoscience Ltd.	**4932.4**
9308110336	06-Nov-08	APEX Geoscience Ltd.	**4842.3**
9308110337	06-Nov-08	APEX Geoscience Ltd.	**4796.0**
9308110338	06-Nov-08	APEX Geoscience Ltd.	**5272.2**
9308110339	06-Nov-08	APEX Geoscience Ltd.	**4435.0**
9308110340	06-Nov-08	APEX Geoscience Ltd.	**256.0**
9308110341	06-Nov-08	APEX Geoscience Ltd.	**4407.1**
9308110342	06-Nov-08	APEX Geoscience Ltd.	**5056.0**
9308110343	06-Nov-08	APEX Geoscience Ltd.	**5109.8**
9308110344	06-Nov-08	APEX Geoscience Ltd.	**4672.0**
9308110345	06-Nov-08	APEX Geoscience Ltd.	**4879.6**
9308110346	06-Nov-08	APEX Geoscience Ltd.	**4367.6**
9308110347	06-Nov-08	APEX Geoscience Ltd.	**4815.2**
9308110348	06-Nov-08	APEX Geoscience Ltd.	**5743.3**
9308110349	06-Nov-08	APEX Geoscience Ltd.	**4420.4**
9308110350	06-Nov-08	APEX Geoscience Ltd.	**2988.5**
9308110351	06-Nov-08	APEX Geoscience Ltd.	**5363.2**
9308110352	06-Nov-08	APEX Geoscience Ltd.	**4699.6**
9308110353	06-Nov-08	APEX Geoscience Ltd.	**4856.6**
9308110354	06-Nov-08	APEX Geoscience Ltd.	**5159.2**
9308110355	06-Nov-08	APEX Geoscience Ltd.	**4293.9**
9308110356	06-Nov-08	APEX Geoscience Ltd.	**5109.7**
9308110357	06-Nov-08	APEX Geoscience Ltd.	**4352.0**
9310110389	1-Nov-10	APEX Geoscience Ltd.	**9216.0**
9310110390	1-Nov-10	APEX Geoscience Ltd.	**9207.0**
9310110391	1-Nov-10	APEX Geoscience Ltd.	**9088.0**
9310110392	1-Nov-10	APEX Geoscience Ltd.	**9192.9**
9310110393	1-Nov-10	APEX Geoscience Ltd.	**9119.4**
9310110394	1-Nov-10	APEX Geoscience Ltd.	**9210.1**
9310110395	1-Nov-10	APEX Geoscience Ltd.	**9176.8**

9310110396	1-Nov-10	APEX Geoscience Ltd.	**9000.0**
9310110397	1-Nov-10	APEX Geoscience Ltd.	**9183.8**
9310110398	1-Nov-10	APEX Geoscience Ltd.	**9208.3**
9310110399	1-Nov-10	APEX Geoscience Ltd.	**9183.0**
9310110400	1-Nov-10	APEX Geoscience Ltd.	**9216.0**
9310110401	1-Nov-10	APEX Geoscience Ltd.	**9148.9**
9310120521	14-Dec-10	APEX Geoscience Ltd.	**8196.7**
9310120522	14-Dec-10	APEX Geoscience Ltd.	**7272.2**
9310120523	14-Dec-10	APEX Geoscience Ltd.	**8256.0**
9310120524	14-Dec-10	APEX Geoscience Ltd.	**4160.0**
Total Permits 44	**Total Claim Block Area 271,486.9 ha**		

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Grizzly's Lloydminster Claim Block is situated in the central-eastern region of Alberta, along the Alberta-Saskatchewan border. Elevation varies between approximately 300-900 m above mean sea level (amsl). The topography consists of gentle hills with pronounced valleys, particularly at large rivers. Scattered throughout the area are small streams and ephemeral ponds. Vegetation is characterized by poplars and varieties of marsh and meadow vegetation including short to mid-height grasses. The climate of the area is dry continental, with warm summers and cold winters. Average daily temperatures reach a maximum in July (16.6°C average, maximum 36.8°C) and a minimum in January (-14.5°C average, -39.6°C minimum). Precipitation in the area of the Property is between about 250-500 millimetres (mm) annually, with maximum precipitation occurring in summer, and minimum in winter. Climate data can be found at the Environment Canada website http://climate.weatheroffice.gc.ca/climate_normals/index_e.html

The Lloydminster Claim Block lies primarily within farm and grazing lands and is hospitable and conducive to exploration work and travel year-round. The Claim Block is perforated with scattered small plots of land which are freehold farm land.

The northern part of the Lloydminster Block is approximately 150 km east of Edmonton and the eastern edge of the Block overlays a portion of the city of Lloydminster (Figures 1 and 2). The Lloydminster Block can be accessed along the Alberta Provincial Highway 16 (Yellowhead Highway) from Edmonton (Figure 1). Highway 16 runs east-west through the centre of the Property, while the Alberta Provincial Highway 41 (Buffalo Trail), runs north-south through the length of the Property (Figures 1 and 2). Additionally numerous rural roads provide year round access.

The North Saskatchewan, Battle and Vermilion Rivers cross the Lloydminster Claim Block along with numerous creeks. In addition, abundant small lakes and ponds

are scattered across the Property. All the available water sources throughout the Property provide ample access to water for drilling purposes.

5 History

Exploration for potash in Alberta has been quite limited when compared to Saskatchewan. Historically, the only interest in potash exploration in Alberta took place in the 1960's in conjunction with petroleum exploration, with no wells solely drilled for potash at that time (Golden, 1965, 1966; Bayfield Oil and Gas, Ltd., 1966; Brownless, 1966; Irwin, 1966). Most wells drilled in the vicinity of the Grizzly Alberta Potash Project area were either for oil and gas exploration or water. It was determined that within a compilation area, which included all of Grizzly's Alberta Potash Project permits, more than 14,000 of those oil, gas or water wells were identified to have been drilled.

Potash is most prospective within the Prairie Evaporite Formation of the Elk Point Group; however, the majority of petroleum and water resources in the area occur at shallower depths than the Prairie Evaporite Formation. Thus, in the vicinity of Grizzly's Alberta Potash Project, relatively few wells have been drilled to depths great enough to penetrate the Prairie Evaporite Formation. During a compilation of historic wells in the area of Grizzly's Alberta Potash Project, a total of 185 wells in Alberta and 91 wells in Saskatchewan were known to be drilled and penetrated to at least the top of the Elk Point Group. Of these wells, 167 were observed to penetrate the Prairie Evaporite formation, with potash occurrences identified in 38 of those wells (Figure 3). A total of 4 of the 38 wells are located on, or contained within the boundaries of, Grizzly's Lloydminster Claim Block.

From historic reports, at least 4 wells were described as containing potash in east-central Alberta: Vermilion Consolidated Oils #15 (6-12-49-6W4; VCO #15; Canadian Seaboard Ernestina Lake well #10-13 (10-13-60-4W4); Imperial Provost #2 (01-33-37-03W4) and Petcal Dina (10-32-45-01W4). Table 2 shows the locations and reported potash grades of those Alberta wells, along with select wells from the adjacent western part of Saskatchewan.

Well VCO #15 was drilled in 1944 and prior to analysis, the cores were left exposed to the open atmosphere for several weeks and were affected by dissolution preventing an accurate assessment of the potash grade. The literature from the well was revisited in 1965 by Albert Golden and was reported to contain 3.7 m (12 feet) of carnalite ($KCl \cdot MgCl_2 \cdot 6H_2O$) in the upper part of the Prairie Evaporite Formation, underlain by 122 m (400 feet) of rock salt (halite (NaCl)). In addition, a 15.2 m (50 feet) section containing a pinkish-grey potash mineral (possibly sylvite (KCl)) was also noted in the top part of the Prairie Evaporite Formation (Golden, 1965, 1966).

The Imperial Provost #2 well was reported to contain two salt beds, intersected at 1404 m (4605 feet) and 1594 m (5231 feet). The first bed was reported to have been 11 m (365 feet) thick, while the second was less than 1 m thick.

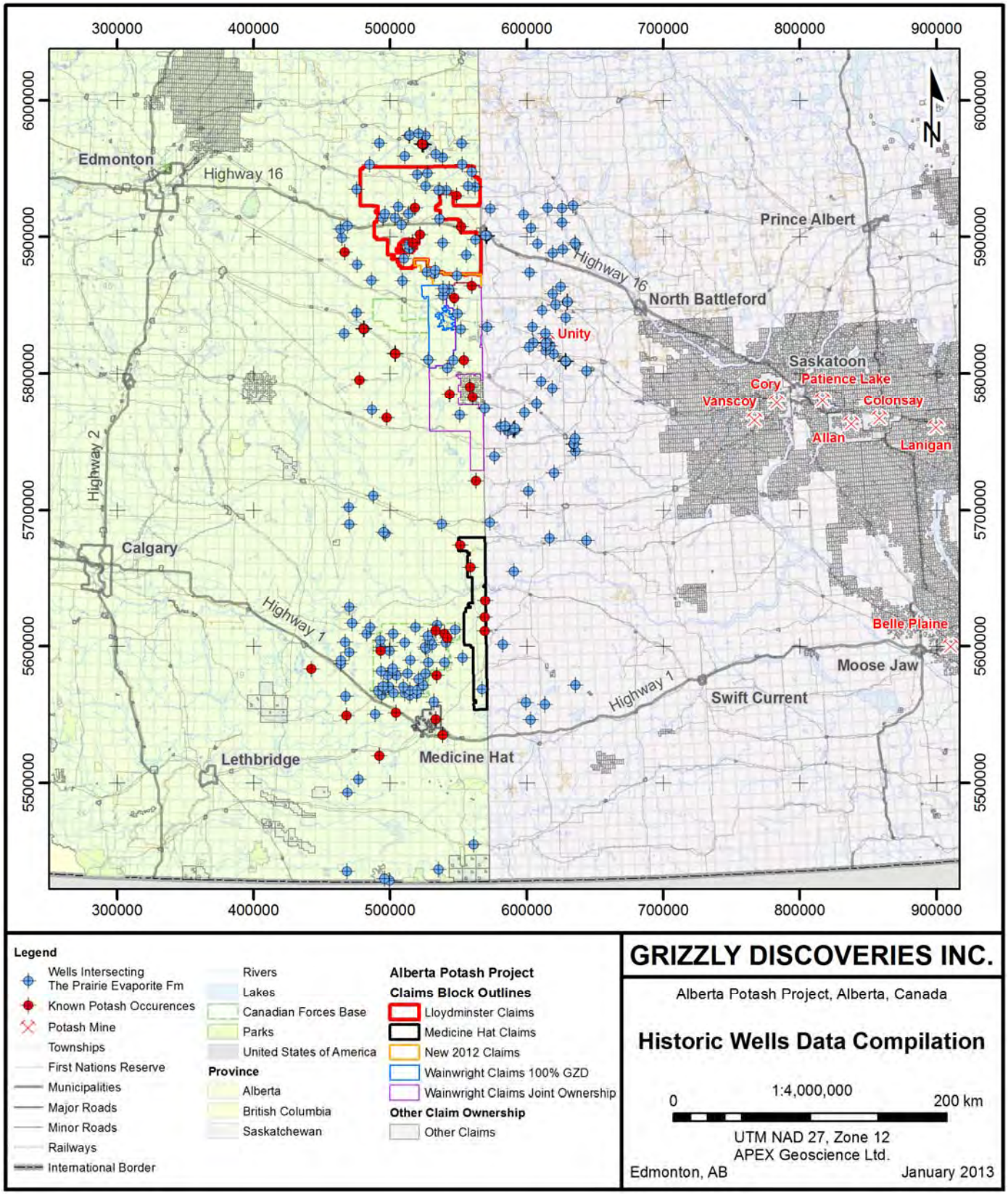


Figure 3 Historic Wells Data Compilation

Table 2 Reported historic potash grades from wells proximal to Grizzly's Alberta Potash Project.

Well name	Location	Province	Total Potash Grade (% K2O)	Maximum Potash Grade (%K2O)	Reference
VCO #15	06-12-49-06W4	AB	not determined*	not determined*	Golden, 1965
Imperial Provost #2	01-33-37-03W4	AB	0.5% over 31.7 m	4.1% over 2.7 m	Cole, 1948
Ernestina Lake #10-13	10-13-60-04W4	AB	not given	not given	Brownless,1966; Golden, 1966
Petcal Dina	10-32-45-01W4	AB	not given	not given	Meijer Drees, 1986
Ogema #1	04-24-07-23W2	SK	4.9% over 23.2 m	20.0% over 0.8 m	Cole, 1948
Radville #1	16-36-05-19W2	SK	8.0% over 10.3 m	16.4% over 3.2 m	Cole, 1948
Davidson #1	16-08-27-01W3	SK	10.8% over 3.0 m	10.8% over 3.0 m	Cole, 1948
Verbata #2	07-24-41-24W3	SK	4.7% over 15.5 m	21.6% over 3.4 m	Cole, 1948
Prairie Salt #1	13-04-40-22W3	SK	3.2% over 15.3 m	17.2% over 1.7 m	Cole, 1948
Prairie Salt #2	13-04-40-22W3	SK	3.4% over 15.2 m	17.4% over 1.5 m	Cole, 1948

*Potash grades were never published for the Vermillion #15 well because the cores were damaged before accurate measurements could be completed, however Cole (1948) lists this well as having "no potash over 10% K_2O".

Both beds were said to contain small amounts of potash in the salt (Crockford, 1949). No more detailed discussion of the Imperial Provost #2 well is available in the literature.

The Ernestina Lake well #10-13 was reported to contain deflections in the natural gamma-ray and neutron-porosity wireline logs, indicative of potash, at 804 to 806 m (2,637 to 2,644 feet), 817 to 819 m (2,681 to 2,688 feet), 978 to 981 m (3,210 to 3,220 feet), and 1064 to 1067 m (3,490 to3,500 feet) (Brownless, 1966). Brownless (1966) also noted that carnallite was observed in the Lotsberg and Cold Lake Formations of the Elk Point Group in the same well, although the depths and thickness of the beds were not given. Both of these formations are known to consist of almost pure halite elsewhere in Alberta (Hamilton, 1971; Meijer Drees, 1986), thus it is not believed that any potentially economic potash deposits occur in these formations.

Brownless (1966) concluded that in both the VCO #15 and Ernestina Lake #10-13 wells, the potash mineral present is likely mostly carnallite, however he maintained that sylvite may be present in more significant quantities in that area. Due to the mineralogy, depth, and shale content it was concluded that exploration and development of these deposits would not be economical at the time (Brownless, 1966).

The Petcal Dina well is mentioned by Meijer Drees (1986) as containing some potash, although the grade is not given, and may not have been determined.

Additional information of interest to potash exploration, is the historic examination of formation waters of the Beaverhill Lake Group, which overlies the Elk Point Group. The Beaverhill Lake Group was found to contain up to 19,000 mg/L K (milligrams per litre potassium) and up to 2,786 mg/L Br (bromine) (Hitchon et al., 1993; Underschultz et al., 1994; Bachu et al., 1995). The high bromine compositions suggest that not all of

the salt was dissolved and redeposited by fresh water (Braitsch, 1962; Wardlaw, 1968). Hitchon et al. (1993) first suggested that the potassium-bromine anomaly in the waters of Beaverhill Lake Group might correspond to potash mineralization in the underlying Prairie Evaporite salt (Eccles et al., 2009).

6 Geological Setting and Mineralization

6.1 Regional Stratigraphy

Grizzly's Lloydminster Claim Block of the Alberta Potash Project lies within the Western Canadian Sedimentary Basin (WCSB), which is comprised of a massive wedge of Phanerozoic sedimentary rocks extending from the Rocky Mountains in the west to the Canadian Shield in the east. This wedge is about 6 km thick in the western regions, but thins to zero at its eastern margins. The sediments of the basin are covered by glacial deposits. Excellent summaries of the geology of the WCSB are presented in Glass (1990) and Mossop and Shetsen (1994).

At Grizzly's Lloydminster Claim Block area, the bedrock beneath the glacial unconformity is generally mapped as the Upper Cretaceous Belly River Group or Lea Park Formation (equivalent to the Pakowki Formation in southern Alberta); Figures 4 and 5). Phanerozoic strata below these units are known mostly from well log data accessible from government databases and are discussed in detail in a number of previous studies (Glass, 1990; Mossop and Shetsen, 1994; Grobe, 2000). A summary of the units of interest are presented below.

The late Campanian Belly River Group in southern Alberta (Judith River Group in the Central Plains) is split into the Foremost Formation and the overlying Oldman Formation. The Foremost Formation largely comprises repeated, sharp based, fining upward sequences consisting of a pale siltstone base grading into dark purple-brown to black carbonaceous mudstones, which generally grades to coal. The Foremost Formation is constrained by Taber Coal Zone at the top and the Mckay Coal Zone at the bottom (Russell and Landes, 1940; Crockford, 1949; MacDonald et al., 1987; Eberth and Hamblin, 1993; Hathaway et al., 2011). The base of the Oldman Formation is comprised fine to medium grained sandstone, which contains dinosaur bones and concentrations of siderite. The overlying unit of the Oldman Formation consist mainly of grey-brown muddy siltstone and silty mudstone, with several thin (<50 cm) yellow-orange sandy siltstone units, which is in turn overlain by a unit of well-cemented fine-grained sandstone (Hathaway et al., 2011).

The Lea Park Formation underlies the Belly River Group and was also deposited during the late Campanian. The Lea Park Formation consists of mudstone and siltstone. The base of the unit is abrupt, which is shown by a pebble lag; whereas the top of the unit is gradational, with overlying clastics from the Belly River Formation.

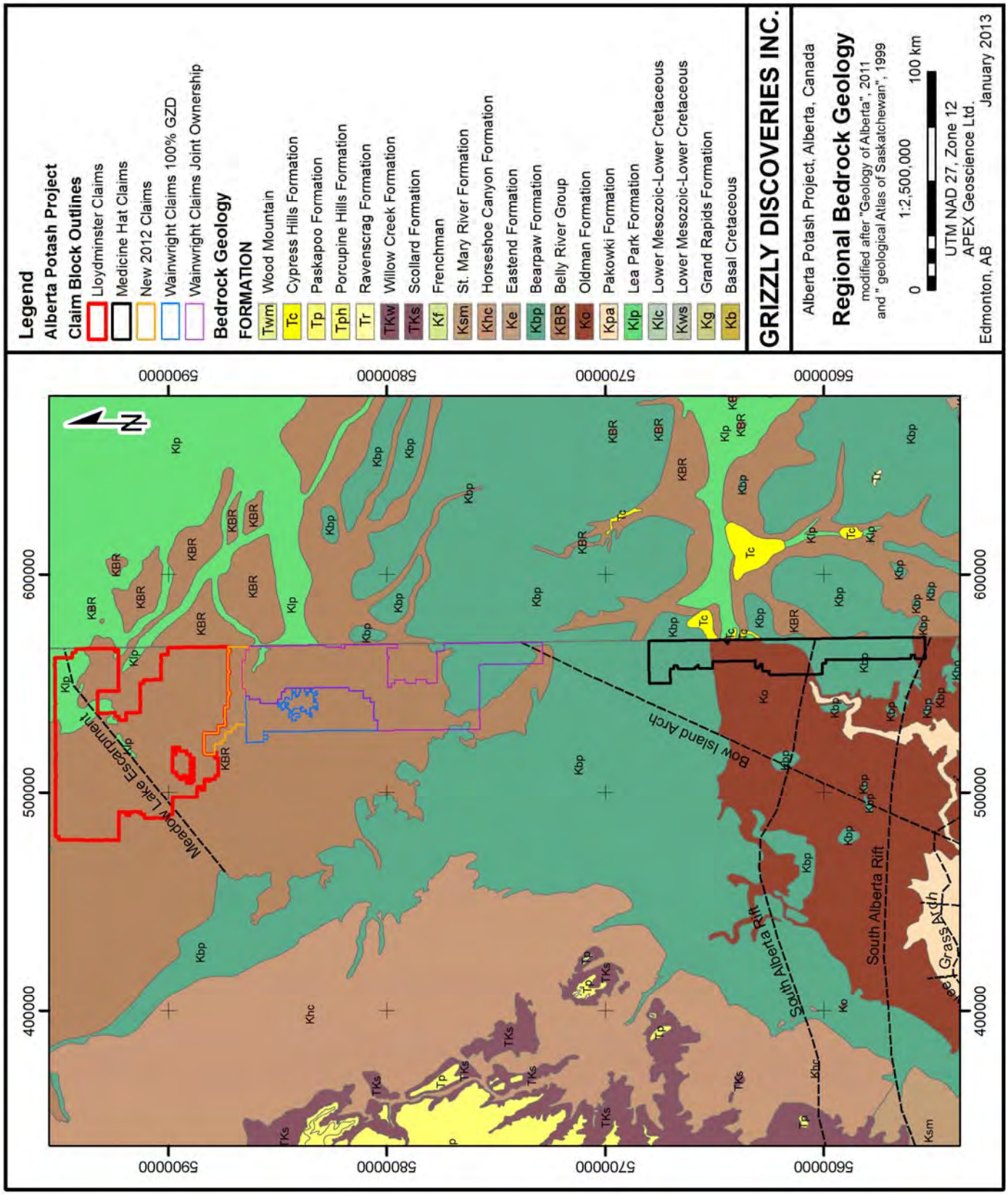


Figure 4 Regional Bedrock Geology

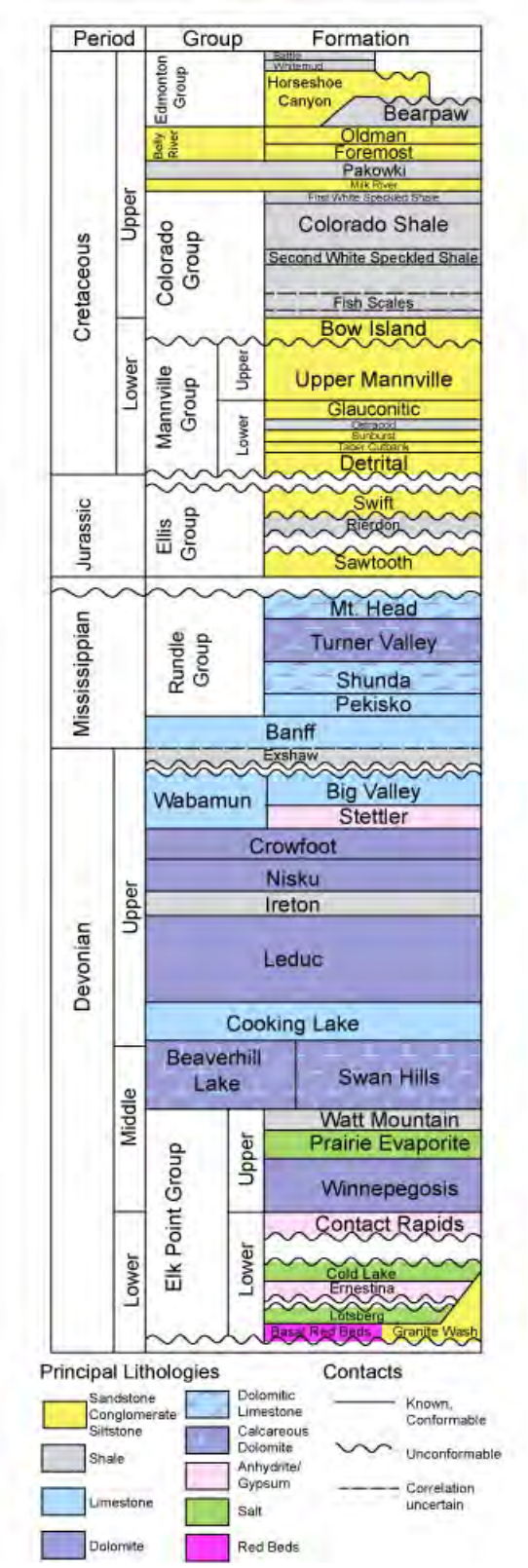


Figure 5 Southeast Alberta Stratigraphy
(after ERCB, 2010)

The Colorado Group, underlying the Lea Park Formation, is described as dominantly argillaceous with minor shaly conglomerate, sandstone and siltstone. Occurrences of minor shaly chalk, chalky limestone, bentonite, and accumulations of fish skeletal debris and pyrite have been noted. The Colorado Group has been divided into an upper calcareous part and, at the base of the Second White Speckled Shale (one of two widespread marker units), a lower noncalcareous part. The First and Second White Speckled Shale markers are described as being abundant in white flakes of coccolithic debris. These shales, along with an intervening shale of noncalcareous composition make up the upper Colorado sequence. The lower Colorado succession is made up of the non-calcareous shales of the Big River and Joli Fou formations. These two formations are separated by an apparently poor developed wedge of Bow Island sandstone (Equivalent to the Viking Formation). The Big River Formation includes the Fish Scale Sandstones, a widespread, highly radioactive marker unit that is known to contain fish skeletal debris in shaly sandstone layers. The Joli Fou Formation is composed of dark grey, noncalcareous marine shales, with minor amounts of interbedded fine to medium grained sandstone. In the area of the Grizzly Potash Project the Joli Fou discontinually overlies the Manville Group, where the thin (<1 m) Basal Colorado Sandstone is absent.

The Colorado Group is separated from the Mannville Group beneath it by a basin-wide unconformity. In central Alberta, the Mannville Group is divided into the upper Mannville and the lower Mannville. The upper Mannville contains Glauconitic Sandstone, described as very fine to medium grained quartz sandstone with abundant glauconite, overlain by a thin non-marine member, which is in turn overlain by marine shales, glauconitic sands and non-marine salt and pepper sands. The lower Mannville is composed of the Ostracod Beds overlying the Ellerslie Formation. The Ostracod Beds are composed of a mix of fossiliferous limestones, shales, and sandstones. The formation is notable because of the abundant Ostracod fossils which also include charophytes, gastropods, pelecypods, and fish teeth. The Ellerslie formation (equivalent to the Dina Sands in the Lloydminster area) is divided into two zones, an upper sandy shale and shaly sands zone and a lower very clean fine-grained quartz series, referred to as the Basal Quartz (Calfrac Well Services Ltd., 2013). The Mannville rests on the post Paleozoic (or sub-Mannville) unconformity, although in the region of the Alberta Potash Project, the Mannville lies atop a highly-variable paleosol (regolith) termed the Deville Member or "detrital zone", which overlies the unconformity (Williams, 1963).

Below the Paleozoic unconformity is the Banff Formation, is composed of carbonates and fine-grained siliciclastics (Richards et al., 1994). The Banff Formation unconformably overlies the Exshaw Formation. The Exshaw Formation ranges in age from Lower Mississippian to Late Devonian and is a black shale horizon that marks the Devonian–Mississippian boundary. The Exshaw is described as an anomalously radioactive, brownish to black, sparsely fossiliferous shale.

Unconformably underlying the Exshaw is the Big Valley Formation, a grey, tan and brown micritic limestone. It is described to be locally bioclastic and commonly fossiliferous. The Big Valley conformably overlies the Stettler Formation. The Upper Devonian Stettler Formation is composed of dolostones and evaporites. The dolostones

range from microsucrosic to coarsely crystalline in texture. Beneath the Stettler lies the Crowfoot Formation of the Winterburn Group. The Crowfoot Formation is described as light grey to brown and red anhydrite and red to grey silty dolomite. Beneath the Crowfoot, the Nisku Formation, still of the Winterburn Group, is described as light brown to light grey crystalline dolomite with minor brownish dolomitic siltstones, green shales and anhydrite. The lower portion of the Nisku is known to contain small stromatoporoid coral bioherms.

Below the Nisku Formation, the upper Ireton is known to contain argillaceous dolomites and limestones, fine crystalline dolomites and biomicrites that are quite fossiliferous. The lower Ireton Formation is made up of greenish grey and grey shales with interbedded argillaceous limestone or micrite. Beneath the Ireton Formation, the Leduc Formation is comprised of a wide variety of facies attributable to a shallow water reef depositional environment. Reef texture is dominated by stromatoporoid buildups. Sediments include skeletal mudstones, boundstones, and floatstones to muddy skeletal packstones and wackestones. Below the Leduc Formation, the Cooking Lake Formation is described as being predominately limestones that show a range in textures from mudstone to wackestones containing gastropods and ostrocods, non-skeletal grainstones with pellets, intraclasts and coated grains, and light to medium brown stromatoporoid, rudstones and floatstones. The Beaverhill Lake Formation, below the Cooking Lake Formation, is described as being composed of limey shales and argillaceous micrites. The reefal portion of the Beaverhill Lake Group, the Swan Hills Formation, is composed of stromatoporoids. Below the Beaverhill Lake Group is the Elk Point Group.

The major salt deposits of the WCSB occur within the Lower to Middle Devonian Elk Point Group, which is comprised of limestone, dolomite, anhydrite, rock salt, redbed and fine to coarse-grained siliciclastic rocks (Figures 5 and 6). The Elk Point Group unconformably overlies Precambrian or lower Paleozoic rocks that have up to 1,400 m of relief, and is overlain by a thin, flat layer of green or reddish brown shale of the Watt Mountain Formation (Meijer Drees, 1994; Grobe, 2000). The Watt Mountain Formation is composed of red and green shales, sandstones, limestone breccia, anhydrite, dolostone, and limestone (First Red Beds).

The Elk Point Group has been mapped and studied in Alberta by Hamilton (1971), Meijer Drees (1986, 1994) and Grobe (2000); in Saskatchewan by Holter (1969) and Yang et al. (2009a–c); and in Manitoba by Bezys et al. (2008a, b).The Prairie Evaporite Formation, within the Elk Point Group, is the predominant, economic formation containing the potash deposits of Saskatchewan. Grizzly's entire Alberta Potash Project is thought to be underlain by the Prairie Evaporite Formation.

In general, the underlying Prairie Evaporite Formation of the Elk Point Group, grades upward from layered halite and anhydrite into massive halite with several colour variations: colourless, white, light and dark grey, light and dark brown, light and dark pinkish to red. In Saskatchewan, the upper 60 m of the Prairie Evaporite Formation includes three potash-bearing members: the Esterhazy, Belle Plaine and Patience Lake

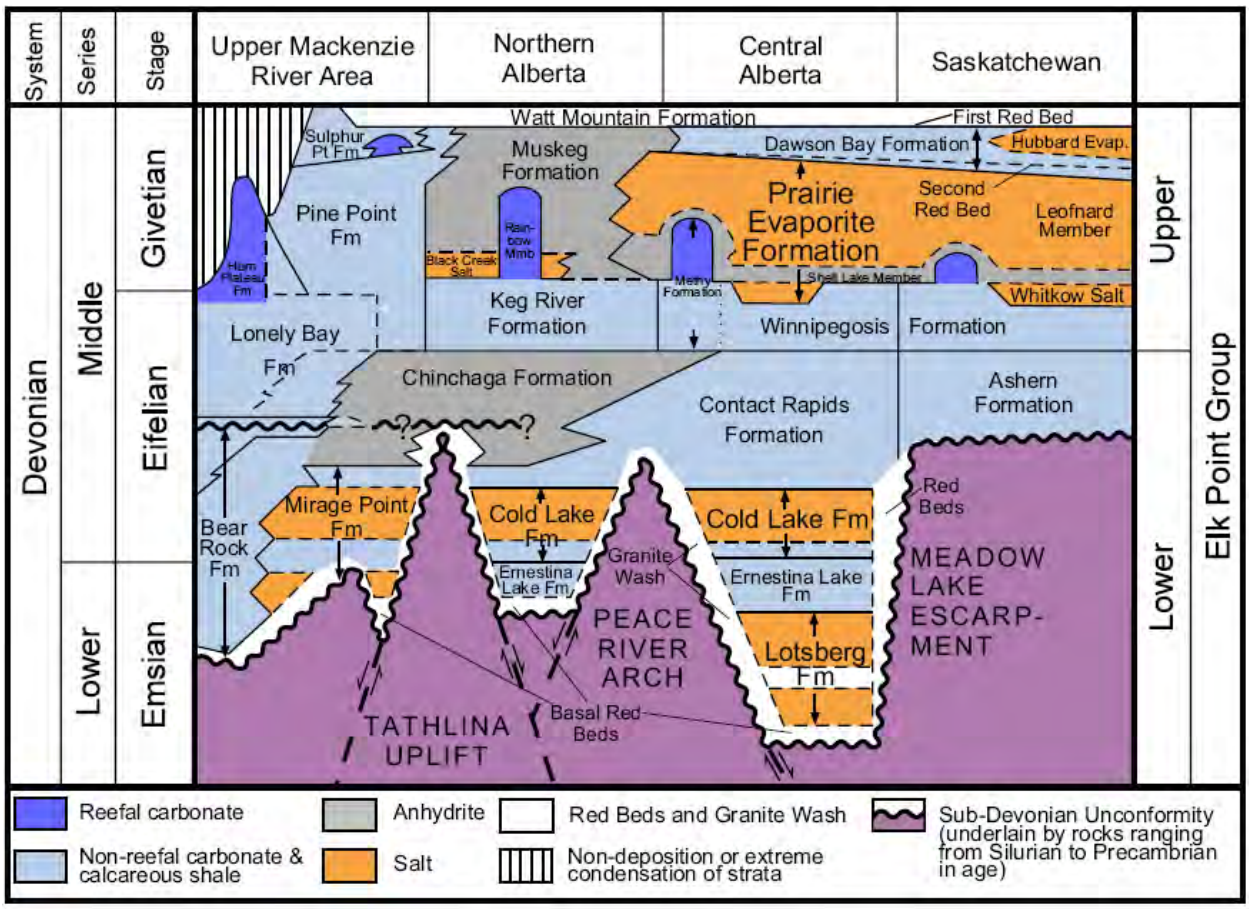


Figure 6 Elk Point Stratigraphy
(after Grobe, 2000)

members (e.g., Holter, 1969; Fuzesy, 1982; Yang et al., 2009a–c). Based on the work of Yang et al. (2009a), the Patience Lake Member is the most probable unit within the Prairie Evaporite Formation that extends into southeastern Alberta. The potash zones are generally between 6 and 15 m thick and contain one or more beds of potash with intervening beds of lesser amounts of potash or barren salt. All three members contain sylvite and are mined for potash in Saskatchewan, where there are currently eleven underground and/or solution mines in operation. Carnallite increases towards the margins of each member (Holter, 1969), except along the southern boundary of the Prairie Evaporite Formation. The uppermost member of the Prairie Evaporite Formation, the Patience Lake Member, ranges in thickness from 0 to 27 m (Holter, 1969) and contains sylvite-rich beds (10% to >30% sylvite; Holter, 1969) with halite and clay bands. The Patience Lake Member is mined in the Cory, Lanigan and Belle Plaine potash mines (Figure 3). Grobe (2000) showed that in southeastern Alberta the Prairie Evaporite Formation is between 100 and 130 m thick.

6.2 Regional Structures

The Meadow Lake Escarpment (Figures 4 and 6), dated as mid-Devonian, overlies the Precambrian Hearne Province of the Canadian Shield (Wright, 1994). It trends northwest across the northern part of Grizzly's Alberta Potash Project (and

bisects the Lloydminster Claim Block). It is composed of erosional mid-Cambrian clastics that formed a steep slope with a northwest trend. It represents the northwest erosional boundary of the lower Paleozoic strata and forms a relief for the southern depositional edge of the Middle Devonian Lower Elk Point evaporites. An initial transgression of middle Devonian seas, brought a sequence of evaporates, carbonates and clastics into the Lower Elk Point basin. The distribution of this strata shows that the southern shoreline of this basin, at the time, was formed by the Meadow Lake Escarpment (Haidl, 1989 and references therein).

Other structural features that affected the regional area of the Alberta Potash Project include the Sweetgrass Arch, the Bow Island Arch and the Southern Alberta rift (Figure 4). The Bow Island Arch, described by Williams and Burk (1964), is the saddle between the Alberta and Williston basins and may, in part, be a peripheral bulge, generated east of the foreland basin. The northeast-trending Bow Island Arch is structurally distinct from the more complex Sweetgrass Arch of Montana, which has a northwest trend and consists of a South Arch and a North Arch (the Kevin-Sunburst Dome) separated by the possibly dextral northeast-trending Pendroy Fault. The Sweetgrass Arch may have been contiguous with "Montania" of the early Paleozoic. Intrusions in the Sweetgrass Hills of Montana, near the Alberta border, and the exposed dykes within Alberta (Williams and Dyer, 1930) range in age from 54 to 50 Ma, according to Marvin et al. (1980), who also recalculated the age of the Minette Dyke at Pinhorn Butte in Alberta to be 49.7 Ma.

The Bow Island Arch became an important barrier between the Alberta and Williston basins in Triassic to Late Jurassic time (Christopher, 1987), isolating the more evaporitic Williston Basin (Kent and Christopher, 1994). Salt dissolution has profoundly influenced the depositional and structural patterns of post-lower Elk Point (Devonian) sediments in the northern and eastern parts of the WCSB. The position of many oil and gas pools can be attributed to evaporite dissolution on both local and regional scales. In the Williston Basin, dissolution seems related to the intersection of a series of northeast and northwest lineaments (Wright et al., 1994).

6.3 Diagenesis

Diagenesis has affected the rocks of the Prairie Evaporite Formation in two major ways. First, the soluble minerals within the Prairie Evaporite Formation have been re-precipitated. Trace element studies, as well as mineralogical and stratigraphic associations preclude the possibility of formation directly from oceanic brine (Holter, 1969; Fuzesy, 1982). This poses additional difficulties when predicting the proportions of sylvite and carnallite regionally. Secondly, and more importantly, dissolution has regionally removed parts of the Prairie Evaporite Formation in Saskatchewan and Alberta, including in a small part of the Grizzly Alberta Potash Project (Holter, 1969, Fuzesy, 1982, Grobe, 2000). Prairie Evaporite salts have been removed by dissolution along the northeastern margin of the formation (Holter, 1969; Hamilton, 1971; Fuzesy, 1982; Grobe, 2000). Although the Grizzly's Alberta Potash Project claims are well within the area of potash occurrence, Grobe (2000) indicates that the edge of associated salt dissolution, which parallels the edge of complete salt removal to the northeast, lies adjacent to the Lloydminster Claim Block. Due to the lack of well control in this area,

dissolution of the Prairie Evaporite Formation should be considered a possibility in this area.

6.4 Mineralization

The term potash refers to naturally occurring potassium-bearing salts and the commercial products derived from them. In the potash deposits of Western Canada, the minerals sylvite and carnallite are the most important. When sylvite is present with halite, they are collectively referred to as sylvinite, which comprises the high grade preferred ore. Carnallite is common in variable amounts, but its presence lowers the ore grade. Sylvite and carnallite may occur together or separately and it is believed that at least some carnallite mineralization is secondary, especially near the margins of the sylvinite beds (Fuzesy, 1982). Potassium is slightly radioactive, therefore, minerals such as sylvite and carnallite, when present, yield gamma log spikes on downhole geophysical surveys (Figure 7).

The Devonian aged Prairie Evaporite Formation is the predominant, economic formation containing the potash deposits of Saskatchewan. Grizzly's entire Alberta Potash Project is underlain by the Prairie Evaporite Formation, which based upon down hole geophysical logs and examination of core contains at least two and possibly three potash bearing beds within the uppermost portion of the formation. The historic VCO #15 well (6-12-49-6W4), the first recorded occurrence of potash in east-central Alberta, is within the confines of the Alberta Potash Project and more specifically, within the Lloydminster Claim Block (Figure 8). As discussed in the History section, the well was originally completed in 1944 to test for oil and gas. The core was then revisited in 1965 and it was recognized to contain potash similar in nature to the potash deposits of Saskatchewan (Golden, 1965; 1966).

In a compilation area of more than 62,000 square kilometres (km^2) there are only 15 wells (including one re-entry) that have penetrated the Prairie Evaporite Formation and have core available at the ERCB (Appendix 2). However, there are 110 wells that have penetrated the Prairie Evaporite Formation and have corresponding down hole gamma logs, which can also be used to identify the presence of potash minerals. The analysis of well logs in and around Grizzly's Alberta Potash Project has provided significant results with regards to identifying potential potash mineralization.

At least 14 wells within the compilation yield calculated potash values of greater than 5% K_2O (7.9% KCl) based upon gamma logs or X-Ray Fluorescence (XRF) analyses from drill core. Of the 14 wells, 9 are located on Grizzly's Alberta Potash Project with 3 within the confines of the Lloydminster Claim Block (Appendix 3). Of those 3 wells on the Lloydminster Claim Block, 2 yielded greater than 10% K_2O (15.8% KCl), based upon geochemical XRF analyses or calculated values from gamma logs. An additional 4 wells yielded greater than 10% K2O (15.8% KCl) on other Blocks of the Project, such as DEMLMEDHAT06-36-19-1W4, located within the central portion of the South (Medicine Hat) Claim Block, which yielded approximately 21.6% K2O (34.2% KCl) over 1.0 m based upon the gamma log signature (Appendix 3).

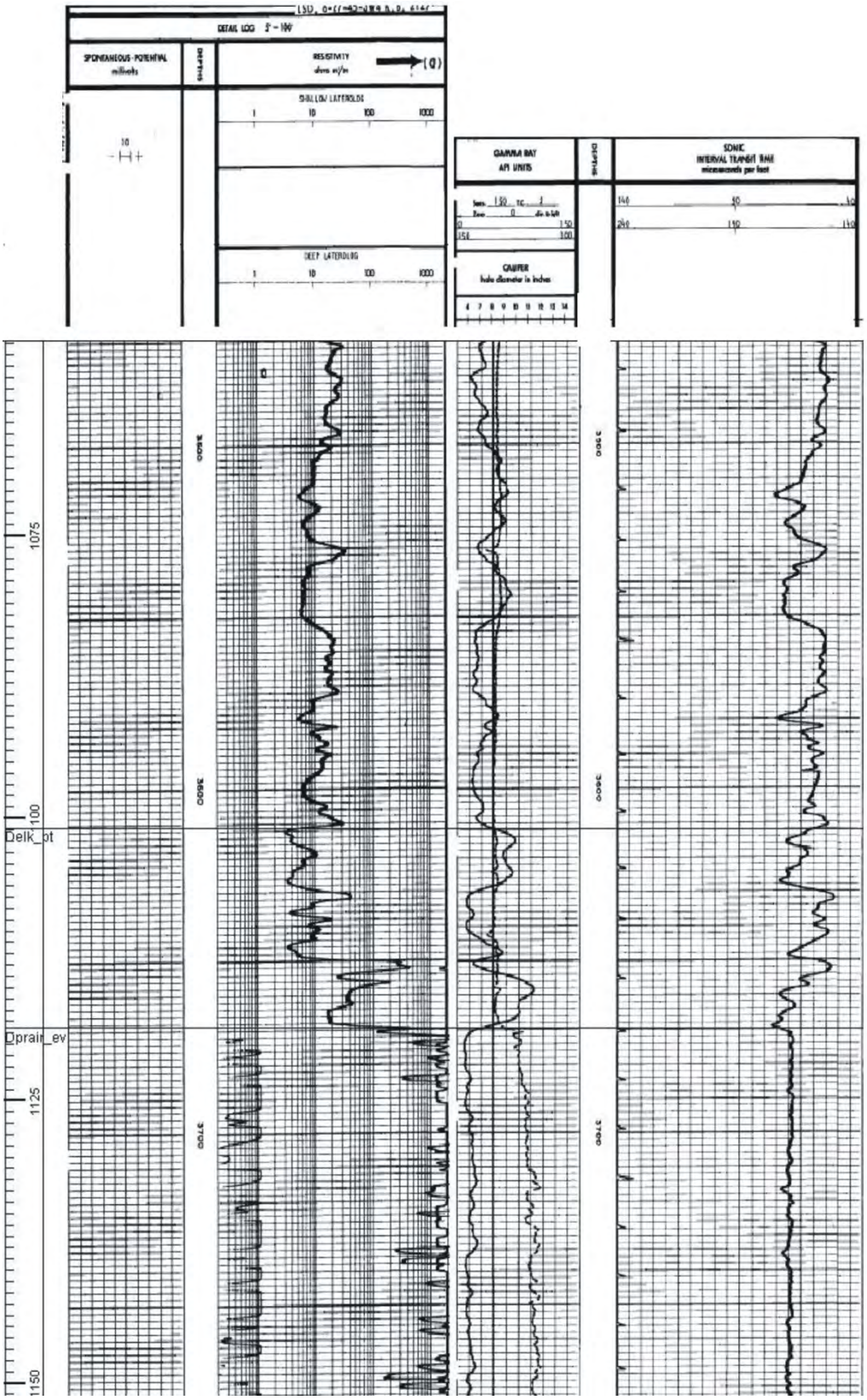


Figure 7 Well Log Example

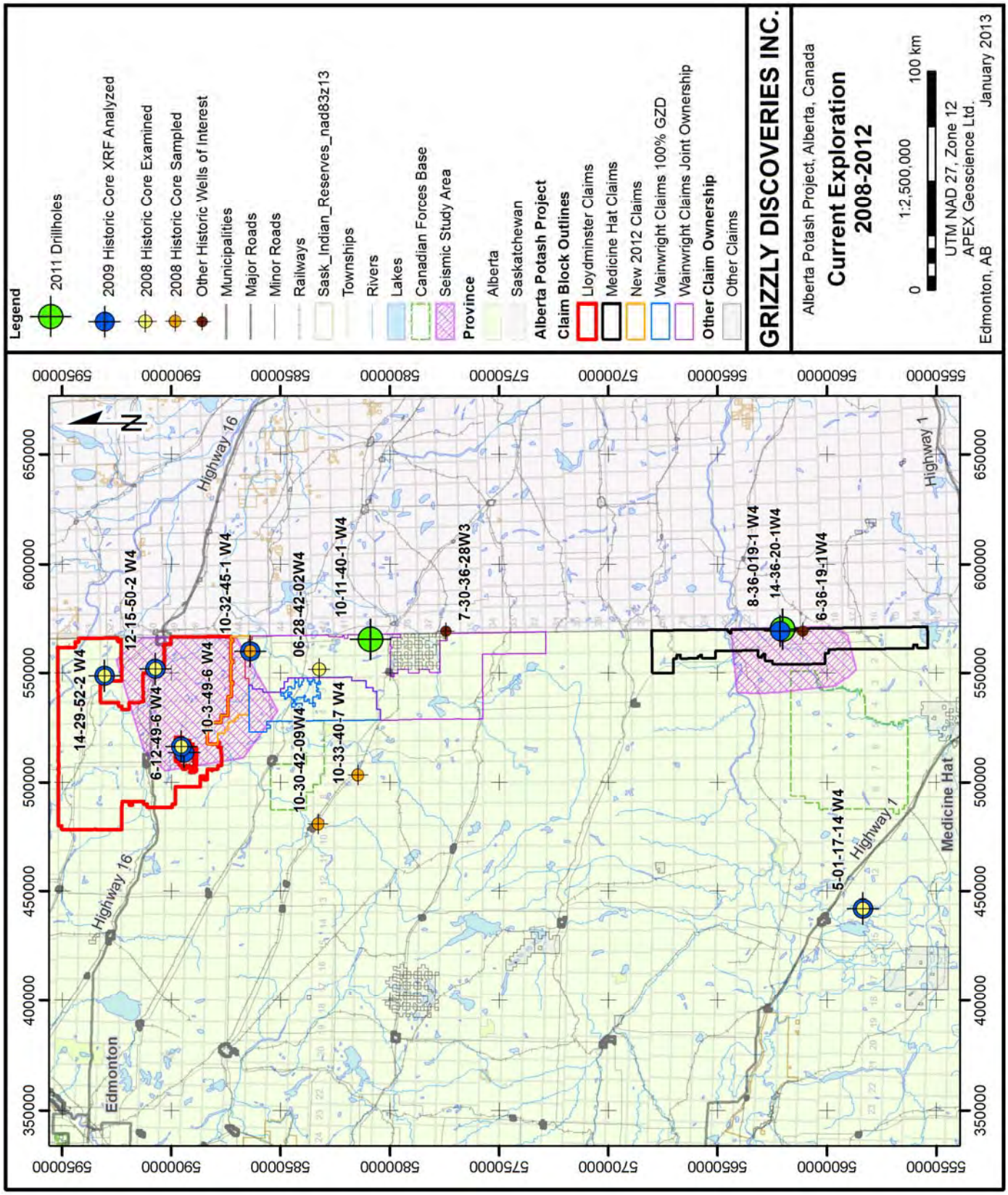


Figure 8 Current Exploration 2008-2012

In 2008, samples collected from cores from several Alberta wells were submitted to the Saskatchewan Research Council (SRC) for geochemical analyses. At least one sample from each drill core yielded greater than 1.0% K_2O (1.58% KCl) and up to a high of 4.1% K_2O (6.5% KCl; Appendix 4). The well that yielded the sample, which returned 4.1% K_2O, also yielded a second sample result of 1.31% K_2O. This well exists immediately adjacent to Lloydminster Claim Block of the Project.

During February 2009, a number of cores at the ERCB's Core Research Facility were examined and analyzed by XRF by a team that included personnel from APEX and the Alberta Geological Survey (AGS; Eccles et al., 2009). Historic well VCO #15 was analysed and yielded values up to 18.6% K_2O (29.4% KCl) within an interval from 1,061.3 to 1,065.7 metres that averaged 3.6% K_2O (5.8% KCl) over 4.42 m (Appendix 5). A total of 7 out of 22 analyses from the examined interval yielded between 7.73% K_2O (12.2% KCl) and 18.58% K_2O (29.4% KCl). It should be noted that more than half of the core in the main potash interval is missing from VCO #15, therefore the assays described here likely understate the grades that may have existed in this hole. Another hole of significance is the Wildemere Husky 10-3-49-6W4, drilled in close proximity to VCO #15, yielded up to 11.5% K_2O (18.2% KCl) over 1.46 m (Appendix 5).

7 Exploration

Exploration on the Lloydminster Claim Block was completed between 2008 and 2012. During this period a data compilation, resampling and verifying of potash results from historical drill cores and a seismic study were completed. The total cost to complete exploration on the Grizzly Lloydminster Claim Block between 2008 and 2012 was $481,301.12.

7.1 Data Compilation

During 2008 and 2009, APEX Geoscience Ltd. was contracted by Grizzly to conduct a regional compilation of historical data along with available oil and gas records for the areas enclosed by and surrounding Grizzly's Alberta Potash Project. The regional nature of the compilation was intended to gain a better understanding of the Potash distribution and economic potential in Alberta, which at the time had only been assessed to a very limited degree. The compilation area was expanded in 2012 to create a continuous block encompassing all of the Claim Blocks that form the Alberta Potash Project. Available information consisted primarily of well log data, as well as archived drill core and published reports. Well logs provided the most extensive information source for this compilation. The petroleum industry uses downhole geophysical surveys (also known as borehole or wireline surveys) as a diagnostic tool to identify rock and fluid properties along the depth of a well, the results are known as well logs. Downhole geophysical surveys include gamma ray, caliper, electron, neutron, resistivity, and sonic. Gamma radiation is recorded in American Petroleum Institute (API) units. An API unit is $1/200^{th}$ of the difference between the highest activity formation and the lowest, in a reference well stored at the University of Houston (Glover, 2012). The well logs in the compilation area were obtained through the GeoSCOUT™ software package. Over 14,000 wells exist in the compilation area, of these, 185 wells intersect the Elk Point Group (of which the Prairie Evaporite Formation

is a part) and 167 wells directly intersect the Prairie Evaporite Formation (Figure 3; Appendix 2). Of the 167 wells, that intersect the Prairie Evaporite Formation, a total of 43 wells are located on the Alberta Potash Project with 27 wells on, or within the confines of the Lloydminster Claim Block.

All logs were examined for each of the 167 wells of interest, to confirm the accuracy of the assigned stratigraphic picks (Appendix 2). An example of a well log and associated picks for the tops of the Elk Point Group and Prairie Evaporite Formation is illustrated in Figure 7.

A rigorous method was applied to identify and isolate potash beds from the compiled well log data. Potash beds are most easily identifiable on gamma ray logs due to the presence of the naturally occurring, radioactive isotope Potassium-40 (^{40}K) which produces a distinct signature (peak) on the gamma-ray log. Shale beds, which are locally present in the Prairie Evaporite Formation, may also contain significant concentrations of ^{40}K and therefore may also produce peaks on the gamma-ray logs. These shale beds can generally be differentiated from the potash beds using alternate properties identifiable from the other wireline logs. For example in a shale bed, caliper logs may show a significant decrease in borehole diameter (particularly if freshwater-based drilling muds are used), resistivity logs will show a significant decrease, and sonic travel time will be significantly increased in response to a shale bed (Figure 7).

The gamma-ray logs were also used to calculate estimated potash grades using an equation that includes the thickness of the unit and the radiation-intensity integral of the each peak, all calibrated against reported values for gamma intensity in the potash beds (based on Nelson, 2007). The response on the gamma-ray log is different for sylvite and carnallite, but it is not possible to differentiate potash beds with carnallite versus sylvite. The actual ratio of sylvite to carnallite is not actually known for the potash in the Grizzly Alberta Potash Project, so grade-estimates from well logs should be considered rough-estimates only.

Examination of the data collected indicates that potash occurrences and grades in Alberta increase towards the Saskatchewan border. Of the 167 compilation wells that intersect the Prairie Evaporite Formation, 38 contain identifiable potash beds. Of those 38 wells, which contain identifiable potash beds, 4 are located on, or within the confines of, Grizzly's Lloydminster Claim Block (Figure 3; Appendix 3). The available data indicates that both potash occurrence and grade appear to be patchy and therefore individual beds cannot be accurately correlated over long distances. However, it is possible to identify areas where potash occurrences are more common (Figure 3).

A total of 110 of the 167 wells, which intersect the Prairie Evaporite Formation, have available downhole geophysical logs, including a gamma log, however, a number of those wells were either not drilled deep enough to intersect the Prairie Evaporite Formation, their gamma logs did not completely test the Prairie Evaporite Formation, or their gamma logs were of poor quality and were therefore unable to evaluate the potash potential. As an example, out of the 43 wells that were drilled deep enough to intersect

the Prairie Evaporite on Grizzly's Alberta Potash Project, only 27 contain a gamma log or core, which permitted an evaluation for the presence of potash. Of those, 27 wells, which have gamma logs or core, a total of 20 are located on Grizzly's Lloydminster Claim Block (Appendix 2). A total of 15 wells (including one re-entry well) within the compilation area with core from the Prairie Evaporite were available at the ERCB, with 4 of the wells on, or within the confines of, Grizzly's Alberta Potash Project. From Grizzly's Lloydminster Claim Block, 3 wells with core from the Prairie Evaporite were available at the ERCB (Appendix 2).

7.2 Re-Sampling of Historical Core

In September, 2008, core from 8 historical archived wells was examined at the ERCB Core Research Centre in Calgary, Alberta, by APEX personnel (Table 3; Figure 8; Appendices 2, 3, 4 and 5). None of the 8 wells were drilled directly on the Lloydminster Claim Block, however two historical wells that were reviewed and sampled, 10-30-42-9W4 and 10-33-40-7W4, lie less than 60 km southwest of the Lloydminster Claim Block and an additional well, 10-32-45-1W4, is located only 9 km directly south of the Lloydminster Claim Block (on the Wainwright Claim Block). The results, which were used in the verification of historical results and correlation of well log data for the regional compilation area, are reported below in Table 3. A total of 7 potash samples were collected. These potash samples were cut from the core at points that appeared to be representative of potential potash beds. The samples weighed between 80 to 255 grams (g) and were sampled from the upper part of the Prairie Evaporite Formation. Several of the cores were visibly water-degraded, and a wet-saw had been accidently used by the ERCB on at least two of the cores, therefore all cut-surfaces (not freshly-broken surfaces) were sanded with a standard home-workshop belt sander (using latex gloves to prevent dissolution by perspiration) to remove the outermost, potentially damaged layer (about 2 mm) so that a truly representative sample could be analyzed. The ERCB would not allow any more extensive sampling.

Table 3 Cores Examined at the ERCB, September, 2008

Well Name	Location (ATS)	Potash Interval Depth (m)	Sample ID Depth (m)
IMP Calstan Lake Newell	05-01-17-14W4	1749.0-1759.0	
Newalta Hughenden	10-33-40-07W4	1377.4-1384.1	1381.11
			1383.13
Federated LPG3S Hardisty	10-30-42-09W4	1359.8-1369.8	1360.99
			1363.23
BP Chauvin South	06-28-42-02W4	none	
Petcal Dina	10-32-45-01W4	1352.4-1360.1	1055.68
			1058.64
			1060.92
Vermillion Consolidated Oils #15	06-12-49-06W4	1060.7-1076.2*	
		1137.2-1158.2*	
Devonian Blackfoot test well	12-15-50-02W4	1025.7-1034.0	
Calstan Pacific Marwayne	14-29-52-02W4	916.3-917.4	

*note: potash depths taken from Golden, 1965, because cores were too degraded in September 2008 to obtain accurate values

The samples were placed in individual plastic sample bags labeled with the sample number and sealed with a zip tie. Sample numbers and relevant associated data was noted in a field book and later transcribed into an excel file. The sample bags were placed in a bucket sealed with zip ties and shipped to the Saskatchewan Research Council's (SRC) Geoanalytical Laboratories in Saskatoon, Saskatchewan. The SRC is an ISO 17025:2005 accredited laboratory. The laboratory reported nothing unusual with respect to the samples once they were received.

At the SRC, the samples were analysed to determine their K_2O, MgO and CaO contents as well as moisture content. The rock samples were jaw crushed to 60% passing through -2 mm. From the crush a 100 to 200 g sub sample was rifle split. The sub sample was pulverised to 90% passing through -106 microns using a puck and ring grinding mill. The pulp was then transferred to a labeled plastic snap top vial. For the measurement of the soluble component a 0.125 g aliquot of pulp was placed in a test tube with 2.25 ml of 30°C deionized water and shaken. The soluble solution was analysed by Inductively-Coupled Plasma Optical Emission Spectroscopy (ICP-OES) (Appendix 4; SRC, 2012). For the measurement of the insoluble component a 2.00 g aliquot of pulp was placed in a test tube with 15 ml of 30°C deionized water and centrifuged for 2 minutes, decanted and repeated. The remaining sample material (insoluble) was dried and weighed. To measure the moisture content, a 1.00 g aliquot of pulp was placed into a pre-weighed crucible and heated overnight. The sample was then weighed again and the moisture was calculated as a weight percent (wt.%).

The 7 core samples that were analyzed returned a broad range of K_2O contents. An analytical results summary table and all laboratory certificates are included in Appendix 4. The highest value, 4.1% K_2O (6.5% KCl), was returned from the sample collected from the Petcal Dina well (10-32-45-1W4), from a depth of 1,055.7 m. The cores that were sampled were several decades old (drilled in 1966, 1967 and 1958, respectively) and hence the core was of poor quality (see Golden, 1966). The potash minerals, carnallite and sylvite, are highly soluble and are selectively dissolved before halite. The analyses that were conducted on the samples are considered a preliminary series of tests on mineralization and give minimum grades of potash only.

7.3 X-Ray Fluorescence (XRF) Analyses

In February 2009, cores from 7 wells were analysed using a portable XRF analyzer in order to provide a more comprehensive analytical dataset that could not be obtained due to limitations on physical sampling of the core (Appendix 5). A total of 3 wells (14-29-52-W4, 6-12-49-6W4 and 10-3-49-6W4) are located on Grizzly's Lloydminster Claim Block (Figure 8). The work was completed at the ERCB Core Research Facility by a team from Elemental Controls Ltd., the Alberta Geological Survey and APEX (Eccles et al., 2009).

The analyses were performed using a portable Niton XL3t 900 XRF analyzer with geometrically optimized large area drift detector (GOLDD^{TM}) technology. This analyzer uses a miniature x-ray tube (50 kV with silver anode) for production of primary radiation and a silicon drift detector with approximately 150 electron volts (eV) resolution. It is equipped with a ^{109}Cd isotope source and uses NpL-shell emissions and 23.0 gamma-

ray emission. The GOLDD™ technology collects 10 times the counts per second of previous analyzers, resulting in reduced measuring times and decreased error. The analyzer displays a primary screen of elements that are within the 95% confidence band, and is capable of storing and downloading up to 10, 000 analyses with full spectral data (Eccles et al., 2009). Mr. Dufresne, lead author and president of APEX was present during XRF analyses conducted in early 2009.

Spot measurements were conducted by placing the exposure window of the analyzer, which measures 1.0 by 2.0 cm in diameter, in direct contact with a flat core surface. The measurements were collected down the axis of the core to create a profile of elemental concentrations for potassium. Generally, in zones of visually observed mineralization, 25 cm spot spacing was used (Appendix 5). In zones that appeared less prospective for potash minerals, a spot spacing of 75 cm was used. Homogenous-looking samples were preferentially selected to reduce sample matrix effects.

The analyses were conducted using two modes: Soil Mode and Mining Mode. Soil Mode uses a Compton backscatter calibration method and provides accurate results in the limit of detection range 50 parts per million (ppm) to 30,000 ppm for elements from sulfur (S, atomic number 16) to uranium (U, atomic number 92). Mining Mode uses the fundamental parameters calibration method and provides accurate results in the range 0.1%–100% for most elements. Mining Mode is the only mode that has the ability to detect the light elements from magnesium (Mg) to phosphorus (P), making this mode best suited for measuring the evaporite samples. A helium cylinder was coupled to the analyzer to lower the minimum limit of detection for the light elements. Measurement times used during this study were 90 seconds: 15 seconds for the Soil Mode and 75 seconds for the Mining Mode (Eccles et al., 2009; McMillan and Dufresne, 2009).

Analyses were begun at the top of the Prairie Evaporite Formation and continued until either no more core was available for analyses or until it was deemed there was no significant possibility of encountering further potash. Analytical results were available immediately for each measurement. The analyzer was calibrated against a standard before beginning each day and periodically throughout each day. In addition, as the SRC had returned the sample pucks from the 7 samples that were analyzed by ICP-OES, these were also analyzed with the XRF for results comparison (Appendices 4 and 5).

In one instance it was even possible to compare a K_2O grade estimated from a gamma log with the K_2O grade determined by XRF. For the Pectal Dina well (10-32-45-1W4), McMillan and Dufresne (2009) estimated 2.8% K_2O between 1,056.3 and 1,059.3 m (Appendix 3). Averaging the XRF K_2O values collected every 30 to 50 cm for the core between 1,056.50 and 1,059.48 m yielded a K_2O value of 2.5% (with a standard deviation of 1.94; Appendix 5). Although a single comparison is not a statistical analysis, the fairly good match between these two methods is encouraging.

Of the 7 wells analysed by XRF, 6 yielded spot values greater than 7% K_2O (11.1% KCl). The 7th core did not have core available from the top of the Prairie

Evaporite Formation, where potash bed are normally present (McMillan and Dufresne, 2009; Eccles et al., 2009). Spot tests as high as 18.6% K_2O (29.4% KCl) were returned from cores taken from well VCO#15 (6-12-49-6W4); however, observed spot grades were heterogeneous even on the scale of decimetres. To reiterate, the cores tested had undergone degradation, yielded minimum possible values. In general, core condition ranged from good-moderate to very poor, and the K_2O concentrations as determined by XRF represent minimum values, since the potash in the cores may have partially dissolved particularly on the surface of the cores where the XRF analyzer is collecting its analyses from. Potash salts are significantly more soluble than halite, some of the cores analyzed are known to have been left exposed to the atmosphere for extended periods (e.g., Golden, 1965; Richner et al., 1992). Complete results of the XRF analyses are given in Appendix 5 and are discussed in Eccles et al. (2009). In addition, wide low grade potash bearing zones were confirmed in four of the cores (McMillan and Dufresne, 2009; Eccles et al., 2009; Appendix 5).

7.4 Water Chemistry Compilation

In March, 2009, a compilation of formation water chemistry data was completed for wells in the area of Grizzly's Alberta Potash Project. The compilation was restricted to wells that tested within or below Devonian strata and reported the test type as drillstem or swab test. With these criteria, 2,426 wells with formation water chemistry were available and accessed from the Geofluids module of the GeoSCOUT^{TM} software package (Figure 9). On the Lloydminster Claim Block, a limited number of wells were available, with 302 (including numerous multiple sample wells) containing formation water data. The intent of the study was i) to see if high K in formation water in the Beaverhill Lake or Leduc formations (which sit immediately above the Prairie Evaporite Formation) could be an indicator of high K in the Prairie Evaporite Formation and ii) to see if there are areas of high concentrations of K in formation waters that could be produced for their K content. A number of wells were identified with >1% (and up to 8.6%) K in formation waters within carbonate hosted aquifers immediately above the Prairie Evaporite Formation (Figure 9). The highest K value recovered for the Lloydminster Claim Block was 6,486 ppm (0.6 % K). However, the data for many of the wells is subject to contamination and in many cases is suspect. An effort was made to eliminate any wells with indications of contamination, including wells with comments such as 'Acid Completion Fluid' or 'Mud Filtrate KCl' along with a number of other comments. In addition, mass balance of the formation water was also reviewed in order to help eliminate suspect analyses.

Hitchon et al. (1995), after a fairly exhaustive quality review of wells with formation waters, also identified high concentrations of K in Devonian aquifers in the region of Grizzly's Alberta Potash Project.

The use of anomalous K in well water has been proposed as a potential indicator of potash mineralization in the underlying Prairie Evaporite Formation because potash minerals are highly soluble, especially sylvite and carnallite. A number of potassium in formation water anomalies have been identified that show a patchy distribution in eastern Alberta (Figure 9). This is comparable to the patchy distribution observed for potash in the well logs. Given that the potash beds in eastern Alberta occur near the

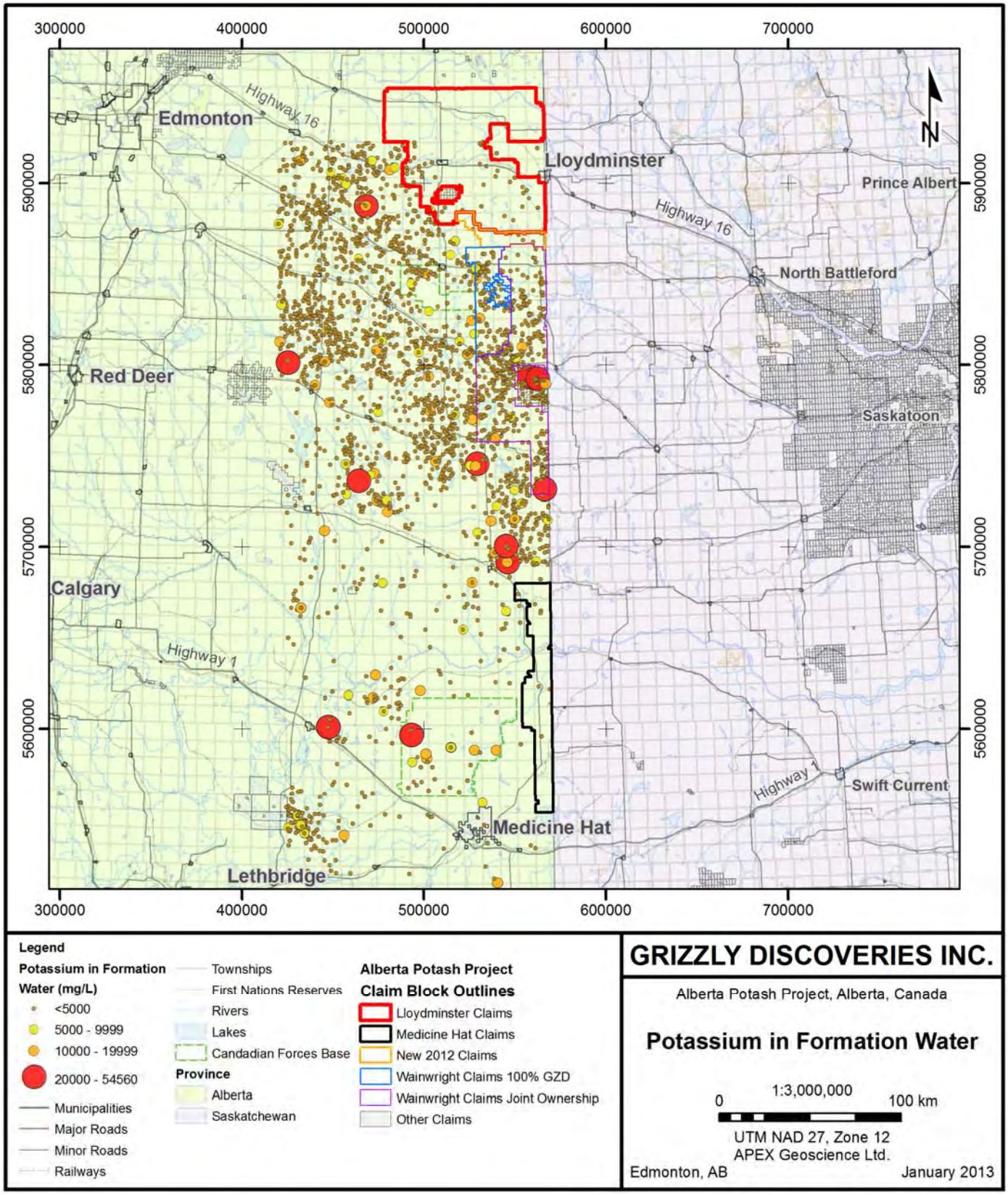


Figure 9 Potassium in Formation Water

edge of the much larger potash deposits in Saskatchewan, and are a continuation of the Saskatchewan deposits (e.g., Worsley and Fuzesy, 1979), it is not difficult to reconcile the patchy distribution of potash in this area with geologic models of evaporite formation and diagenesis. It is possible that the patchy distribution is due to isolated deposition in small restricted sub-basins, partial dissolution by influxes of seawater from the northwest, post depositional dissolution due to the far greater solubility of potash salts vs. halite, or some combination of these possibilities. However, the limited number of wells, along with the sampling which covers everything within or below the Devonian, precludes any definitive mapping or conclusions. In addition, K contamination from drilling muds and kill fluids is of serious concern as a number of water chemistry analyses with reported high K in formation water in the GeoSCOUT™ database are likely due to contamination.

The use of deep water geochemistry for potash exploration is a very promising technique, but one that needs more work before the data could be used to pick test holes for potash in the Prairie Evaporite Formation or as an indicator of carbonate hosted formation waters that could be produced for their K content. It is possible that Devonian groundwater movement is spatially variable and structurally controlled to some extent within the Alberta Potash Project, and therefore it is not known with certainty whether a formation water K anomaly represents a potash bed at a specific location and depth. If the use of formation water chemistry is better understood it could become a useful exploration technique to help in the search for potash and potentially formation waters that could be produced for their K content as well as a number of other elements.

7.5 Seismic Data Interpretation

In the summer of 2011, Grizzly retained RPS Boyd Petro Search of Calgary, Alberta, to compile and interpret all available seismic data in two areas of the Alberta Potash Project (Figure 8). Existing 2 dimensional (2D) seismic data was purchased and reprocessed to increase data quality. The data was then modelled and correlated to local geology using well bore data. Depth conversion of the data produced structure maps for the tops of the Prairie Evaporite and Winnipegosis Formations and a resultant isopach map for the Prairie Evaporite Formation (Appendix 6). In the Albert Lake compilation area, which covers the bottom half of the Lloydminster Claim Block, the structure maps for both the Prairie Evaporite and Winnipegosis Formations show a regional dip down towards the southwest. The structure maps also indicate the presence of topographical features in both the Prairie Evaporite and Winnipegosis Formations. Both maps show a northeast to southwest structural low centred in Township 49, Range 2W4M and a structurally high nose that is centred in the northwest corner of Township 49, Range 6W4M. Two drillhole locations were proposed where the Prairie Evaporite Formation was interpreted to have a uniform thickness (RPS Boyd PetroSearch, 2011a, b; Appendix 6).

8 Drilling

8.1 2011 Alberta Potash Project Drilling Program Overview

In 2011, two wells were drilled on Grizzly's Alberta Potash Project, but neither were located on Grizzly's Lloydminster Claim Block. Well PPC50 Provost 10-11-40-1W4 is located on the Wainwright Claim Block and GZD100 Med Hat 8-36-19-1W4 is located on the South (Medicine Hat) Claim Block (Figure 8). For further details on Grizzly's Alberta Potash Project drilling program, the reader is referred to the Grizzly Discoveries Inc.'s Alberta Potash Project 2012 Technical Report (Dufresne and McMillan, 2012).

9 Interpretation and Conclusions

Potash is a potassium-rich salt mined from underground deposits and is essential for all plant, animal and human life. Approximately 95% of the world's potash is used in fertilizers. Potash is a critical component of fertilizer required for root system strengthening, for which there is currently no economically viable alternative. Potash fertilizers increase global food production, which is demanded from finite agricultural lands. Canada is the world's largest producer of potash, with the potash ore bodies in Saskatchewan being the world's largest, richest and most economical to mine. A large portion of the world's potash supply is being produced by 11 mines in Saskatchewan that are all producing out of the Prairie Evaporite Formation. There have been no new mines built in Saskatchewan since the early 1980's, although a number of expansions and new mines are currently being permitted and constructed. Saskatchewan's potash resources are estimated to be approximately 23 billion tonnes of KCl (Cocker et al., 2010) with potash ore grades between 16% and 27% K2O (25% and 42% KCl).

Grizzly Discoveries Inc.'s Alberta Potash Project comprises a total of 101 MAIM permits, totalling 706,637.38 hectares (1,746,138.99 acres), of which 77 permits, totalling 495,117.38 hectares (1,223,462 acres) are owned 100% by Grizzly with the remaining 24 permits, totaling another approximate 211,520 hectares (522,677 acres), in a 50/50 Joint Ownership agreement between Grizzly and Pacific Potash Corporation. The Alberta Potash Project is divided into three Claim Blocks: the Lloydminster Claim Block, the South (Medicine Hat) Claim Block and the Wainwright Claim Block.

The Lloydminster Claim Block of the Alberta Potash Project is located approximately 130 km east of Edmonton, overlaps the city of Lloydminster and comprises 271,486.9 hectares (670,859 acres) within 44 MAIM permits.

Between 2008 and 2012 APEX was retained by Grizzly to manage an exploration program for its Alberta Potash Project. Exploration on the Project consisted of a compilation and examination of all existing publically available data, assessment reports and down hole geophysical logs; the examination and analysis of historic drill core and the commission of a seismic geophysical study.

The 2008 and 2009 compilation indicated that there was very limited historic data for previous potash exploration in Alberta. Much of the information for the potash potential was obtained from historic oil and gas well data and archived drill core. The

compilation area included a total of 14,651 wells with data available in the GeoSCOUT™ software program. The compilation determined that a total of 167 well in the vicinity of Grizzly's Alberta Potash Project penetrated the Prairie Evaporite Formation. A total of 43 of the 167 wells are within the boundaries of the Alberta Potash Project and of those with 27 are located on the Lloydminster Claim Block.

A total of 110 of the 167 wells, which penetrated the Prairie Evaporite Formation, have available down hole geophysical logs, including a gamma log, however, a number of those wells were either not drilled deep enough to intersect the Prairie Evaporite Formation, their gamma logs did not completely test the Prairie Evaporite Formation, or their gamma logs were of poor quality and were therefore unable to evaluate the potash potential. As an example, out of the 43 wells that were drilled deep enough to intersect the Prairie Evaporite on the Alberta Potash Project, only 27 contain a gamma log or core, which permitted an evaluation for the presence of potash. Of those, 27 wells, which have gamma logs or core, a total of 20 are located on, or within the confines of Grizzly's Lloydminster Claim Block.

A total of 15 wells (including one re-entry well), from within the compilation area which had core from the Prairie Evaporite Formation, were available for examination at the ERCB. A total of 4 of the wells were on, or within the confines of, Grizzly's Alberta Potash Project, with 3 of those wells from the Lloydminster Claim Block.

Preliminary analysis by APEX determined that the Prairie Evaporite Formation underlies the vast majority of Grizzly's Alberta Potash Project and at a number of locations, appears to yield indications of potash. At least 14 wells within the compilation area yielded values of greater than 5% K2O (7.9% KCl) based upon XRF analyses or calculated values from gamma logs (Appendices 2, 3, 4 and 5). Of the 14 wells, 9 are located on Grizzly's Alberta Potash Project, with 3 within the confines of the Lloydminster Claim Block (Appendix 3). Of those 3 wells within the confines of the Lloydminster Claim Block, 2 yielded greater than 10% K2O (15.8% KCl), based upon geochemical XRF analyses or calculated values from gamma logs. An additional 4 wells yielded greater than 10% K2O (15.8% KCl) on other Blocks of the Alberta Potash Project. The best measured or calculated grade obtained from within the confines of the Lloydminster Claim Block was from VCO #15, which yielded up to 18.6% K2O (29.4% KCl) within an interval from 1,061.27 to 1,065.7 metres.

In September, 2008, core from eight historical archived wells were examined at the ERCB Core Research Facility in Calgary, Alberta, by APEX personnel. A total of 7 potash samples were collected from the core at points that appeared to be representative of potential potash beds. The 7 core samples that were analyzed and returned a broad range of K_2O contents, with the highest value, 4.1% K_2O (6.5% KCl), returned from the sample collected at 1,055.7 m depth in hole 10-32-45-1W4. The cores that were sampled were several decades old and deemed to be of poor quality and therefore the analyses that were conducted on the samples are considered minimum grades of potash only.

In March, 2009, a compilation of formation water chemistry data was completed for wells in the area of the Alberta Potash Project. A total of 2,426 wells with formation water chemistry were available and accessed from the Geofluids module of the GeoSCOUTTM software package. A number of wells within the compilation area were identified with >1% up to 8.6% K in formation waters within carbonate hosted aquifers immediately above the Prairie Evaporite. The use of deep formation water geochemistry for potash exploration is a very promising technique, but one that needs more work before the data could be used to pick test holes for Potash in the Prairie Evaporite or as an indicator of carbonate hosted formation waters that could be produced for their K content.

In the summer of 2011, Grizzly commissioned two seismic studies to be performed over two separate areas of interest within the Alberta Potash Project. All existing 2 dimensional (2D) seismic data was purchased and reprocessed to increase data quality. The data was then modelled and correlated to local geology using well bore data. Depth conversion of the data produced structure maps for the tops of the Prairie Evaporite and Winnipegosis Formations and a resultant isopach map for the Prairie Evaporite Formation was produced. The Albert Lake Seismic Study covered a large portion of the Lloydminster Claim Block. The structure maps for both the Prairie Evaporite and Winnipegosis Formations show a regional dip down towards the southwest. The structure maps also indicate the presence of topographical features in both the Prairie Evaporite and Winnipegosis Formations. Both maps show a northeast to southwest structural low centred in Township 49, Range 2W4M and a structurally high nose that is centred in the northwest corner of Township 49, Range 6W4M. The seismic studies resulted in the identification of two proposed drill hole locations, where the Prairie Evaporite Formation was interpreted to have a uniform thickness.

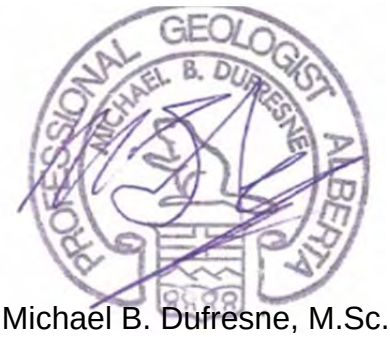
The total cost to complete exploration on the Grizzly Lloydminster Claim Block between 2008 and 2012 was $481,301.12.

10 Recommendations

Based upon the results of the data compilation, evaluation of historic core and seismic study, further potash exploration, including drilling, is strongly recommended on the Lloydminster Claim Block, specifically in the vicinity of well VCO#15, in order to identify further potash zones with higher grades and better thicknesses, which could lead to a maiden resource. Strong consideration should be given to finding an appropriate technique to conduct water sampling of Devonian carbonate hosted aquifers immediately above the Prairie Evaporite Formation in order to compare concentrations of K in the aquifers versus the potash content of the Prairie Evaporite Formation obtained from well intersections.

Consideration should also be given to conducting some preliminary scoping level-type engineering studies in order to ascertain what grade and thickness of an Alberta potash deposit will be required to support a possible future solution mine, based upon the infrastructure that is in place, availability of water and Alberta's favourable tax regime.

A drilling focused program is recommended on the Lloydminster Claim Block of the Alberta Potash Project and should be conducted in two stages. Stage 1 should consist of drilling 1 to 2 wells on the Lloydminster Claim Block. The wells to be drilled should include, but not be limited to locations just northeast of well VCO #15. The budget is comprised of drilling a total of approximately 3,400 m in 2 wells at an average all up per metre cost of $725 per metre for a total cost of $2,465,000 along with $135,000 for assaying, reclamation, and collection and analysis of water samples, yielding a total cost for the Stage 1 program of approximately $2.6 million. If the Stage 1 results are positive, then further drilling will be required as part of Stage 2 to progress the Project to a resource stage along with the appropriate metallurgical work and engineering studies.



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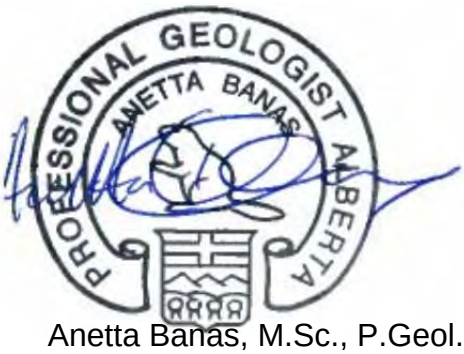

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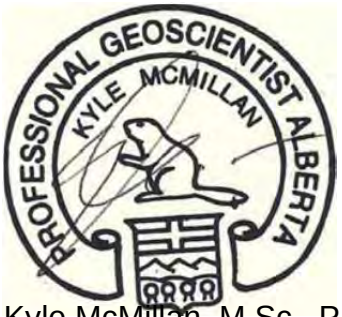

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12 Certificate of Author

I, Michael B. Dufresne, residing at 267 Burton Rd., Edmonton, Alberta, Canada do hereby certify that:

1. I am a principal and President of APEX Geoscience Ltd. ("APEX"), Suite 200, 9797 – 45th Avenue, Edmonton, Alberta, Canada. I am the author of the report entitled: ***"ASSESSMENT REPORT FOR GRIZZLY DISCOVERIES INC'S, NORTH (LLOYDMINSTER) CLAIM BLOCK, ALBERTA POTASH PROJECT, EAST-CENTRAL ALBERTA, North (Lloydminster) Claim Block Permits: 9308110331-9308110357, 9310110389-9310110401 and 9310120521-9310120524"*** dated January 31, 2013, and am responsible for the preparation of the entire report.

2. I graduated with a B.Sc. in geology from University of North Carolina at Wilmington in 1983 and a M.Sc. in Economic Geology from University of Alberta in 1987.

3. I am a Professional Geologist registered with APEGA (Association of Professional Engineers and Geoscientists of Alberta) and a 'Qualified Person' in relation to the subject matter of this report. I have worked as a consulting geologist for more than 20 years since my graduation from university and I have conducted and directed exploration programs, property examinations and evaluations for a number of commodities and deposit types.

4. I have not received, nor do I expect to receive, any interest, directly or indirectly, in the North (Lloydminster) Claim Block or the securities of Grizzly Discoveries Inc.

5. To the best of my knowledge, I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the technical report, the omission to disclose which would make the report misleading.

6. I consent to the filing of the Assessment Report with any regulatory authority. I also authorize publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Assessment Report after the end of one-year confidentiality.

7. I have visited the Property and directed exploration by APEX Geoscience Ltd. at the Property over the last four years on behalf of Grizzly Discoveries Inc.

Michael B. Dufresne, M.Sc., P.Geol.
January 31st, 2013
Edmonton, Alberta, Canada

I, Kyle McMillan, M.Sc., P.Geol., do hereby certify that:

1. I am a geologist employed by: APEX Geoscience Ltd.
   Suite 200, 9797 – 45th Avenue
   Edmonton, Alberta T6E 5V8
   Phone: 780-439-5380

2. I graduated from the University of Manitoba with a B.Sc. (Hons.) in Geology in 2003 and a M.Sc. in Geology in 2006.

3. I am a Professional Geologist registered with APEGA (Association of Professional Engineers and Geoscientists of Alberta) since 2012 and have worked as a geologist for more than four years since my graduation from university.

4. I assisted in the preparation of the Assessment Report titled ***""ASSESSMENT REPORT FOR GRIZZLY DISCOVERIES INC'S, NORTH (LLOYDMINSTER) CLAIM BLOCK, ALBERTA POTASH PROJECT, EAST-CENTRAL ALBERTA, North (Lloydminster) Claim Block Permits: 9308110331-9308110357, 9310110389-9310110401 and 9310120521-9310120524"*** dated January 31, 2013.

5. I am not aware of any scientific or technical information with respect to the subject matter of the Report that is not reflected in the Report, the omission to disclose which makes the Report misleading.

6. I have not received, nor do I expect to receive, any interest, directly or indirectly, in the North (Lloydminster) Claim Block or the securities of Grizzly Discoveries Inc.

7. I consent to the filing of the Assessment Report with any regulatory authority. I also authorize publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Assessment Report after the end of one-year confidentiality.

8. I have not visited the property that is the subject of this Report.

Kyle McMillan, M.Sc., P.Geol.
January 31st, 2013
Edmonton, Alberta, Canada

I, Anetta Banas, do hereby certify that:

1. I am a geologist employed by: APEX Geoscience Ltd.
   Suite 200, 9797 – 45th Avenue
   Edmonton, Alberta T6E 5V8
   Phone: 780-439-5380

2. I am a graduate of the University of Alberta with a BSc Degree in Geology (2002) and a MSc degree in Earth and Atmospheric Sciences (2005) and have practiced my profession continuously since January, 2006.

3. I am a Professional Geologist registered with APEGA (Association of Professional Engineers and Geoscientists of Alberta).

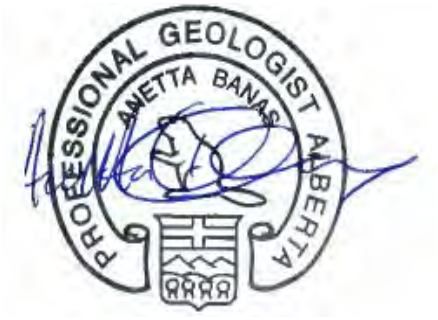
4. I assisted in the preparation of the Assessment Report titled ***"ASSESSMENT REPORT FOR GRIZZLY DISCOVERIES INC'S, NORTH (LLOYDMINSTER) CLAIM BLOCK, ALBERTA POTASH PROJECT, EAST-CENTRAL ALBERTA, North (Lloydminster) Claim Block Permits: 9308110331-9308110357, 9310110389-9310110401 and 9310120521-9310120524"*** dated January 31, 2013.

5. I have not received, nor do I expect to receive, any interest directly or indirectly, in the North (Lloydminster) Claim Block or the securities of Grizzly Discoveries Inc.

6. I am not aware of any material fact or material change with respect to the subject matter of the Report that is not reflected in the Report of the omission to disclose which makes the Report misleading.

7. I consent to the filing of the Assessment Report with any regulatory authority. I also authorize publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Assessment Report after the end of one-year confidentiality.

8. I have not visited the property that is the subject of this Report.



Anetta Banas, MSc., P.Geol.
January 31st, 2013
Edmonton, Alberta, Canada

Appendix 1

North (Lloydminster) Claim Block Metallic and Industrial Mineral Permits

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:21:19 PM

Agreement Number: 093 9308110331

Status: ACTIVE
Agreement Area: 4573.8640
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-01-052: 01SW;02;04;10-12;13SWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 13NWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 14;15NWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 15NEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 16;18;20;21P
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 22;23SEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 23SWP
PORTION(S) SHOWN AS LAKES ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THESURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 23NWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 24;27SEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 27SWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 27NWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 28-30;31P
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 32;33SEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-052: 34

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:20:55 PM

Agreement Number: 093 9308110332

Status: ACTIVE
Agreement Area: 4913.5040
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-01-052: 06

4-02-052: 02;03SEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-02-052: 03SWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-02-052: 04;05NEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-02-052: 06;09SWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-02-052: 10SE,NW,NE;11-12;14;16;18;20;22;24;26NE;28-30;32;34;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:52:27 PM

Agreement Number: 093 9308110333

Status: ACTIVE
Agreement Area: 5639.3400
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-01-052: 26NE;36

4-01-053: 02-4;07SEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-053: 07NWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-053: 07NEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-053: 08SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1907/05/30.

4-01-053: 08NWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1907/05/30.

4-01-053: 09SW;10-12;14;16;18;20;22;24;25P
PORTION(S) DESIGNATED AS NORTH SASKATCHEWAN RIVER ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-053: 26NE;28-32;33NEP
PORTION(S) DESIGNATED AS NORTH SASKATCHEWAN RIVER ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-053: 34;35SEP
PORTION(S) DESIGNATED AS NORTH SASKATCHEWAN RIVER ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-053: 35SWP
PORTION(S) DESIGNATED AS NORTH SASKATCHEWAN RIVER ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-053: 35NWP
PORTION(S) DESIGNATED AS NORTH SASKATCHEWAN RIVER ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-053: 36

4-01-054: 02NWP
PORTION(S) LYING OUTSIDE MAKAOOS INDIAN RESERVE NO. 120.

4-01-054: 02NEP
PORTION(S) LYING OUTSIDE MAKAOOS INDIAN RESERVE NO. 120.

4-01-054: 02SE,SW

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:20:22 PM

Agreement Number: 093 9308110334

Status: ACTIVE
Agreement Area: 4497.5600
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-04-052: 02;04;10-12;14;16;18;19NWP
PORTION(S) DESIGNATED AS LAKE TREMBLE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/01/30.

4-04-052: 19NEP
PORTION(S) DESIGNATED AS LAKE TREMBLE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/01/30.

4-04-052: 20;22;24;26NE;28;30;32;34;36

4-05-052: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:19:58 PM

Agreement Number: 093 9308110335

Status: ACTIVE
Agreement Area: 4932.3600
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-04-052: 06

4-05-052: 02;04;09SW;10-12;14;15NW;16;18;19SWSEP
PORTION(S) DESIGNATED AS SOMERSET LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/08.

4-05-052: 19NWP
PORTION(S) DESIGNATED AS SOMERSET LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/08.

4-05-052: 19NEP
PORTION(S) DESIGNATED AS SOMERSET LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/08.

4-05-052: 20;22;24;28-30;32;34

4-06-052: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:19:31 PM

Agreement Number: 093 9308110336

Status: ACTIVE
Agreement Area: 4842.2800
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-05-052: 06

4-06-052: 02;04;10-12;13NEP
PORTION(S) DESIGNATED AS SOMERSET LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/12.

4-06-052: 14;15NW;16;18;20;22;23SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/12.

4-06-052: 23NWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/12.

4-06-052: 24;27SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/12.

4-06-052: 27SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/12.

4-06-052: 27NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/12.

4-06-052: 28-30;32;34

4-07-052: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:18:55 PM

Agreement Number: 093 9308110337

Status: ACTIVE
Term Date: 2008/11/06
Agreement Area: 4796.0000
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-06-052: 06
4-07-052: 01NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/13.
4-07-052: 02;04;10-12;13SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/13.
4-07-052: 13SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/13.
4-07-052: 13NWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/13.
4-07-052: 14;15SWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/13.
4-07-052: 15NWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/13.
4-07-052: 16;18;20;22;24;28-30;32;34
4-08-052: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:18:26 PM

Agreement Number: 093 9308110338

Status: ACTIVE
Agreement Area: 5272.2400
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-07-052: 06;07SWP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/13.

4-08-052: 01NEP
PORTION(S) DESIGNATED AS LAKE NO. 4 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1909/01/25.

4-08-052: 02;04;06;07SEP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1907/03/25.

4-08-052: 07NWP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1907/03/25.

4-08-052: 07NEP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1907/03/25.

4-08-052: 10-12;14;16;18;19SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1907/03/25.

4-08-052: 19SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1907/03/25.

4-08-052: 20;22;24;27P
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1909/01/25.

4-08-052: 28-30;31SEP
PORTION(S) DESIGNATED AS EMILIEN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA IN 1909/01/25.

4-08-052: 31NWP
PORTION(S) DESIGNATED AS EMILIEN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA IN 1909/01/25.

4-08-052: 31NEP
PORTION(S) DESIGNATED AS EMILIEN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA IN 1909/01/25.

4-08-052: 32;33NWP
PORTION(S) DESIGNATED AS EMILIEN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1907/03/25.

4-08-052: 33NEP
PORTION(S) DESIGNATED AS EMILIEN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1907/03/25.

4-08-052: 34;35SWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1909/01/25.

4-09-052: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:18:02 PM

Agreement Number: 093 9308110339

Status: ACTIVE
Agreement Area: 4435.0400
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-09-052: 02;04;10-12;13P
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/01/28.

4-09-052: 14;16;18;20;22;23NWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/01/28.

4-09-052: 23NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/01/28.

4-09-052: 24;27SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/01/28.

4-09-052: 27NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/01/28.

4-09-052: 28-30;32;34

4-09-053: 05SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 06;07SWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:26:36 AM

Agreement Number: 093 9308110340

Status: ACTIVE
Term Date: 2008/11/06
Agreement Area: 256.0000
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-09-052: 06

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:53:02 PM

Agreement Number: 093 9308110341

Status: ACTIVE
Agreement Area: 4407.1360
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-01-053: 06

4-02-053: 02;04;07P
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-02-053: 10-12;13NEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-02-053: 14;16;18;20;22;24;27NEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-02-053: 28-30;32;34

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:54:03 PM

Agreement Number: 093 9308110342

Status: ACTIVE
Agreement Area: 5056.0000
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-02-053: 06
4-03-053: 02;03NW;04;10-12;14;16;18;20;22;24;26NE;28-30;32;34;36
4-04-053: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:50:44 PM

Agreement Number: 093 9308110343

Status: ACTIVE
Agreement Area: 5109.8400
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-02-053: 26NE;36

4-02-054: 02;04;10-12;13P
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 14;16;18;19SEP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 19SWP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 19NEP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 20;21SEP
PORTION(S) DESIGNATED AS CABIN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 21SWP
PORTION(S) DESIGNATED AS CABIN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054:

21NEP
PORTION(S) DESIGNATED AS CABIN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 22;23SEP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 23NEP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 24;26NESEP
PORTION(S) LYING TO THE NORTH AND EAST OF THE RIGHT BANK OF THESASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THESURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 26SWP
PORTION(S) LYING TO THE NORTH AND EAST OF THE RIGHT BANK OF THESASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THESURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 26NWP
PORTION(S) LYING TO THE NORTH AND EAST OF THE RIGHT BANK OF THESASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THESURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 27NWP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 27NEP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 28-30;31SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 31NWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 32;33SEP
PORTION(S) LYING TO THE SOUTH AND EAST OF THE LEFT BANK OF THE SASKATCHEWAN RIVER AS SHOWN ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYORGENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 33SWP
PORTION(S) LYING TO THE SOUTH AND EAST OF THE LEFT BANK OF THE SASKATCHEWAN RIVER AS SHOWN ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYORGENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 33NWP
PORTION(S) DESIGNATED AS END LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 34;35SWP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN

APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/08/10.

4-02-054: 36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:13:51 PM

Agreement Number: 093 9308110344

Status: ACTIVE
Agreement Area: 4672.0000
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-03-053: 06
4-04-053: 02;04;10-12;14;16;18;20;22;24;28-30;32;34
4-05-053: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:14:32 PM

Agreement Number: 093 9308110345

Status: ACTIVE
Agreement Area: 4879.5600
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-04-053: 06

4-05-053: 01P
PORTION(S) DESIGNATED AS LAKE NO. 5 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053: 02;04;10-12;13SEP
PORTION(S) DESIGNATED AS LAKE NO. 4 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053: 14;15P
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053: 16;18;19NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053: 20;21NEP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053: 22;24;27SWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053: 27NWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053:

28-30;31SEP
PORTION(S) DESIGNATED AS RAFT LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053: 32;33NWP
PORTION(S) DESIGNATED AS RAFT LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053: 33NEP
PORTION(S) DESIGNATED AS RAFT LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-05-053: 34

4-06-053: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:15:08 PM

Agreement Number: 093 9308110346

Status: ACTIVE
Term Date: 2008/11/06
Agreement Area: 4367.6400
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-05-053: 06

4-06-053: 02;04;10-12;14;16;17SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/01.

4-06-053: 18;20;21NEP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/01.

4-06-053: 22;24;28-30;31NEP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/01.

4-06-053: 32;34

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:15:34 PM

Agreement Number: 093 9308110347

Status: ACTIVE
Agreement Area: 4815.2400
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-06-053: 06;31NWP
PORTION(S) DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTH WEST CORNER OF THE SAID QUARTER SECTION, THENCE NORTHERLY FOLLOWING THE WESTERN BOUNDARY OFSAID QUARTER SECTION A DISTANCE OF 120. 70 METRES THENCE EASTERLY ANDPARALLEL TO THE SOUTHERN BOUNDARY OF SAID QUARTER SECTION A DISTANCE OF 100. 58 METRES; THENCE SOUTHERLY AND PARALLEL TO THE WEST BOUNDARY OF THE SAID QUARTER SECTION A DISTANCE OF 120. 70 METRES TO A POINT ON THE SOUTHBOUNDARY OF THE SAID QUARTER SECTION; THENCE WESTERLY ALONG THE SOUTHBOUNDARY OF THE SAID QUARTER SECTION TO THE POINT OF COMMENCEMENT.

4-07-053: 02;04;09SEP
PORTION(S) DESIGNATED AS LAKE NO. 11 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 10-12;13NWP
PORTION(S) DESIGNATED AS LAKE NO. 8 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 13NEP
PORTION(S) DESIGNATED AS LAKE NO. 8 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 14;16;17NEP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 18;19SEP
PORTION(S) DESIGNATED AS LAKE NO. 10 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 19NEP
PORTION(S) DESIGNATED AS LAKE NO. 10 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 20;21NEP
PORTION(S) DESIGNATED AS LAKE NO. 4 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 22;24;25SEP
PORTION(S) DESIGNATED AS LAKE NO. 7 AS SHOWN ON A TOWNSHIP PLAN APPROVEDAND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 25SWP
PORTION(S) DESIGNATED AS LAKE NO. 6 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 25NWP
PORTION(S) DESIGNATED AS LAKE NO. 6 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 25NEP
PORTION(S) DESIGNATED AS LAKE NO. 6 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 26NE;28-30;32;33SWP
PORTION(S) DESIGNATED AS LAKE NO. 9 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 33NWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 33NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-07-053: 34;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:16:08 PM

Agreement Number: 093 9308110348

Status: ACTIVE
Agreement Area: 5743.2800
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-07-053: 06

4-08-053: 02;03SEP
PORTION(S) DESIGNATED AS LAKE EMILIEN ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 03SWP
PORTION(S) DESIGNATED AS LAKE EMILIEN ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 04;05SEP
PORTION(S) DESIGNATED AS LAKE EMILIEN ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 05SWP
PORTION(S) DESIGNATED AS LAKE EMILIEN ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 05NEP
PORTION(S) DESIGNATED AS LAKE EMILIEN ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 05NW;06;07SEP
PORTION(S) DESIGNATED AS LAKE EMILIEN ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 08SEP
PORTION(S) DESIGNATED AS LAKE EMILIEN ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053:

08SWP
PORTION(S) DESIGNATED AS LAKE EMILIEN ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 09SWP
PORTION(S) DESIGNATED AS LAKE EMILIEN ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 10-12;14;15NEP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 16;18;20;22;23SWP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 23NWP
PORTION(S) DESIGNATED AS LAKE HIVON ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 24;26SWP
PORTION(S) DESIGNATED AS LAKE HIVON ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 26NWP
PORTION(S) DESIGNATED AS LAKE HIVON ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 26NE;27SEP
PORTION(S) DESIGNATED AS LAKE HIVON ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 27NEP
PORTION(S) DESIGNATED AS LAKE HIVON ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 28-30;31SWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 31NWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-08-053: 32;34;36

4-09-053: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 4:17:33 PM

Agreement Number: 093 9308110349

Status: ACTIVE
Agreement Area: 4420.3600
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-08-053: 19SWP
PORTION(S) DESIGNATED AS LAKE NO. 4 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/22.

4-09-053: 02;04;10-12;14;15SEP
PORTION(S) DESIGNATED AS LAKE NO. 5 AND LAKE NO. 6 ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 15SWP
PORTION(S) DESIGNATED AS LAKE NO. 6 AND LAKE NO. 7 ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 15NWP
PORTION(S) DESIGNATED AS LAKE NO. 7 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 15NEP
PORTION(S) DESIGNATED AS LAKE NO. 10 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 16;18;19NEP
PORTION(S) DESIGNATED AS LAKE NO. 13 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 20;21SEP
PORTION(S) DESIGNATED AS LAKE NO. 8 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053:

21SWP
PORTION(S) DESIGNATED AS LAKE NO. 9 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 22;23SEP
PORTION(S) DESIGNATED AS LAKE NO. 10 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 23SWP
PORTION(S) DESIGNATED AS LAKE NO. 10 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 24;28-30;31SWP
PORTION(S) DESIGNATED AS LAKE NO. 14 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/12/06.

4-09-053: 32;34

4-09-054: 06

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:51:38 PM

Agreement Number: 093 9308110350

Status: ACTIVE
Agreement Area: 2988.4680
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-01-054: 03SWP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/07/05.

4-01-054: 04;05NWP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/07/05.

4-01-054: 05NEP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/07/05.

4-01-054: 06;07P
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/07/05.

4-01-054: 08SWP
PORTION(S) LYING NORTH OF THE RIGHT BANK OF THE NORTH SASKATCHEWAN RIVER AS SHOWN ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/07/05.

4-01-054: 08SE,NW,NE;10SWP
PORTION(S) LYING OUTSIDE MAKAOOS INDIAN RESERVE NO. 120.

4-01-054: 10NWP
PORTION(S) LYING OUTSIDE MAKAOOS INDIAN RESERVE NO. 120.

4-01-054:

16;18;20;22SWP
PORTION(S) LYING OUTSIDE MAKAOOS INDIAN RESERVE NO. 120.

4-01-054: 22NWP
PORTION(S) LYING OUTSIDE MAKAOOS INDIAN RESERVE NO. 120.

4-01-054: 28-30;32;34SWP
PORTION(S) LYING OUTSIDE MAKAOOS INDIAN RESERVE NO. 120.

4-01-054: 34NWP
PORTION(S) LYING OUTSIDE MAKAOOS INDIAN RESERVE NO. 120.

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:50:09 PM

Agreement Number: 093 9308110351

Status: ACTIVE
Agreement Area: 5363.2400
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-02-054: 06

4-03-054: 02;04;10-12;13P
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 14;15SEP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 15NEP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 16;18;20;22;24;25SEP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 25NEP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 26;27SWP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 27NWP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN

APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 28-30;32;33SEP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 33SWP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 33NWP
PORTION(S) DESIGNATED AS SASKATCHEWAN RIVER ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/06/23.

4-03-054: 34;36

4-04-054: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:49:28 PM

Agreement Number: 093 9308110352

Status: ACTIVE
Agreement Area: 4699.5600
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-03-054: 06

4-04-054: 02;04;10-12;14;16;18;19SEP
PORTION(S) DESIGNATED AS BLACKHORSE LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/07/13.

4-04-054: 19NEP
PORTION(S) DESIGNATED AS BLACKHORSE LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1906/07/13.

4-04-054: 20;22;24;28-30;32;34

4-05-054: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:48:40 PM

Agreement Number: 093 9308110353

Status: ACTIVE
Agreement Area: 4856.6400
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-04-054: 06

4-05-054: 02;04;05SWP
PORTION(S) DESIGNATED AS RAFT LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/06.

4-05-054: 05NWP
PORTION(S) DESIGNATED AS RAFT LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/06.

4-05-054: 05NEP
PORTION(S) DESIGNATED AS RAFT LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/06.

4-05-054: 05SE;06;07NWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/06.

4-05-054: 10-12;14;16;18;20;22;24;27SW;28-30;32;34

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:48:06 PM

Agreement Number: 093 9308110354

Status: ACTIVE
Agreement Area: 5159.1600
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-06-054: 02;04;09SEP
PORTION(S) DESIGNATED AS LAKE NO. 9 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 09NWP
PORTION(S) DESIGNATED AS LAKE NO. 9 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 09NEP
PORTION(S) DESIGNATED AS LAKE NO. 9 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 10-12;13SEP
PORTION(S) DESIGNATED AS LAKE NO. 4 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 14;15SEP
PORTION(S) DESIGNATED AS LAKE NO. 6 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 15NWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 16;17SWP
PORTION(S) DESIGNATED AS LAKE NO. 8 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 17NWP
PORTION(S) DESIGNATED AS LAKE NO. 8 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14. .

4-06-054: 18;20;21SEP
PORTION(S) DESIGNATED AS LAKE NO. 2 AND LAKE NO. 7 ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 21SWP
PORTION(S) DESIGNATED AS LAKE NO. 7 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 21NWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 21NEP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 22;23P
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 24;26NE;27SEP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 28-30;31SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 32;34;35P
PORTION(S) DESIGNATED AS LAKE LOUISE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 36

4-07-054: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:47:33 PM

Agreement Number: 093 9308110355

Status: ACTIVE
Agreement Area: 4293.8800
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-06-054: 05SWP
PORTION(S) DESIGNATED AS LAKE NO. 10 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/07/14.

4-06-054: 06

4-07-054: 02;04;05P
PORTION(S) DESIGNATED AS LAKE COTE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 07SEP
PORTION(S) DESIGNATED AS LAKE COTE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 07NEP
PORTION(S) DESIGNATED AS LAKE COTE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 08SE;09NWP
PORTION(S) DESIGNATED AS LAKE NO. 9 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED AT OTTAWA ON 1905/09/28.

4-07-054: 09NEP
PORTION(S) DESIGNATED AS LAKE NO. 9 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED AT OTTAWA ON 1905/09/28.

4-07-054: 10-12;13SWP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054:

13NWP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 14;16;17SEP
PORTION(S) DESIGNATED AS LAKE NO. 10 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 17SWP
PORTION(S) DESIGNATED AS LAKE NO. 10 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 17NWP
PORTION(S) DESIGNATED AS LAKE NO. 10 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 18;20;22;23SEP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TONWSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 23NEP
PORTION(S) DESIGNATED AS LAKE NO. 5 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 24;28;29SE,SW;32SE,NW,NE;33NWP
PORTION(S) DESIGNATED AS LAKE NO. 7 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 33NEP
PORTION(S) DESIGNATED AS LAKE NO. 7 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/09/28.

4-07-054: 34

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:46:31 PM

Agreement Number: 093 9308110356

Status: ACTIVE
Agreement Area: 5109.7200
Term Date: 2008/11/06
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-07-054: 06

4-08-054: 01NWP
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054: 02;03SEP
PORTION(S) DESIGNATED AS LAKE NO. 4 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054: 03NEP
PORTION(S) DESIGNATED AS LAKE NO. 4 AND LAKE NO. 7 ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054: 04;10-12;13NWP
PORTION(S) DESIGNATED AS LAKE NO. 6 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054: 14;15SEP
PORTION(S) DESIGNATED AS LAKE NO. 6 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054: 15NWP
PORTION(S) DESIGNATED AS LAKE NO. 5 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054: 15NEP
PORTION(S) DESIGNATED AS LAKE NO. 5 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054:

16;18;20;22;23SEP
PORTION(S) DESIGNATED AS LAKE NO. 2 AND LAKE NO. 6 ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054: 23SWP
PORTION(S) DESIGNATED AS LAKE NO. 5 AND LAKE NO. 6 ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054: 24;26NE;28-30;31SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1905/08/17.

4-08-054: 32;34;36

4-09-054: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 25, 2012 3:30:16 PM

Agreement Number: 093 9308110357

Status: ACTIVE
Term Date: 2008/11/06
Agreement Area: 4352.0000
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-08-054: 06
4-09-054: 02;04;10-12;14;16;18;20;22;24;28-30;32;34

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:42:32 AM

Agreement Number: 093 9310110389

Status: ACTIVE
Agreement Area: 9216.0000
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-01-046: 26NE;32;34;36
4-01-047: 02;04;06;10-12;14;16;18;19SE,NE;20;22;24;26NE;28-30;31NE;32;34;35SW;36
4-02-046: 26NE;34;36
4-02-047: 02;04;10-12;14;22;24;26NE;28;34;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:35:55 AM

Agreement Number: 093 9310110390

Status: ACTIVE
Agreement Area: 9206.9600
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-02-046: 32
4-02-047: 06L13P
PORTION(S) LYING OUTSIDE PARADISE VALLEY GRAIN ELEVATOR & STATION HISTORICSITE.
4-02-047: 06L11-L12,L14,SE,SW,NE;16;18;20;29-30;32
4-03-046: 26NE;32;34;36
4-03-047: 02;03NWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/08/15.
4-03-047: 04;06;09SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/08/15.
4-03-047: 09SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/08/15.
4-03-047: 10-12;14;16;18;20;22;24;25NW;26NE;28-30;32;34;36
4-03-048: 04;06
4-04-048: 02;11-12;14

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:34:15 AM

Agreement Number: 093 9310110391

Status: ACTIVE
Agreement Area: 9088.0000
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-01-048: 01L15-L16,NW;02;04;06;07L12-L13,SW;09-12;13NW,NE;14;16;18;20;21NW,NE;22;24;25NW,NE;26NE;28-30;32;34;35SE,NW,NE;36
4-02-048: 02;04;10-12;14;16;20;22;24;26NE;28;34;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:33:28 AM

Agreement Number: 093 9310110392

Status: ACTIVE
Agreement Area: 9192.8800
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-02-048: 06;18;29-30;32
4-02-049: 06
4-03-048: 02;10-12;14;16;18;20;22;23P
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/09/16.
4-03-048: 24;26NE;28-30;32;34;36
4-03-049: 02;04;06;10-12
4-04-048: 24;26NE;36
4-04-049: 02;04;10-12

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:38:53 AM

Agreement Number: 093 9310110393

Status: ACTIVE
Agreement Area: 9119.3600
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-07-048: 02;04;10-12;14;15NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/28.

4-07-048: 15SE,SW;16;17SW,NW;18;20;22;23SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/28.

4-07-048: 24;26NE;27P
PORTION(S) DESIGNATED AS LAKE NO. 4 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/28.

4-07-048: 28-30;32;34;35SEP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/28.

4-07-048: 35SWP
PORTION(S) DESIGNATED AS LAKE NO. 2 AND LAKE NO. 4 ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/28.

4-07-048: 35NWP
PORTION(S) DESIGNATED AS LAKE NO. 2 AND LAKE NO. 4 ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/28.

4-07-048: 35NEP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/28.

4-07-048: 36

4-07-049: 02;04;05SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/28.

4-07-049: 05SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/28.

4-07-049: 06;10-11;14;16;18;19NEP
PORTION(S) DESIGNATED AS LAKE A. ON A TOWNSHIP PLAN APPROVED AND CONFIRMEDBY THE SURVEYOR GENERAL AT OTTAWA ON 1904/02/16.

4-07-049: 20;22;28-30;32;33SWP
PORTION(S) DESIGNATED AS LAKE B. ON A TOWNSHIP PLAN APPROVED AND CONFIRMEDBY THE SURVEYOR GENERAL AT OTTAWA ON 1904/02/16.

4-07-049: 33NWP
PORTION(S) DESIGNATED AS LAKE B. ON A TOWNSHIP PLAN APPROVED AND CONFIRMEDBY THE SURVEYOR GENERAL AT OTTAWA ON 1904/02/16.

4-07-049: 34

4-08-049: 24

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:32:53 AM

Agreement Number: 093 9310110394

Status: ACTIVE
Agreement Area: 9210.1040
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-01-049: 02;03SW,NW;04;06;09NEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-049: 10-12;13SE,SW;14;16;17SWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-049: 17NWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-049: 18;19SEP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-049: 19SWP
PORTION(S) SHOWN AS A LAKE ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1883/05/14.

4-01-049: 19NW;20;22;24;28-30;32;34

4-02-049: 02;04;10-12;14;16;18;20;22;24;26NE;28-29;32;34;36

4-02-050: 04

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:32:11 AM

Agreement Number: 093 9310110395

Status: ACTIVE
Agreement Area: 9176.8000
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-02-049: 30
4-02-050: 06
4-03-049: 14;15SWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/31.
4-03-049: 15NWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/31.
4-03-049: 16;18;20;22;24;26NE;28-30;32;34;36
4-03-050: 06
4-04-049: 14;16;18;20;22;24;26NE;28-30;32;34;36
4-05-049: 14;16;18;20;22;24;26NE;28;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:30:10 AM

Agreement Number: 093 9310110396

Status: ACTIVE
Agreement Area: 8999.9900
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-04-050: 06;18;27SEP
PORTION(S) DESIGNATED AS KENILWORTH LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/04/14.

4-04-050: 27NWP
PORTION(S) DESIGNATED AS KENILWORTH LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/04/14.

4-04-050: 27NEP
PORTION(S) DESIGNATED AS KENILWORTH LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/04/14.

4-04-050: 27SW;28-30;32;34;35SWP
PORTION(S) DESIGNATED AS TWIN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/04/14.

4-04-050: 35NWP
PORTION(S) DESIGNATED AS TWIN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/04/14.

4-05-049: 19NWP
PORTION(S) DESIGNATED AS WAVY LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/02/27.

4-05-049: 19NEP
PORTION(S) DESIGNATED AS WAVY LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/02/27.

4-05-049:

29-30;32;33L13P
PORTION(S) DESIGNATED AS PIPE LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/02/27.

4-05-049: 34

4-05-050: 02;04;05L1P
PORTION(S) DESIGNATED AS PIPE LAKE AS SHOWN ON A TOWNSHIP PLAN APPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/16.

4-05-050: 06;10-12;14;16;17SEP
PORTION(S) DESIGNATED AS CHUBBY LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/16.

4-05-050: 18;20;21L9P
PORTION(S) DESIGNATED AS HERMIT LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/16.

4-05-050: 22;24;27NEP
PORTION(S) DESIGNATED AS HIDDEN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/16.

4-05-050: 28-30;31SEP
PORTION(S) LYING OUTSIDE THE RAILWAY RIGHT OF WAY AS SHOWN ON PLAN 3999R.

4-05-050: 32;34;35SWP
PORTION(S) DESIGNATED AS HIDDEN LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/16.

4-05-050: 36

4-06-049: 26NE;36

4-06-050: 02;11-12;13NWP
PORTION(S) DESIGNATED AS LAWSON LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/04/13.

4-06-050: 23SEP
PORTION(S) DESIGNATED AS LAWSON LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/04/13.

4-06-050: 24

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:30:47 AM

Agreement Number: 093 9310110397

Status: ACTIVE
Agreement Area: 9183.8000
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-06-049: 33NE
4-06-050: 04;06;10;14;16;18;20;22
4-07-050: 02;04;06;10-12;14;16;18;20;22;24
4-08-049: 20;22;26NE;28-30;32;34;36
4-08-050: 01P
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/02/12.
4-08-050: 02;04;06;10-12;14

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:31:42 AM

Agreement Number: 093 9310110398

Status: ACTIVE
Agreement Area: 9208.2600
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-02-050: 16;18;20;28-30;32
4-03-050: 02;04;10-12;14;16;18;20;22;24;28;29L5NWP
PORTION(S) LYING OUTSIDE KITSCOTY PROVINCIAL RECREATION AREA.
4-03-050: 29L3-L4,L5SE,L5SW,L5NE,L6SE,NW,NE;30;32;34;36
4-04-050: 02;04;10-12;14;16;20;21P
PORTION(S) DESIGNATED AS KENILWORTH LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/04/14.
4-04-050: 22;24;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:28:56 AM

Agreement Number: 093 9310110399

Status: ACTIVE
Agreement Area: 9183.0320
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-05-051: 06;30
4-06-050: 28-30;32SEP
PORTION(S) LYING WITHIN THE RAILWAY RIGHT OF WAY AND STATION GROUNDS ASSHOWN ON PLAN 3999R.
4-06-050: 32SWP
PORTION(S) LYING WITHIN THE RAILWAY RIGHT OF WAY AND STATION GROUNDS ASSHOWN ON PLAN 3999R.
4-06-050: 34;36
4-06-051: 01SW,NW;02;04;06L13-L14,NEL11P
PORTION(S) LYING OUTSIDE VERMILION PROVINCIAL PARK.
4-06-051: 06L12P
PORTION(S) LYING OUTSIDE VERMILION PROVINCIAL PARK.
4-06-051: 10-12;14;16;18;20;22;24;26NE;28-30;32;34;36
4-07-050: 28-29;32;34SE,SWNWP
PORTION(S) LYING OUTSIDE VERMILION PROVINCIAL PARK.
4-07-050: 34NEP
PORTION(S) LYING OUTSIDE VERMILION PROVINCIAL PARK.
4-07-050: 36NEP
PORTION(S) LYING OUTSIDE VERMILION PROVINCIAL PARK.
4-07-050: 36SE,SW,NW
4-07-051: 01NE;02NW,NE;04SW,NW,NE;10-12;26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:28:20 AM

Agreement Number: 093 9310110400

Status: ACTIVE
Agreement Area: 9216.0000
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-07-050: 30
4-07-051: 06;14;16;18;20;22;24;28-30;32;34
4-08-050: 16;18;20;22;24;28-30;32;34;36
4-08-051: 02;04;10-11;14SE,NW,NE;16;20;22;24;26NE;28;34;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:29:22 AM

Agreement Number: 093 9310110401

Status: ACTIVE
Agreement Area: 9148.8520
Term Date: 2010/11/01
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-04-051: 02;04;06;10-12;14;16;18;20;22;24;28-30;32;33NW,NE;34
4-05-051: 02;04;10-12;14;16;18;19SE;20;21SWP
PORTION(S) LYING OUTSIDE THE ROADWAY AS SHOWN ON ROAD PLAN 970AU.
4-05-051: 21NWP
PORTION(S) LYING OUTSIDE THE ROADWAY AS SHOWN ON ROAD PLAN 970AU.
4-05-051: 22;24;26SW,NE;27-29;32;34;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:36:31 AM

Agreement Number: 093 9310120521

Status: ACTIVE
Agreement Area: 8196.7200
Term Date: 2010/12/14
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-04-047: 02;04;10-12;14;16;18;20;22;24;26NE;27NWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/08/05.

4-04-047: 27NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 AND LAKE NO. 2 ON A TOWNSHIP PLANAPPROVED AND CONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/08/05.

4-04-047: 28-30;32-34;35SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/08/05.

4-04-047: 35SWP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/08/05.

4-04-047: 36

4-04-048: 03P
PORTION(S) DESIGNATED AS LAKE NO. 3 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/09/26.

4-04-048: 04;06;10;16;18;20;22;28-30;32;34

4-04-049: 03SEP
PORTION(S) DESIGNATED AS LAKE NO. 4 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/04.

4-04-049: 03SWP
PORTION(S) DESIGNATED AS LAKE NO. 4 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/03/04.

4-04-049: 06

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:41:14 AM

Agreement Number: 093 9310120522

Status: ACTIVE
Agreement Area: 7272.2000
Term Date: 2010/12/14
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-05-047: 18NW
4-05-048: 06
4-06-047: 14;16;18;20;22;24;26NE;27P
PORTION(S) DESIGNATED AS ERNEST LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/09/02.
4-06-047: 28-30;32;34;35SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/09/02.
4-06-047: 35SWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/09/02.
4-06-047: 35NWP
PORTION(S) DESIGNATED AS LAKE NO. 2 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/09/02.
4-06-047: 35NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/09/02.
4-06-047: 36
4-06-048: 02;03SEP
PORTION(S) DESIGNATED AS ARCAND LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA IN 1904/09/28.
4-06-048: 03NEP
PORTION(S) DESIGNATED AS ARCAND LAKE ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA IN 1904/09/28.

4-06-048: 04;06;10-12;14;16;18;20;22;24

4-07-047: 24;25SEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/09/28.

4-07-047: 25NEP
PORTION(S) DESIGNATED AS LAKE NO. 1 ON A TOWNSHIP PLAN APPROVED ANDCONFIRMED BY THE SURVEYOR GENERAL AT OTTAWA ON 1904/09/28.

4-07-047: 26NE;36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:37:15 AM

Agreement Number: 093 9310120523

Status: ACTIVE
Agreement Area: 8256.0000
Term Date: 2010/12/14
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-05-048: 02;04;10-12;14;16;18;20-25;26NE;27-30;32-36
4-05-049: 01-5;09-12

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: October 26, 2012 9:38:14 AM

Agreement Number: 093 9310120524

Status: ACTIVE
Agreement Area: 4160.0000
Term Date: 2010/12/14
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8048015
Client Name: APEX GEOSCIENCE LTD.

Address: 9797 45 AVE NW SUITE 200

EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-06-049: 18-25;28-30;32;34
4-07-049: 12;24;26NE;36

METALLIC AND INDUSTRIAL MINERALS

Appendix 2

Wells into the Prairie Evaporite Formation

Appendix 2

Wells Intersecting the Prairie Evaporite

Unique Well ID	LSD	Section	Township	Range	Meridian	Well Number	Latitude NAD27	Longitude NAD27	Government KB Elevation (m)	Logs KB Elevation (m)	Government Ground Level (m)	Total Depth (m)	Notes	Located On Alberta Potash Project	Core in Prairie Evaporite Formation	Core Comments	Gamma Logs
100/01-13-057-05W4/00	1	13	57	5	4	1	53.92	-110.60	664.8	665.0	660.5	0.0		No	Yes	Cored, but gamma indicates no potash (we can examine cores to be sure)	Yes
100/01-24-020-11W4/00	1	24	20	11	4	1	50.71	-111.39	755.7	755.5	751.3	0.0		No	No		No
100/01-24-050-11W4/00	1	24	50	11	4	1	53.32	-111.47	653.8	652.9	651.1	0.0		No	No		Yes
100/01-26-056-05W4/00	1	26	56	5	4	1	53.86	-110.63	577.1	577.5	573.3	0.0		No	No		Yes
100/01-33-037-03W4/00	1	33	37	3	4	1	52.22	-110.36	737.6	737.6	734.6	2126.6		Wainwright Block	No		No
100/02-04-015-11W4/00	2	4	15	11	4	1	50.22	-111.46	749.0	749.0	744.6	0.0		No	No		Yes
100/02-19-053-01W4/00	2	19	53	1	4	1	53.59	-110.14	610.8	610.3	607.3	1140.0		Lloydminster Block	No		Yes
100/02-21-057-05W4/00	2	21	57	5	4	1	53.94	-110.68	632.8	632.8	630.3	0.0		No	Yes	Cored, but gamma indicates no potash (we can examine cores to be sure)	Yes
100/02-22-015-01W4/00	2	22	15	1	4	1	50.27	-110.06	817.2	817.3	813.8	1743.2		South Block	No		No
100/03-10-047-04W4/00	3	10	47	4	4	1	53.03	-110.51	657.5	657.5	653.8	1362.5		Lloydminster Block	No		Yes
100/03-14-057-06W4/00	3	14	57	6	4	1	53.92	-110.79	566.3	566.3	563.9	0.0		No	No		No
100/03-15-027-08W4/00	3	15	27	8	4	1	51.30	-111.05	795.2	795.8	791.6	0.0		No	No		Yes
100/03-27-013-09W4/00	3	27	13	9	4	1	50.11	-111.16	771.1	771.4	767.8	0.0		No	No		No
100/03-32-015-05W4/00	3	32	15	5	4	1	50.30	-110.66	723.3	723.3	719.0	1720.0		No	No		Yes
100/04-01-028-11W4/00	4	1	28	11	4	1	51.36	-111.43	803.5	803.3	799.2	0.0		No	No		Yes
100/04-11-055-02W4/00	4	11	55	2	4	1	53.73	-110.20	579.4	579.4	576.4	1371.6		No	No		Yes
100/04-18-038-01W4/00	4	18	38	1	4	1	52.26	-110.14	696.2	696.2	691.9	1585.0	Elk Point and Watt Mntn picked at different depths (!?); well was deepened in 2004	No	No		Yes
100/04-26-056-05W4/00	4	26	56	5	4	1	53.87	-110.64	531.9	531.9	526.4	0.0		No	No		Yes
100/05-01-017-14W4/00	5	1	17	14	4	1	50.40	111.81	751.6	751.6	747.7	2219.2		No	Yes	Cores have been examined	Yes
100/05-02-020-03W4/00	5	2	20	3	4	1	50.66	-110.33	729.9	730.0	725.9	2195.0		No	No		Yes
100/05-11-020-06W4/00	5	11	20	6	4	1	50.68	-110.74	793.1	793.1	788.5	2231.1		No	No		Yes
100/05-26-056-05W4/00	5	26	56	5	4	1	53.87	-110.64	526.7	526.5	523.3	0.0		No	Yes	Cored, but gamma indicates no potash (we can examine cores to be sure)	Yes
100/05-32-017-02W4/00	5	32	17	2	4	1	50.48	-110.25	802.5	802.4	797.9	1717.0		No	No		No
100/06-01-019-07W4/02	6	1	19	7	4	1	50.58	-110.85	791.9	792.5	787.6	1786.1		No	No		Yes
100/06-05-048-06W4/02	6	5	48	6	4	1	53.11	-110.85	703.5	703.5	699.5	1405.1	Well may actually end in the Winnipegosis Fm; gamma peaks seem to be shale beds, based on other logs	Lloydminster Block	No		Yes
100/06-09-031-01W4/02	6	9	31	1	4	1	51.64	-110.09	734.3	734.3	730.0	2191.2		No	No		Yes
100/06-12-049-06W4/00	6	12	49	6	4	1	53.21	-110.75	604.4	604.4	602.9	1228.6	VCO # 15 well; cores in sad shape; put this well under well code #1, though it could easilly be called #5; logs poor, only has resistivity and SP and they end above the E.P Group	Lloydminster Block	Yes	Cores have been examined (has a re-entry well)	No
100/06-12-053-04W4/00	6	12	53	4	4	1	53.56	-110.47	599.9	600.2	596.2	1105.0		Lloydminster Block	No		Yes
100/06-14-046-09W4/00	6	14	46	9	4	1	52.97	-111.20	704.7	704.7	701.3	2058.0	Well goes to basement; GeoScout picks seem fine, but logs are very low quality	No	No		No
100/06-19-054-04W4/00	6	19	54	4	4	1	53.68	-110.59	613.3	613.3	609.6	1362.5		Lloydminster Block	No		Yes
100/06-24-053-05W4/00	6	24	53	5	4	1	53.59	-110.61	627.3	627.3	625.1	946.4	Licence date is 1952	Lloydminster Block	No		No
100/06-25-019-04W4/00	6	25	19	4	4	1	50.64	-110.43	665.7	666.2	661.7	1691.6		No	No		Yes
100/06-27-045-03W4/00	6	27	45	3	4	1	52.91	-110.36	648.3	648.3	644.3	1316.7		Wainwright Block	No		Yes
100/06-28-016-05W4/02	6	28	16	5	4	1	50.37	-110.64	747.7	749.2	744.6	1772.4		No	No		No
100/06-28-018-05W4/00	6	28	18	5	4	1	50.55	-110.64	701.1	702.0	697.1	1700.0		No	No		Yes
100/06-28-042-02W4/03	6	28	42	2	4	1	52.64	-110.24	661.2	661.0	656.6	1944.0		Wainwright Block	No		No
100/06-29-055-03W4/00	6	29	55	3	4	1	53.78	-110.42	592.0	592.0	588.1	835.0	Water disposal well	No	No		No
100/06-30-016-06W4/02	6	30	16	6	4	1	50.37	-110.82	758.6	0.0	755.6	1761.7		No	No		Yes
100/06-30-019-07W4/02	6	30	19	7	4	1	50.64	-110.97	807.1	807.7	802.8	2269.2		No	No		Yes
100/06-30-019-09W4/00	6	30	19	9	4	1	50.64	-111.24	814.4	814.4	810.5	0.0		No	No		Yes
100/06-36-018-05W4/00	6	36	18	5	4	1	50.56	-110.57	658.1	658.7	654.1	1664.2		No	No		Yes
100/06-36-019-01W4/00	6	36	19	1	4	1	50.65	-110.02	646.6	647.0	740.8	2231.0	See core notes	South Block	Yes	Core is almost certainly BELOW the PE Fm (though geoSCOUT has it listed as being at the base of PE Fm / top of Winnipgosis), and is definitely well below the potash interval	Yes
100/07-01-045-03W4/00	7	1	45	3	4	1	52.85	-110.30	662.0	662.0	658.4	1330.5	All gamma peaks are small except 1147.9-1149.1 m. Small peaks don't look like shale, but certainly not great potash beds either	Wainwright Block	No		Yes
100/07-01-047-05W4/00	7	1	47	5	4	1	53.02	-110.60	591.6	591.6	587.7	1246.6		No	No		Yes
100/07-01-051-04W4/00	7	1	51	4	4	1	53.37	-110.46	663.9	663.9	659.9	1243.6		Lloydminster Block	No		Yes
100/07-02-028-04W4/00	7	2	28	4	4	1	51.36	-110.46	765.7	765.6	761.9	2240.0		No	No		Yes
100/07-02-036-08W4/00	7	2	36	8	4	1	52.06	-111.04	786.7	786.7	783.0	1693.2		No	No		Yes
100/07-07-045-03W4/00	7	7	45	3	4	1	52.86	-110.42	748.3	748.4	744.0	1257.3	Logs and well tickets disagree on picks (ticket picks are shown here)	Wainwright Block	No		No
100/07-07-049-03 W4/00	7	7	49	3	4	1	53.21	-110.43	696.2	696.2	692.5	1292.4		Lloydminster Block	No		Yes
100/07-11-019-05W4/00	7	11	19	5	4	1	50.59	-110.59	661.1	661.4	656.8	2132.1	Gamma logs on different master logs are off by about 2 m (I went with the one on the sonic)	No	No		Yes
100/07-11-055-09W4/00	7	11	55	9	4	1	53.73	-111.23	655.6	655.6	651.7	1066.8		No	No		No
100/07-12-022-01W4/00	7	12	22	1	4	1	50.85	-110.01	666.9	666.8	662.6	1764.2	Caliper doesn't change much: so either oil based mud, or not evaporites; peaks are abnormally broad	South Block	No		Yes
100/07-14-057-06W4/00	7	14	57	6	4	1	53.92	-110.78	604.7	604.1	601.1	0.0		No	No		Yes
100/07-15-040-02W4/00	7	15	40	2	4	1	52.44	-110.21	677.3	677.3	673.0	1517.0		Wainwright Block	No		Yes
100/07-18-019-03W4/00	7	18	19	3	4	1	50.61	-110.41	698.1	698.5	693.7	1734.0	Other small blips in the PE Fm logs are likely shale beds	No	No		Yes
100/07-22-017-05W4/00	7	22	17	5	4	1	50.45	-110.61	631.9	632.2	628.0	1645.0		No	No		Yes
100/07-23-048-11W4/00	7	23	48	11	4	1	53.15	-111.50	710.2	710.2	706.5	0.0		No	No		Yes
100/07-26-021-11W4/00	7	26	21	11	4	1	50.81	-111.42	730.0	731.2	726.3	0.0		No	No		Yes
100/07-26-056-05W4/00	7	26	56	5	4	1	53.87	-110.63	560.8	560.8	558.4	0.0		No	No		No
100/07-29-017-06W4 /03	7	29	17	6	4	1	50.46	-110.79	766.8	767.7	762.9	1754.0		No	No		Yes
100/07-31-016-08W4/00	7	31	16	8	4	1	50.39	-111.09	807.5	808.0	802.4	0.0		No	No		Yes
100/07-31-051-05W4/00	7	31	51	5	4	1	53.44	-110.73	625.4	625.8	622.1	1356.4	Gamma peak doesn't look like shale, but certainly not a great potash bed either	Lloydminster Block	No		Yes
100/07-33-049-05W4/00	7	33	49	5	4	1	53.27	-110.67	659.3	659.3	655.3	1288.7	Gamma peak doesn't exactly look like shale, but certainly not a great potash bed either	Lloydminster Block	No		Yes
100/08-01-019-04W4/00	8	1	19	4	4	1	50.58	-110.42	698.0	698.0	693.4	1720.0		No	No		Yes
100/08-08-020-09W4/00	8	8	20	9	4	1	50.68	-111.21	776.2	776.8	772.2	0.0		No	No		No
100/08-09-053-03W4/00	8	9	53	3	4	1	53.56	-110.38	591.2	591.7	587.7	1400.0	Core is almost certainly well below the potash interval	Lloydminster Block	Yes	Core is almost certainly below the potash interval	Yes
100/08-12-053-04W4/00	8	12	53	4	4	1	53.56	-110.45	600.5	600.5	596.5	1475.5		Lloydminster Block	No		No
100/08-14-040-03W4/02	8	14	40	3	4	1	52.44	-110.32	701.7	702.7	698.1	1500.0		Wainwright Block	No		No
100/08-17-020-04W4/00	8	17	20	4	4	1	50.69	-110.51	740.4	740.7	736.1	2204.6	Geoscout pics are way off	No	No		Yes
100/08-21-018-05W4/00	9	21	18	5	4	1	50.54	-110.63	660.3	660.6	656.4	1650.0	SP is really acting up	No	No		Yes
100/08-22-019-05W4/00	8	22	19	5	4	1	50.62	-110.61	748.9	750.1	744.9	1762.0		No	No		Yes
100/08-23-010-09W4/00	8	23	10	9	4	1	49.83	-111.11	829.1	829.5	825.1	0.0		No	Yes	Cored, but gamma indicates no potash (we can examine cores to be sure)	Yes
100/08-23-017-04W4/00	8	23	17	4	4	1	50.45	-110.44	754.7	754.7	750.7	1785.0		No	No		Yes
100/08-30-046-02W4/00	8	30	46	2	4	1	52.99	-110.27	638.3	638.3	636.1	1058.3		No	No		No
100/08-31-043-02W4/00	8	31	43	2	4	1	52.75	-110.27	626.7	626.7	623.6	1159.8		Wainwright Block	No		No
100/08-33-046-04W4/00	8	33	46	4	4	1	53.01	-110.52	655.6	655.6	652.0	1694.7	Gamma log is fairly active, but doesn't seem to show any significant potash beds	No	No		Yes
100/09-27-015-08W4/00	9	27	15	8	4	1	50.29	-111.02	755.2	755.0	751.2	0.0		No	No		Yes
100/09-33-040-07W4/00	9	33	40	7	4	1	52.49	-110.94	694.3	694.6	690.7	1468.5		No	No		Yes

Appendix 2

Wells Intersecting the Prairie Evaporite

Unique Well ID	LSD	Section	Township	Range	Meridian	Well Number	Latitude NAD27	Longitude NAD27	Government KB Elevation (m)	Logs KB Elevation (m)	Government Ground Level (m)	Total Depth (m)	Notes	Located On Alberta Potash Project	Core in Prairie Evaporite Formation	Core Comments	Gamma Logs
100/10-01-017-08W4/00	10	1	17	8	4	1	50.41	-110.98	754.2	754.2	750.5	0.0		No	No		Yes
100/10-03-012-04W4/00	10	3	12	4	4	1	49.97	-110.47	766.6	767.1	762.6	1765.0		No	No		Yes
100/10-03-049-06W4/00	10	3	49	6	4	1	53.20	-110.79	655.0	655.0	651.7	1822.1	Gamma log indicates vast potash deposit with some halite beds	Lloydminster Block	No		Yes
100/10-03-051-07W4/00	10	3	51	7	4	1	53.38	-110.95	621.5	621.5	617.5	1402.1		Lloydminster Block	No		Yes
100/10-04-019-11W4/00	10	4	19	11	4	1	50.58	-111.47	773.0	773.0	769.0	0.0		No	No		No
100/10-06-015-08W4/00	10	6	15	8	4	1	50.23	-111.09	737.7	738.0	733.7	0.0		No	No		Yes
100/10-07-001-08W4/00	10	7	1	8	4	1	49.02	-111.06	1082.6	1082.9	1079.0	0.0		No	No		No
100/10-09-050-11W4/00	10	9	50	11	4	1	53.30	-111.55	664.8	664.8	661.1	0.0		No	No		No
100/10-13-040-05W4/00	10	13	40	5	4	1	52.44	-110.59	684.6	684.6	680.6	1301.9		No	No		No
100/10-15-042-11W4/00	10	15	42	11	4	1	52.62	-111.50	691.6	691.3	687.9	0.0		No	No		Yes
100/10-15-049-01W4/00	10	15	49	1	4	1	53.23	-110.06	667.5	667.6	664.5	1782.2	Used GeoScout pick for Watt Mountain thickness	Lloydminster Block	No		Yes
100/10-15-051-06W4/00	10	15	51	6	4	1	53.40	-110.80	629.1	629.0	625.1	1809.0	Logs and well tickets disagree on Elk Point pick (ticket picks are shown here)	Lloydminster Block	No		Yes
100/10-15-053-01W4/00	10	15	53	1	4	1	53.58	-110.06	566.9	567.0	563.3	1095.8		Lloydminster Block	No		Yes
100/10-16-027-08W4/00	10	16	27	8	4	1	51.31	-111.07	792.7	791.4	788.4	0.0		No	No		No
100/10-17-054-05W4/00	10	17	54	5	4	1	53.67	-110.70	640.4	640.4	636.7	1407.3		Lloydminster Block	No		Yes
100/10-18-026-02W4/00	10	18	26	2	4	1	51.22	-110.27	762.6	762.3	758.6	1708.4	Gamma header not totally clear; I think the API scale goes from 0 to 150, though the other standard scales (100 and 120) would mean the grades are even higher)	South Block	No		Yes
100/10-21-013-11W4/00	10	21	13	11	4	1	50.10	-111.45	751.0	757.1	747.1	0.0		No	No		Yes
100/10-28-007-11W4/00	10	28	7	11	4	1	49.59	-111.43	857.7	857.6	853.4	1724.3	Logs do cross the right depths, but I see no sign of the normal signitures (esp. gamma) in these logs	No	No		Yes
100/10-29-008-10W4/00	10	29	8	10	4	1	49.68	-111.32	848.6	848.9	844.9	2083.6	Logs do cross the right depths, but I see no sign of the normal signitures (esp. gamma) in these logs	No	No		Yes
100/10-30-045-03W4/00	10	30	45	3	4	1	52.91	-110.42	656.2	656.2	651.4	1125.3		Wainwright Block	No		No
100/10-32-045-01W4/00	10	32	45	1	4	1	52.92	-110.11	630.9	631.0	628.2	1336.5		No	Yes	Cores have been examined	Yes
100/10-33-040-07W4/03	10	33	40	7	4	1	52.49	-110.95	698.9	698.9	694.9	1485.6	This well was later converted into gas-storage and effluent disposal	No	Yes	Cores have been examined	Yes
100/10-36-016-08W4/00	10	36	16	8	4	1	50.39	-110.97	778.5	778.0	773.9	0.0		No	No		Yes
100/11-02-051-08W4/02	11	2	51	8	4	1	53.38	-111.08	624.8	625.0	621.2	1089.1	Well was deepened in 1961	Lloydminster Block	No		No
100/11-05-015-06W4/00	11	5	15	6	4	1	50.23	-110.80	762.0	761.7	757.7	1750.0		No	No		Yes
100/11-13-015-09W4/00	11	13	15	9	4	1	50.26	-111.12	756.5	757.0	751.4	0.0		No	No		No
100/11-14-018-08W4/00	11	14	18	8	4	1	50.52	-111.00	789.0	789.3	785.1	0.0		No	No		No
100/11-18-018-08W4/00	11	18	18	8	4	1	50.52	-111.10	797.8	797.1	793.9	0.0		No	No		Yes
100/11-19-050-06W4/00	11	19	50	6	4	1	53.33	-110.88	624.2	624.4	621.2	1827.6		Lloydminster Block	No		Yes
100/11-20-016-04W4/00	11	20	16	4	4	1	50.36	-110.52	753.5	753.0	749.8	0.0		No	No		Yes
100/11-20-016-07W4/00	11	20	16	7	4	1	50.36	-110.93	774.9	775.0	769.8	2208.0	PE Fm seems shaley	No	No		Yes
100/11-20-037-01W4/00	11	20	37	1	4	1	52.20	-110.11	693.4	694.0	691.0	1555.1		No	No		Yes
100/11-21-054-01W4/00	11	21	54	1	4	1	53.68	-110.10	600.2	600.2	596.6	1211.6		Lloydminster Block	No		Yes
100/11-22-016-08W4/00	11	22	16	8	4	1	50.36	-111.02	767.5	769.0	765.0	0.0		No	No		No
100/11-22-049-11W4/00	11	22	49	11	4	1	53.24	-111.53	671.5	671.5	671.5	0.0		No	No		No
100/11-25-024-02W4/00	11	25	24	2	4	1	51.08	-110.16	740.9	741.3	737.6	1675.0	Gamma spikes corespond to small sonic lows, which are probably due to carnalite	South Block	No		Yes
100/11-35-038-10W4/00	11	35	38	10	4	1	52.31	-111.33	766.3	766.3	762.3	0.0		No	Yes	Cored, but gamma indicates no potash (we can examine cores to be sure)	Yes
100/11-35-055-04W4/02	11	35	55	4	4	1	53.80	-110.49	627.6	627.1	624.0	824.0		No	No		No
100/12-07-015-07W4/00	12	7	15	7	4	1	50.25	-110.96	718.6	718.0	714.0	1675.0		No	No		Yes
100/12-12-015-07W4/00	12	12	15	7	4	1	50.25	-110.85	717.3	717.1	713.0	2152.0	Based on the sonic log, the whole PE Fm seems to be super dirty (shaley)	No	No		Yes
100/12-13-051-08W4/00	12	13	51	8	4	1	53.40	-111.06	652.3	652.3	650.4	1103.4	Logs I have don't extend to PE Fm.	Lloydminster Block	No		No
100/12-19-014-04W4/00	12	19	14	4	4	1	50.19	-110.55	740.3	743.1	735.7	2215.8		No	No		Yes
100/12-21-015-08W4/00	12	21	15	8	4	1	50.27	-111.06	747.5	747.0	742.4	0.0		No	No		No
100/12-26-056-02W4/00	12	26	56	2	4	1	53.87	-110.20	661.7	661.7	656.7	0.0		No	No		Yes
100/12-29-015-08W4/00	12	29	15	8	4	1	50.29	-111.08	755.6	757.0	751.6	0.0		No	No		No
100/12-32-001-04W4/00	12	32	1	4	4	1	49.08	-110.51	914.4	914.4	910.4	0.0		No	No		No
100/13-03-001-08W4/00	13	3	1	8	4	1	49.01	-111.01	1064.5	1064.0	1060.6	0.0		No	No		No
100/13-11-018-11W4/00	13	11	18	11	4	1	50.51	-111.42	765.4	765.4	761.0	0.0		No	No		No
100/13-25-003-02W4/00	13	25	3	2	4	1	49.24	-110.16	949.0	949.0	944.2	2021.0	Logs do cross the right depths, but I see no sign of the normal signitures (esp. gamma) in these logs	No	No		Yes
100/13-28-039-03W4/00	13	28	39	3	4	1	52.39	-110.38	668.1	668.1	664.5	1281.1		Wainwright Block	No		No
100/13-36-051-07W4/00	13	36	51	7	4	1	53.45	-110.91	629.1	629.1	625.1	1041.2		Lloydminster Block	No		No
100/14-11-053-10W4/00	14	11	53	10	4	1	53.57	-111.37	627.6	627.6	624.5	0.0		No	No		No
100/14-12-016-06W4/00	14	12	16	6	4	1	50.34	-110.71	695.9	696.0	691.6	1761.7		No	No		Yes
100/14-12-048-02W4/00	14	12	48	2	4	1	53.13	-110.17	669.6	669.6	666.3	1034.2	I don't think the GeoScout pics are correct; I think the well ends before the PE Fm.	Lloydminster Block	No		No
100/14-17-015-06W4/00	14	17	15	6	4	1	50.26	-110.80	715.1	715.7	712.0	1698.7		No	No		Yes
100/14-28-055-06W4/02	14	28	55	6	4	1	53.79	-110.84	673.0	673.1	668.0	1398.0		No	No		Yes
100/14-29-052-02W4/00	14	29	52	2	4	1	53.52	-110.27	636.7	636.4	633.1	1677.0		Lloydminster Block	Yes	Cores have been examined	No
100/14-30-042-09W4/00	14	30	42	9	4	1	52.65	-111.29	639.8	639.6	635.5	1467.6		No	No		Yes
100/14-32-019-04W4/00	14	32	19	4	4	1	50.66	-110.53	708.1	708.7	704.1	1734.0		No	No		Yes
100/14-36-020-01W4/00	14	36	20	1	4	1	50.74	-110.02	727.5	727.5	723.2	1704.0	First peak has a broad base; well was converted to H2O disposal in 1997, but the new logs look different	South Block	No		Yes
100/15-07-013-04W4/00	15	7	13	4	4	1	50.08	-110.53	714.1	714.1	709.7	1701.2		No	No		Yes
100/15-14-015-06W4/00	15	14	15	6	4	1	50.26	-110.72	702.3	703.2	699.2	1690.4	Has a gamma log, but it's very straightà a little too straight if you ask me.	No	No		No
100/15-34-043-10W4/00	15	34	43	10	4	1	52.75	-111.36	672.5	672.6	667.9	0.0		No	No		Yes
100/16-03-030-09W4/00	16	3	30	9	4	1	51.55	-111.18	770.5	770.5	766.9	0.0		No	No		Yes
100/16-22-036-09W4/00	16	22	36	9	4	1	52.11	-111.20	795.2	795.2	791.9	1787.7		No	No		No
100/16-27-048-06W4/00	16	27	48	6	4	1	53.17	-110.79	655.6	655.6	652.6	1110.4	Logs very unclear, wouldn't trust the GeoScout pick for the PE Fm top; no headers on logs	Lloydminster Block	No		No
100/16-28-056-08W4/00	16	28	56	8	4	1	53.87	-111.12	630.0	630.0	626.4	0.0		No	No		Yes
100/16-29-001-11W4/00	16	29	1	11	4	1	49.07	-111.43	983.0	983.0	979.0	0.0		No	No		No
100/16-30-013-07W4/00	16	30	13	7	4	1	50.12	-110.94	783.3	783.3	779.4	1749.6	Very thin (3 m) salt interval; if there is potash, it's within a very very thin interval	No	No		Yes
100/16-33-040-07W4/00	16	33	40	7	4	1	52.49	-110.95	694.0	694.0	690.1	1488.0		No	No		Yes
102/02-13-057-05W4/00	2	13	57	5	4	2	53.92	-110.61	665.7	665.7	660.9	0.0		No			Yes
102/03-30-017-11W4/00	3	30	17	11	4	2	50.46	-111.51	754.2	754.2	749.8	0.0		No	No		No
102/06-07-019-08W4/00	6	7	19	8	4	2	50.59	-111.10	802.8	803.8	798.6	0.0		No	No		No
102/06-11-015-06W4/00	6	11	15	6	4	2	50.24	-110.73	712.9	712.9	709.3	1703.8		No	No		Yes
102/06-18-046-06W4/00	6	18	46	6	4	2	52.96	-110.87	675.7	676.0	671.8	1389.9		No	No		No
102/06-26-015-07W4/02	6	26	15	7	4	2	50.29	-110.87	707.2	706.8	702.9	1679.4	Based on the sonic log, the whole PE Fm seems to be super dirty (shaley)	No	No		Yes

Appendix 2

Wells Intersecting the Prairie Evaporite

Unique Well ID	LSD	Section	Township	Range	Meridian	Well Number	Latitude NAD27	Longitude NAD27	Government KB Elevation (m)	Logs KB Elevation (m)	Government Ground Level (m)	Total Depth (m)	Notes	Located On Alberta Potash Project	Core in Prairie Evaporite Formation	Core Comments	Gamma Logs
102/06-30-018-08W4/00	6	30	18	8	4	2	50.55	-111.10	799.8	800.4	795.5	0.0		No	No		No
102/11-08-036-02W4/00	11	8	36	2	4	2	52.08	-110.26	723.1	722.9	718.4	1595.0		No	No		Yes
102/11-23-047-10W4/00	11	23	47	10	4	2	53.07	-111.36	710.5	710.2	706.5	0.0		No	No		No
102/12-26-056-05W4/00	12	26	56	5	4	2	53.87	-110.64	534.6	534.3	529.1	0.0		No	No		Yes
102/14-18-017-11W4/00	14	18	17	11	4	2	50.44	-111.51	750.9	0.0	746.4	0.0		No	No		Yes
102/15-33-040-07W4/00	15	33	40	7	4	2	52.49	-110.95	699.3	699.2	694.4	1495.0		No	No		Yes
103/09-30-042-09W4/00	9	30	42	9	4	3	52.65	-111.28	653.1	652.9	648.6	0.0		No	No		No
103/15-30-042-09W4/00	15	30	42	9	4	3	52.65	-111.29	647.9	647.6	643.9	0.0		No	No		No
103/16-23-056-05W4/00	16	23	56	5	4	3	53.86	-110.63	574.3	575.5	570.9	0.0		No	No		Yes
104/07-27-056-05W4/00	7	27	56	5	4	4	53.87	-110.65	533.0	533.3	529.2	0.0		No	No		No
104/10-30-042-09W4/00	10	30	42	9	4	4	52.65	-111.28	644.0	644.0	639.1	0.0		No	Yes	Cores have been examined	No
1A0/12-15-050-02W4/00	12	15	50	2	4	1	53.32	-110.22	697.1	697.2	695.6	1041.2	Cores are highly degraded; only SP and resistivity logs present (both extremely poor quality and do not extend to E.P. Group)	No	Yes	Cores have been examined	No
1W0/13-12-029-11W4/00	13	12	29	11	4	0	51.47	-111.43	758.0	758.6	754.7	0.0		No	No		Yes

Appendix 3

Known Potash Occurrences

Appendix 3
Known Potash Occurances

										CORE DATA:						LOG DATA:														
Well Name	Government KB Elevation (m)	Government Ground Level (m)	LSD	Section	Township	Range	Well Number	Latitude NAD27	Longitude NAD27	TOP (depth)	BOTTOM (depth)	TOP A.S.L.	BOTTOM A.S.L.	Thickness	Lab Grade	TOP (depth)	BOTTOM (depth)	TOP A.S.L.	BOTTOM A.S.L.	Thickness	Gamma Units	API x m2 (calibration)	Pixels	1 px = ... API x M2	K-factor	Peak Size (px)	API x m integral	Log Grade (%K20)	Located on Alberta Potash Project	Notes	Reference
ENERMARK MEDHAT 10-3-12-4	766.6	762.6	10	3	12	4		49.97117	-110.46547							1674.5	1675.6	-903.9	-905.0	1.1	API	3750	27664	0.135555	0.1055	587	79.570922	**7.6**	No		well logs
ENERPLUS PCP MEDICINE HAT 15-7-13-4	714.1	709.7	15	7	13	4		50.07648	-110.53478							1625.8	1627.8	-907.3	-909.3	2.0	API	3750	26568	0.141147	0.1055	160	22.583559	**1.2**	No	weak or questionable peak	well logs
CHEVRON MEDHAT 16-30-13-7	783.3	779.4	16	30	13	7		50.11889	-110.93939							1673.3	1674.0	-886.1	-886.8	0.7	API	3750	25544	0.146806	0.1055	60	8.808331	**1.3**	No	weak or questionable peak	well logs
RICHFIELD-SHELL-RAPID NARROWS-11-20	753.5	749.8	11	20	16	4		50.36261	-110.52222							1666.2	1666.7	-909.0	-909.5	0.5	? Units not shown								No	weak or questionable peak	well logs
RICHFIELD-SHELL-RAPID NARROWS-11-20	753.5	749.8	11	20	16	4		50.36261	-110.52222							1668.0	1669.2	-910.8	-912.0	1.2	? Units not shown								No	weak or questionable peak	well logs
RICHFIELD-SHELL-RAPID NARROWS-11-20	753.5	749.8	11	20	16	4		50.36261	-110.52222							1672.9	1674.0	-915.7	-916.8	1.1	? Units not shown								No	weak or questionable peak	well logs
IMP CALSTAN LAKE NEWELL 5-1-17-14	751.6	747.7	5	1	17	14		50.40286	-111.81067	1749.0	1759.0	-993.5	-1003.5	10.0		1750.0	1761.2	-994.5	-1005.7	11.2	? No header								No	traces of potash (carnalite veins) from about 1749-1759 m; also apperant in logs;	core, well logs
DEML MEDHAT 6-36-19-1	746.6	740.8	6	36	19	1		50.65043	-110.02022							1660.5	1661.5	-908.1	-909.1	1.0	API	1500	36890	0.040661	0.1055	4207	171.062619	**18.0**	South Block	ranges from 14.5 to 21.6 using constants for carnalite and sylvite respectively; did on paper first	well logs
CS ET AL AEC SUFFIELD 7-18-19-3	698.1	693.7	7	18	19	3		50.60678	-110.40641							1594.5	1601.0	-892.0	-898.5	6.5	API	1500	38001	0.039473	0.1055	8968	353.990684	**5.7**	No	did on paper first	well logs
CS ET AL AEC SUFFIELD 7-18-19-3	698.1	693.7	7	18	19	3		50.60678	-110.40641							1602.9	1603.9	-900.4	-901.4	1.0	API	1500	38001	0.039473	0.1055	1020	40.262098	**4.2**	No	did on paper first	well logs
AECOG (E) CS ET AL SUFF 6-25-19-4	665.7	661.7	6	25	19	4		50.63515	-110.43492							1569.3	1570.3	-899.6	-900.6	1.0	API	3750	27390	0.136911	0.1055	120	16.429354	**1.7**	No	weak or questionable peak	well logs
AECOG (E) CS ET AL SUFF 6-25-19-4	665.7	661.7	6	25	19	4		50.63515	-110.43492							1577.0	1578.2	-907.3	-908.5	1.2	API	3750	27390	0.136911	0.1055	124	16.976999	**1.5**	No	weak or questionable peak	well logs
CS ET AL AEC SUFFIELD 14-32-19-4	708.1	704.1	14	32	19	4		50.65725	-110.52607							1613.6	1614.3	-901.5	-902.2	0.7	API	3750	25896	0.144810	0.1055	75	10.860751	**1.6**	No	weak or questionable peak	well logs
CS ET AL AEC SUFFIELD 14-32-19-4	708.1	704.1	14	32	19	4		50.65725	-110.52607							1618.1	1620.3	-906.0	-908.2	2.2	API	3750	25896	0.144810	0.1055	174	25.196942	**1.2**	No	weak or questionable peak	well logs
CS ET AL AEC SUFFIELD 14-32-19-4	708.1	704.1	14	32	19	4		50.65725	-110.52607							1624.6	1626.8	-912.5	-914.7	2.2	API	3750	25896	0.144810	0.1055	124	17.955441	**0.9**	No	weak or questionable peak	well logs
CS ET AL AEC SUFFIELD 14-32-19-4	708.1	704.1	14	32	19	4		50.65725	-110.52607							1630.5	1632.1	-918.4	-920.0	1.6	API	3750	25896	0.144810	0.1055	108	15.639481	**1.0**	No	weak or questionable peak	well logs
AMOCO MEDHAT 14-36-20-1	727.5	723.2	14	36	20	1		50.74294	-110.01846							1636.3	1639.1	-904.5	-907.3	2.8	API	3750	25688	0.145983	0.1055	641	93.574821	**3.5**	South Block		well logs
AMOCO MEDHAT 14-36-20-1	727.5	723.2	14	36	20	1		50.74294	-110.01846							1648.7	1649.9	-916.9	-918.1	1.2	API	3750	25688	0.145983	0.1055	212	30.948303	**2.7**	South Block		well logs
PACIFIC AMOCO EMPRESS 7-12-22-1	666.9	662.6	7	12	22	1		50.8525	-110.01148							1560.4	1566.0	-889.2	-894.8	5.6	API	2500	25647	0.097477	0.1055	1362	132.764066	**2.5**	South Block	density logs indicate that this may be impure gypsum	well logs
PACIFIC AMOCO EMPRESS 7-12-22-1	666.9	662.6	7	12	22	1		50.8525	-110.01148							1567.4	1568.7	-896.2	-897.5	1.3	API	2500	25647	0.097477	0.1055	106	10.332593	**0.8**	South Block		well logs
PACIFIC AMOCO EMPRESS 7-12-22-1	666.9	662.6	7	12	22	1		50.8525	-110.01148							1573.9	1578.1	-902.7	-906.9	4.2	API	2500	25647	0.097477	0.1055	1105	107.712403	**2.7**	South Block	gamma spikes abnormally broad	well logs
GBASINS ET AL EMPRESS 11-25-24-2	740.9	737.6	11	25	24	2		51.07588	-110.16068							1606.5	1607.6	-862.3	-863.4	1.1	API	3750	26536	0.141317	0.1055	487	68.821601	**6.6**	South Block		well logs
GBASINS ET AL EMPRESS 11-25-24-2	740.9	737.6	11	25	24	2		51.07588	-110.16068							1613.3	1614.4	-869.1	-870.2	1.1	API	3750	26536	0.141317	0.1055	288	40.699427	**3.9**	South Block		well logs
DANSON NATOL ET AL ACADIA 10-18-26-2	762.6	758.6	10	18	26	2		51.22229	-110.26721							1606.4	1607.7	-839.8	-841.1	1.3	API	3750	25620	0.146370	0.1055	822	120.316159	**9.8**	South Block	gamma header not totally clear; I *think* the API scale goes from 0 to 150, though the other standard scales (100 and 120) would mean the grades are even higher)	well logs
DANSON NATOL ET AL ACADIA 10-18-26-2	762.6	758.6	10	18	26	2		51.22229	-110.26721							1612.1	1613.1	-845.5	-846.5	1.0	API	3750	25620	0.146370	0.1055	256	37.470726	**4.0**	South Block		well logs
CNRL ESTHER 6-9-31-1	734.3	730.0	6	9	31	1		51.63981	-110.08989							1514.0	1515.3	-775.4	-776.7	-92.4	*not* API								No	the only other gamma log has no header	well logs
CNRL ESTHER 6-9-31-1	734.3	730.0	6	9	31	1		51.63981	-110.08989							1520.2	1520.9	-781.6	-782.3	6.9	*not* API								No		well logs
CNRL ESTHER 6-9-31-1	734.3	730.0	6	9	31	1		51.63981	-110.08989							1607.7	1609.4	-869.1	-870.8	89.2	*not* API								No		well logs
ALTAIR KATEX VETERAN 7-2-36-8	786.7	783.0	7	2	36	8		52.06122	-111.03681							1588.5	1590.1	-798.1	-799.7	1.6	? No header								No		well logs
SAGE ET AL PROVOST 11-20-37-1	693.4	691.0	11	20	37	1		52.19566	-110.11421							1338.0	1341.6	-642.2	-645.8	3.6	*not* API								No		well logs
SAGE ET AL PROVOST 11-20-37-1	693.4	691.0	11	20	37	1		52.19566	-110.11421							1344.4	1345.6	-648.6	-649.8	1.2	*not* API								No		well logs
SAGE ET AL PROVOST 11-20-37-1	693.4	691.0	11	20	37	1		52.19566	-110.11421							1352.3	1355.9	-656.5	-660.1	3.6	*not* API								No		well logs
SAGE ET AL PROVOST 11-20-37-1	693.4	691.0	11	20	37	1		52.19566	-110.11421							1357.1	1359.7	-661.3	-663.9	2.6	*not* API								No		well logs
SAGE ET AL PROVOST 11-20-37-1	693.4	691.0	11	20	37	1		52.19566	-110.11421							1361.3	1363.2	-665.5	-667.4	1.9	*not* API								No		well logs
SAGE ET AL PROVOST 11-20-37-1	693.4	691.0	11	20	37	1		52.19566	-110.11421							1367.5	1368.4	-671.7	-672.6	0.9	*not* API								No		well logs
IMPERIAL-PROVOST NO. 2	737.6	734.6	1	33	37	3		52.21643	-110.36290	1405.7	1408.5	-665.1	-667.9	2.8	4.1														Wainwright Block		Cole, 1948
IMPERIAL-PROVOST NO. 2	737.6	734.6	1	33	37	3		52.21643	-110.36290	1435.9	1437.4	-695.3	-696.8	1.5	3.32														Wainwright Block		Cole, 1948
PVR PROVOST 4-18-38-1	696.2	691.9	4	18	38	1		52.26241	-110.14228							1309.3	1313.5	-608.8	-613.0	4.2	API	2500	26536	0.094212	0.1055	7938	747.851975	**18.8**	No	very nice.	well logs
RENAISSANCE PROVOST 7-15-40-2	677.3	673.0	7	15	40	2		52.43937	-110.20728							1259.5	1261.4	-577.9	-579.8	1.9	API	3750	24040	0.155990	0.1055	2004	312.603993	**17.4**	Wainwright Block		well logs
RENAISSANCE PROVOST 7-15-40-2	677.3	673.0	7	15	40	2		52.43937	-110.20728							1264.1	1266.8	-582.5	-585.2	2.7	API	3750	24040	0.155990	0.1055	553	86.262479	**3.4**	Wainwright Block		well logs
NEWALTA HUGHENDEN 10-33-40-7	698.9	694.9	10	33	40	7	1	52.48521	-110.94888	1377.37	1384.07	-674.5	-681.2	6.7	3.17 (@1381.11), 0.89 (@1383.13)	1376.6	1379.0	-673.7	-676.1	2.4	*not* API								No	decent potash in core, though logs don't look that great; the good gamma log has a smudged header, but I'm virtually sure it's the same units as the other one, which are not API	core, well logs
NEWALTA HUGHENDEN 10-33-40-7	698.9	694.9	10	33	40	7	1	52.48521	-110.94888							1383.1	1384.2	-680.2	-681.3	1.1	*not* API								No		core, well logs
NEWLATA PROVOST 9-33-40-7	694.3	690.7	9	33	40	7		52.48521	-110.94440							1373.9	1374.9	-676.0	-677.0	1.0	*not* API								No	weak or questionable peak	well logs
NEWLATA PROVOST 9-33-40-7	694.3	690.7	9	33	40	7		52.48521	-110.94440							1379.2	1380.2	-681.3	-682.3	1.0	*not* API								No	weak or questionable peak	well logs
NEWLATA PROVOST 9-33-40-7	694.3	690.7	9	33	40	7		52.48521	-110.94440							1401.7	1403.5	-703.8	-705.6	1.8	*not* API								No	weak or questionable peak	well logs
NEWALTA 15A1 PROVOST 15-33-40-7	699.3	694.4	15	33	40	7		52.48885	-110.94752							1378.2	1382.3	-674.0	-678.1	4.1	API	3750	26536	0.141317	0.1055	291	41.123380	**1.1**	No	weak or questionable peak	well logs
NEWALTA HUGHENDEN 16-33-40-7	694.0	690.1	16	33	40	7		52.48905	-110.94528							1374.2	1376.6	-676.3	-678.7	2.4	? Units not shown								No	weak or questionable peak	well logs
FEDERATED LPGS3 HARDISTY 10-30-42-9	643.7	639.8	10	30	42	9	1	52.64737	-111.28485	1359.8	1369.8	-712.2	-722.2	10.0	0.16 (@1360.99 m), 1.54 (@1363.23 m), 4.10 (@1055.68 m), 1.31 (@1058.64 m), 0.66 (@1060.92 m)	possible															No		core
PETCAL DINA 10-32-45-1	630.9	628.2	10	32	45	1		52.92461	-110.10950	1052.4	1060.1	-418.8	-426.5	7.7		1056.3	1059.3	-422.7	-425.7	3.0	API	5000	26182	0.190971	0.1055	422	80.589718	**2.8**	Wainwright Block		Meijer Drees, 1986; core, well logs
HUSKY D. H. PROSPECT 7-1-45-3	662.0	658.4	7	1	45	3		52.84766	-110.30097							1142.4	1143.6	-476.8	-478.0	1.2	API	3000	15072	0.199045	0.1055	67	13.335987	**1.2**	Wainwright Block	did on paper first	well logs
HUSKY D. H. PROSPECT 7-1-45-3	662.0	658.4	7	1	45	3		52.84766	-110.30097							1147.9	1149.1	-482.3	-483.5	1.2	API	3000	15072	0.199045	0.1055	201	40.007962	**3.5**	Wainwright Block	did on paper first	well logs
HUSKY D. H. PROSPECT 7-1-45-3	662.0	658.4	7	1	45	3		52.84766	-110.30097							1169.5	1172.6	-503.9	-507.0	3.1	API	3000	15072	0.199045	0.1055	186	37.022293	**1.3**	Wainwright Block	questionable; did on paper first	well logs
HUSKY D. H. PROSPECT 7-1-45-3	662.0	658.4	7	1	45	3		52.84766	-110.30097							1203.4	1204.9	-537.8	-539.3	1.5	API	3000	15072	0.199045	0.1055	106	21.098726	**1.5**	Wainwright Block	questionable; did on paper first	well logs
HUSKY DH KOKNEE 7-33-49-5	659.3	755.3	7	33	49	5		53.26786	-110.67044							1157.6	1160.2	-594.3	-596.9	2.6	API	3000	15778	0.190138	0.1055	184	34.985423	**1.4**	Lloydminster Block	IF this is PE Frn, it's at the bottom, and this is virtually certain to be a shale bed; weak pr questionable peak with almost unreadable header; did on paper first	well logs
VERMILION CONSOLIDATED OILS #15	604.4	602.9	6	12	49	6		53.21138	-110.75252	1060.7	1076.2	-454.8	-470.3	15.5		possible													Lloydminster Block	no gamma log	Golden, 1965, Cole, 1948, indirect reference from every other 1960's paper out there
VERMILION CONSOLIDATED OILS #15	604.4	602.9	6	12	49	6		53.21138	-110.75252	1137.2	1158.2	-531.3	-552.3	21.0		possible													Lloydminster Block	all data from publications	the interval between the 2 potash occurances was not cored, so it may be potash too
BLACKFOOT DEVONIAN TEST SYNDICATE #1	697.1	695.6	12	15	50	2		53.31530	-110.21949	1025.7	1034.0	-327.1	-335.4	8.3		possible													No	cores are a highly degraded	core
HUSKY DH VERMILION 7A-31-51-5	625.4	622.1	7	31	51	5		53.44323	-110.72502							1032.6	1036.3	-403.9	-407.6	3.7	API	2500	23959	0.104345	0.1055	297	30.990442	**0.9**	Lloydminster Block	weak or questionable peak	well logs
HUSKY DH VERMILION 7A-31-51-5	625.4	622.1	7	31	51	5		53.44323	-110.72502							1030.2	1036.3	-401.5	-407.6	6.1		10000	4000	2.500000	0.1055	15	37.500000	**0.6**	Lloydminster Block	weak or questionable peak; did on paper first	well logs
CALSTAN PACIFIC MARWAYNE 14-29-52-2	636.7	633.1	14	29	52	2		53.52438	-110.26592	916.3	917.4	-276.0	-277.1	1.1		possible													Lloydminster Block	traces of potash (carnalite veins), which may go deeper in the core	core
Log assumtions:																															
Assumes a uniform radioactivity in each bed																															
Beds should be at least a metre thick for this to work properly																															
Only logs in API units can be used																															
gamma integrals determined for above the background gamma radiation																															
Log response value (K) from Tixier and Algers, 1970 (p 132)																															
Log response value (K) I averaged the constants given for carnalite and sylvite																															
K factors for sylvite and carnalite are 0.126 and 0.085, respectively																															
1 API = 0.1055 % K2O																															

Appendix 4

Historic Core ICP OES Analyses Results

Appendix 4

Summary of Analytical Chemistry (ICP OES) of Historic Potash Samples

Group Number	Sample Description	Located on Alberta Potash Project	Date	Sample Type	CaO Potash ICP1 Soluble (wt %)	K2O Potash ICP1 Soluble (wt %)	MgO Potash ICP1 Soluble (wt %)	Insoluble Determination (%)	Moisture (wt %)
G-2008-1589	POT003	No	10-06-2008	Standard	0.15	19.70	1.31		
G-2008-1589	10-30-42-9W4/1360.99	No	10-06-2008	Potash	0.16	0.16	0.06	0.6	<0.1
G-2008-1589	10-30-42-9W4/1363.23	No	10-06-2008	Potash	0.28	1.54	0.04	0.1	0.1
G-2008-1589	10-32-45-1W4/1055.68	Wainwright Block	10-06-2008	Potash	0.19	4.10	3.58	0.4	5.9
G-2008-1589	10-32-45-1W4/1058.64	Wainwright Block	10-06-2008	Potash	0.38	1.31	1.11	2.4	1.6
G-2008-1589	10-32-45-1W4/1060.92	Wainwright Block	10-06-2008	Potash	0.20	0.66	0.53	0.5	0.8
G-2008-1589	10-33-40-7W4/1381.11	No	10-06-2008	Potash	0.19	3.17	0.06	0.2	<0.1
G-2008-1589	10-33-40-7W4/1383.13	No	10-06-2008	Potash	0.60	0.88	0.04	0.5	<0.1
G-2008-1589	10-33-40-7W4/1383.13 R	No	10-06-2008	Repeat	0.58	0.89	0.04	0.5	<0.1

Appendix 5

Historic Core XRF Analyses Results

Appendix 5
Historic Core XRF Results

Sample ID	Well	Sample Depth (m)	Description	Located on Alberta Potash Project	Unit	Carnallite[1] (%)	KCl in Carnallite[1] (%)	KCl total[1] (%)	KCl sylvite[1] (%)	$CaSO_4$[1] (%)	K/Mg molar[2]	$MgCl_2$[3]	Carnallite[3]	SiO2	Al2O3	Fe2O3	MgO	CaO	K2O	TiO2	P2O5	MnO	Cr2O3	SO4	V2O5	NiO	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Pd	Pd Error	Ag	Ag Error	Bal	Bal Error	Mo	Mo Error
690	CH LPGS 2 Hughenden 10-33-40-7W4	1374.13		No	%	16.865	4.527	0.000	0.000	22.031	0.000	5.771	16.852	4.623	1.882	0.164	2.447	9.074	0.000	0.052	0.000	0.015	0.000	17.144	0.000	0.001	0.006	0.005	0.002	0.004	0.001	0.003	0.000	0.001	0.007	0.005	32.026	0.750	0.000	0.001
691	CH LPGS 2 Hughenden 10-33-40-7W4	1374.28		No	%	0.000	0.000	0.000	0.000	3.353	#DIV/0!	0.000	0.000	1.386	0.831	0.041	0.000	1.381	0.000	0.010	0.023	0.004	0.004	0.428	0.000	0.000	0.004	0.005	0.000	0.004	0.001	0.003	0.000	0.001	0.006	0.005	31.355	0.833	0.000	0.001
692	CH LPGS 2 Hughenden 10-33-40-7W4	1374.51		No	%	2.422	0.650	0.000	0.000	5.113	0.000	0.829	2.420	1.619	0.465	0.132	0.351	2.106	0.000	0.042	0.000	0.003	0.000	4.647	0.007	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.003	0.002	38.296	0.738	0.001	0.001
693	CH LPGS 2 Hughenden 10-33-40-7W4	1374.79		No	%	17.791	4.775	10.936	6.161	7.287	3.683	6.088	17.777	5.342	2.143	0.206	2.581	3.001	6.908	0.047	0.000	0.006	0.004	2.124	0.007	0.000	0.003	0.005	0.001	0.004	0.000	0.003	0.000	0.001	0.005	0.004	29.558	0.781	0.001	0.001
694	CH LPGS 2 Hughenden 10-33-40-7W4	1375.02		No	%	6.433	1.727	0.654	0.000	7.073	0.609	2.201	6.428	2.815	0.964	0.102	0.933	2.913	0.413	0.003	0.000	0.004	0.015	1.609	0.000	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	34.970	0.764	0.000	0.001
695	CH LPGS 2 Hughenden 10-33-40-7W4	1375.3		No	%	12.957	3.478	1.119	0.000	10.759	0.518	4.434	12.947	5.677	2.146	0.336	1.880	4.431	0.707	0.068	0.000	0.005	0.000	2.745	0.014	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	34.637	0.739	0.001	0.001
697	CH LPGS 2 Hughenden 10-33-40-7W4	1375.56		No	%	20.464	5.493	2.532	0.000	14.975	0.741	7.003	20.448	6.987	2.436	0.466	2.969	6.168	1.600	0.093	0.000	0.005	0.013	4.234	0.000	0.000	0.001	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	36.637	0.724	0.001	0.001
698	CH LPGS 2 Hughenden 10-33-40-7W4	1375.78		No	%	18.556	4.980	0.000	0.000	7.861	0.000	6.350	18.542	4.497	1.944	0.146	2.692	3.238	0.000	0.045	0.037	0.003	0.010	2.091	0.018	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	29.880	0.810	0.000	0.001
699	CH LPGS 2 Hughenden 10-33-40-7W4	1376.03		No	%	13.483	3.619	0.368	0.000	10.290	0.164	4.614	13.472	4.841	1.744	0.193	1.956	4.238	0.232	0.042	0.000	0.005	0.015	3.050	0.002	0.000	0.004	0.005	0.003	0.004	0.000	0.003	0.000	0.001	0.006	0.005	31.841	0.849	0.001	0.001
700	CH LPGS 2 Hughenden 10-33-40-7W4	1376.31		No	%	12.637	3.392	6.888	3.496	16.225	3.266	4.324	12.627	8.510	2.481	0.330	1.834	6.683	4.351	0.060	0.000	0.013	0.015	6.750	0.007	0.001	0.002	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	38.658	0.691	0.001	0.001
701	CH LPGS 2 Hughenden 10-33-40-7W4	1376.55		No	%	8.261	2.217	0.467	0.000	9.064	0.339	2.827	8.255	3.309	1.100	0.153	1.199	3.733	0.295	0.045	0.000	0.000	0.007	4.956	0.016	0.000	0.000	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.005	0.004	34.328	0.746	0.001	0.001
702	CH LPGS 2 Hughenden 10-33-40-7W4	1376.83		No	%	2.251	0.604	15.352	14.748	6.873	40.868	0.770	2.249	3.187	1.175	0.149	0.327	2.831	9.698	0.005	0.000	0.009	0.003	2.127	0.032	0.000	0.001	0.005	0.000	0.004	0.001	0.003	0.000	0.001	0.006	0.004	33.303	0.744	0.001	0.001
703	CH LPGS 2 Hughenden 10-33-40-7W4	1377.01		No	%	8.078	2.168	4.861	2.692	9.519	3.605	2.764	8.072	6.948	2.532	0.300	1.172	3.921	3.071	0.027	0.000	0.009	0.003	1.930	0.027	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.003	0.002	36.038	0.715	0.001	0.001
704	CH LPGS 2 Hughenden 10-33-40-7W4	Duplicate of 703		No	%	16.465	4.419	1.937	0.000	10.141	0.705	5.634	16.452	7.222	2.757	0.310	2.389	4.177	1.224	0.077	0.000	0.003	0.010	1.900	0.000	0.000	0.000	0.004	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	32.817	0.758	0.000	0.001
705	CH LPGS 2 Hughenden 10-33-40-7W4	1377.26		No	%	16.225	4.355	1.362	0.000	15.223	0.503	5.552	16.212	6.818	2.453	0.276	2.354	6.270	0.860	0.053	0.000	0.004	0.010	6.073	0.011	0.000	0.002	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.005	34.018	0.740	0.000	0.001
706	CH LPGS 2 Hughenden 10-33-40-7W4	1377.41		No	%	15.460	4.149	0.364	0.000	17.166	0.141	5.290	15.447	9.624	3.548	0.519	2.243	7.070	0.230	0.080	0.000	0.008	0.013	6.442	0.025	0.000	0.004	0.005	0.001	0.004	0.001	0.003	0.000	0.001	0.006	0.005	33.986	0.727	0.001	0.001
707	CH LPGS 2 Hughenden 10-33-40-7W4	1377.74		No	%	19.173	5.146	0.896	0.000	19.561	0.280	6.561	19.158	8.777	3.089	0.339	2.782	8.057	0.566	0.077	0.000	0.004	0.009	4.755	0.011	0.001	0.001	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	36.417	0.706	0.000	0.001
708	CH LPGS 2 Hughenden 10-33-40-7W4	1378.01		No	%	11.986	3.217	0.027	0.000	7.960	0.013	4.102	11.977	3.382	1.644	0.110	1.739	3.278	0.017	0.032	0.000	0.013	0.004	3.886	0.005	0.003	0.005	0.005	0.003	0.004	0.002	0.003	0.001	0.001	0.007	0.005	28.532	0.823	0.001	0.001
709	CH LPGS 2 Hughenden 10-33-40-7W4	1378.22		No	%	10.741	2.883	0.879	0.000	14.452	0.490	3.675	10.732	3.741	2.022	0.134	1.558	5.952	0.555	0.067	0.000	0.004	0.000	11.529	0.023	0.003	0.006	0.005	0.003	0.004	0.003	0.003	0.001	0.001	0.006	0.004	29.324	0.789	0.000	0.001
710	CH LPGS 2 Hughenden 10-33-40-7W4	1378.4		No	%	12.672	3.401	0.000	0.000	9.641	0.000	4.336	12.662	5.585	1.905	0.192	1.839	3.971	0.000	0.090	0.000	0.009	0.000	3.320	0.005	0.000	0.002	0.005	0.001	0.004	0.001	0.003	0.000	0.001	0.008	0.006	31.409	0.794	0.000	0.001
711	CH LPGS 2 Hughenden 10-33-40-7W4	1378.67	sample taken by kyle	No	%	11.586	3.110	6.752	3.643	10.039	3.492	3.965	11.577	6.747	2.528	0.192	1.681	4.135	4.265	0.010	0.000	0.006	0.009	4.458	0.002	0.000	0.004	0.005	0.002	0.004	0.001	0.003	0.001	0.001	0.008	0.006	29.911	0.781	0.001	0.001
712	CH LPGS 2 Hughenden 10-33-40-7W4	Duplicate of 711	ditto	No	%	16.762	4.499	7.380	2.881	9.988	2.638	5.736	16.749	6.578	2.481	0.202	2.432	4.114	4.662	0.060	0.000	0.005	0.003	4.401	0.025	0.001	0.004	0.005	0.003	0.004	0.000	0.003	0.001	0.001	0.007	0.005	29.466	0.798	0.001	0.001
713	CH LPGS 2 Hughenden 10-33-40-7W4	1378.8		No	%	8.581	2.303	0.971	0.000	11.299	0.678	2.936	8.574	8.659	2.759	0.207	1.245	4.654	0.613	0.043	0.000	0.005	0.015	3.473	0.029	0.000	0.003	0.005	0.004	0.004	0.000	0.003	0.001	0.001	0.005	0.003	33.421	0.744	0.001	0.001
714	CH LPGS 2 Hughenden 10-33-40-7W4	1378.95	lost core between 713 and 714?	No	%	20.259	5.437	0.000	0.000	9.050	0.000	6.932	20.243	6.724	2.485	0.239	2.939	3.727	0.000	0.048	0.000	0.009	0.007	1.142	0.000	0.000	0.002	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	30.405	0.791	0.000	0.001
715	CH LPGS 2 Hughenden 10-33-40-7W4	1379.13		No	%	20.784	5.579	0.000	0.000	9.434	0.000	7.112	20.768	4.456	1.935	0.180	3.016	3.886	0.000	0.032	0.000	0.006	0.009	3.901	0.012	0.000	0.002	0.005	0.004	0.004	0.002	0.003	0.001	0.001	0.006	0.004	29.629	0.800	0.000	0.001
716	CH LPGS 2 Hughenden 10-33-40-7W4	1379.36		No	%	19.276	5.174	0.957	0.000	14.425	0.298	6.596	19.261	7.864	2.923	0.213	2.797	5.941	0.605	0.073	0.000	0.012	0.015	5.579	0.000	0.004	0.002	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.006	0.004	31.830	0.767	0.001	0.001
717	CH LPGS 2 Hughenden 10-33-40-7W4	1379.55		No	%	17.596	4.723	0.090	0.000	12.016	0.031	6.021	17.582	8.529	2.827	0.242	2.553	4.949	0.057	0.070	0.000	0.005	0.000	2.409	0.009	0.003	0.001	0.005	0.002	0.004	0.002	0.003	0.001	0.001	0.008	0.005	30.845	0.829	0.001	0.001
718	CH LPGS 2 Hughenden 10-33-40-7W4	1379.72	possibly missing core in this box	No	%	12.980	3.484	0.418	0.000	14.285	0.193	4.442	12.970	8.743	2.963	0.312	1.883	5.884	0.264	0.068	0.000	0.010	0.000	3.736	0.004	0.000	0.001	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.003	32.264	0.756	0.001	0.001
719	CH LPGS 2 Hughenden 10-33-40-7W4	1379.98		No	%	17.894	4.803	0.000	0.000	5.177	0.000	6.123	17.879	3.485	1.393	0.110	2.596	2.132	0.000	0.017	0.000	0.000	0.012	0.114	0.000	0.003	0.000	0.005	0.001	0.004	0.002	0.003	0.001	0.001	0.006	0.004	30.678	0.807	0.000	0.001
720	CH LPGS 2 Hughenden 10-33-40-7W4	1380.15		No	%	21.081	5.658	1.121	0.000	18.933	0.319	7.214	21.065	12.799	4.327	0.395	3.059	7.798	0.708	0.063	0.000	0.000	0.020	4.000	0.004	0.000	0.002	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	32.607	0.733	0.001	0.001
721	CH LPGS 2 Hughenden 10-33-40-7W4	1380.47	9.33% K	No	%	22.453	6.026	11.045	5.018	12.719	2.948	7.683	22.435	7.988	3.074	0.253	3.258	5.239	6.977	0.057	0.000	0.004	0.003	7.580	0.000	0.000	0.001	0.005	0.000	0.004	0.000	0.003	0.002	0.001	0.006	0.004	28.237	0.774	0.001	0.001
722	CH LPGS 2 Hughenden 10-33-40-7W4	1380.72		No	%	15.208	4.082	0.770	0.000	7.831	0.304	5.204	15.196	4.873	1.767	0.184	2.207	3.225	0.487	0.078	0.000	0.006	0.018	3.263	0.002	0.000	0.004	0.005	0.003	0.004	0.000	0.003	0.000	0.001	0.007	0.005	31.101	0.794	0.000	0.001
723	CH LPGS 2 Hughenden 10-33-40-7W4	1380.82	sample taken by kyle	No	%	10.147	2.723	1.838	0.000	3.601	1.086	3.472	10.138	1.078	0.232	0.049	1.472	1.483	1.161	0.003	0.000	0.000	0.006	1.246	0.016	0.003	0.006	0.005	0.003	0.004	0.001	0.003	0.001	0.001	0.007	0.005	30.863	0.853	0.001	0.001
724	CH LPGS 2 Hughenden 10-33-40-7W4	Duplicate of 723	ditto	No	%	8.627	2.315	2.117	0.000	3.886	1.470	2.952	8.620	1.117	0.444	0.050	1.252	1.601	1.337	0.030	0.000	0.003	0.009	1.393	0.000	0.000	0.004	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.007	0.005	30.403	0.808	0.001	0.001
725	CH LPGS 2 Hughenden 10-33-40-7W4	1381.14		No	%	10.878	2.920	0.000	0.000	15.879	0.000	3.722	10.869	4.824	1.854	0.164	1.578	6.540	0.000	0.053	0.000	0.003	0.000	8.947	0.018	0.000	0.004	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	30.899	0.776	0.001	0.001
726	CH LPGS 2 Hughenden 10-33-40-7W4	1381.35		No	%	21.184	5.686	5.774	0.088	20.625	1.633	7.249	21.167	9.021	3.154	0.530	3.074	8.495	3.648	0.115	0.000	0.009	0.013	7.598	0.016	0.000	0.006	0.005	0.000	0.004	0.000	0.003	0.001	0.001	0.005	0.003	34.978	0.692	0.000	0.001
727	CH LPGS 2 Hughenden 10-33-40-7W4	1381.55		No	%	16.625	4.462	1.617	0.000	11.116	0.583	5.689	16.612	6.377	2.077	0.164	2.412	4.578	1.022	0.030	0.000	0.015	0.003	5.156	0.011	0.001	0.003	0.005	0.004	0.004	0.000	0.003	0.001	0.001	0.005	0.004	30.520	0.788	0.001	0.001
728	CH LPGS 2 Hughenden 10-33-40-7W4	1381.78		No	%	37.181	9.979	2.591	0.000	30.028	0.418	12.723	37.152	18.008	3.333	1.248	5.395	12.368	1.637	0.200	0.000	0.021	0.015	3.754	0.000	0.000	0.002	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.002	0.002	50.065	0.511	0.000	0.001
729	CH LPGS 2 Hughenden 10-33-40-7W4	1382.03	getting out of the potash, drop sampling freq	No	%	23.984	6.437	0.000	0.000	12.801	0.000	8.207	23.965	7.194	2.611	0.232	3.480	5.272	0.000	0.052	0.000	0.010	0.000	3.509	0.000	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	30.987	0.773	0.000	0.001
730	CH LPGS 2 Hughenden 10-33-40-7W4	1382.41		No	%	12.912	3.465	0.000	0.000	9.088	0.000	4.418	12.901	3.226	1.171	0.173	1.873	3.743	0.000	0.043	0.000	0.004	0.009	3.709	0.000	0.000	0.001	0.004	0.002	0.004	0.000	0.002	0.001	0.001	0.005	0.004	31.929	0.771	0.001	0.001
731	CH LPGS 2 Hughenden 10-33-40-7W4	1382.67		No	%	23.424	6.287	0.217	0.000	16.490	0.056	8.016	23.405	8.595	3.050	0.270	3.399	6.792	0.137	0.073	0.000	0.010	0.013	6.475	0.000	0.004	0.003	0.005	0.002	0.004	0.000	0.003	0.001	0.001	0.004	0.003	32.501	0.745	0.000	0.001
732	CH LPGS 2 Hughenden 10-33-40-7W4	1382.98		No	%	12.283	3.297	0.000	0.000	11.887	0.000	4.203	12.273	5.431	1.861	0.282	1.782	4.896	0.000	0.060	0.000	0.005	0.000	2.966	0.000	0.000	0.000	0.003	0.005	0.001	0.004	0.000	0.003	0.000	0.001	0.006	0.005	34.600	0.745	0.001	0.001
733	CH LPGS 2 Hughenden 10-33-40-7W4	1383.34		No	%	16.168	4.340	0.000	0.000	9.213	0.000	5.533	16.155	6.294	2.471	0.163	2.346	3.795	0.000	0.042	0.000	0.000	0.000	3.598	0.000	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	33.029	0.759	0.000	0.001
734	CH LPGS 2 Hughenden 10-33-40-7W4	1383.67		No	%	6.719	1.803	0.458	0.000	6.597	0.408	2.299	6.713	3.119	0.852	0.087	0.975	2.717	0.289	0.005	0.000	0.005	0.006	3.545	0.000	0.005	0.003	0.005	0.004	0.004	0.003	0.003	0.002	0.002	0.007	0.005	30.653	0.796	0.001	0.001
735	CH LPGS 2 Hughenden 10-33-40-7W4	Duplicate of 734	possibly missing core in this box	No	%	8.661	2.325	0.000	0.000	6.930	0.000	2.964	8.654	2.995	0.756	0.086	1.257	2.854	0.000	0.030	0.032	0.003	0.007	3.550	0.005	0.004	0.001	0.005	0.000	0.004	0.002	0.003	0.002	0.001	0.006	0.004	30.607	0.845	0.001	0.001
736	Calstan Pacific Marwayne 14-29-52-2W4	902.64	Iron oxidized redbed mudstone	Lloydminster Block	%	40.917	10.982	8.600	0.000	35.610	1.259	14.002	40.885	35.502	9.621	4.639	5.937	14.666	5.433	0.360	0.000	0.036	0.004	16.958	0.014	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.001	0.001	0.000	0.002	46.984	0.441	0.000	0.001
737	Calstan Pacific Marwayne 14-29-52-2W4	903.79	Green Ca-S-rich mudstone	Lloydminster Block	%	20.510	5.505	3.099	0.000	64.310	0.905	7.018	20.494	16.639	4.208	1.225	2.976	26.487	1.957	0.165	0.000	0.008	0.010	60.011	0.000	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	41.317	0.509	0.000	0.001
738	Calstan Pacific Marwayne 14-29-52-2W4	905.44	Banded anhydrite and green Ca-S-rich mudstone	Lloydminster Block	%	34.930	9.375	3.240	0.000	54.298	0.556	11.953	34.902	21.110	5.884	2.109	5.068	22.363	2.047	0.244	0.000	0.040	0.000	42.876	0.023	0.003	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	47.133	0.471	0.001	0.001
739	Calstan Pacific Marwayne 14-29-52-2W4	905.99	Banded anhydrite and green Ca-S-rich mudstone with salty 'stringers'	Lloydminster Block	%	34.302	9.207	3.305	0.000	28.785	0.577	11.738	34.274	21.923	5.434	3.566	4.977	11.855	2.088	0.242	0.000	0.028	0.007	9.010	0.016	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	57.204	0.408	0.000	0.001
740	Calstan Pacific Marwayne 14-29-52-2W4	906.24	Green Ca-S-rich mudstone	Lloydminster Block	%	51.064	13.706	2.855	0.000	58.657	0.335	17.474	51.023	20.382	6.150	2.064	7.409	24.159	1.803	0.183	0.000	0.014	0.003	40.458	0.002	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	45.597	0.492	0.000	0.001
741	Calstan Pacific Marwayne 14-29-52-2W4	906.51	Anhydrite and green Ca-S-rich mudstone - near (above) salt contact	Lloydminster Block	%	31.399	8.428	2.244	0.000	21.865	0.428	10.745	31.374	18.784	4.576	1.644	4.556	9.005	1.418	0.215	0.000	0.018	0.006	5.336	0.002	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	45.676	0.574	0.000	0.001
744	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1058.36	Fe-oxidized mudstone	Lloydminster Block	%	28.623	7.682	2.891	0.000	30.504	0.605	9.795	28.600	15.165	4.476	1.055	4.153	12.563	1.826	0.117	0.000	0.008	0.009	17.390	0.009	0.000	0.000	0.004	0.000	0.004	0.001	0.002	0.001	0.001	0.000	0.002	42.261	0.556	0.000	0.001
746	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1058.97	Fe-oxidized, greenish mudstone	Lloydminster Block	%	8.558	2.297	0.902	0.000	7.970	0.632	2.929	8.551	2.625	0.712	1.746	1.242	3.283	0.570	0.067	0.000	0.015	0.001	2.487	0.000	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	50.381	0.540	0.000	0.001
747	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1059.67	Fe-oxidized, greenish mudstone	Lloydminster Block	%	9.278	2.490	1.493	0.000	13.385	0.964	3.175	9.271	4.278	1.343	2.305	1.346	5.513	0.943	0.117	0.000	0.018	0.000	5.079	0.000	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	45.439	0.560	0.000	0.001
748	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1060.33	Fe-oxidized, greenish mudstone	Lloydminster Block	%	8.113	2.177	1.222	0.000	11.449	0.903	2.776	8.106	5.143	1.765	2.451	1.177	4.715	0.772	0.127	0.000	0.012	0.000	5.450	0.012	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.001	0.002	42.099	0.607	0.000	0.001
749	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1060.7	Fe-oxidized, greenish mudstone; right above the contact with anhydrite	Lloydminster Block	%	8.798	2.361	1.184	0.000	9.281	0.806	3.011	8.791	5.194	1.236	1.171	1.277	3.823	0.748	0.092	0.000	0.010	0.006	3.242	0.000	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	48.737	0.535	0.000	0.001
750	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1060.78	grey anhydrite	Lloydminster Block	%	10.089	2.708	0.000	0.000	7.528	0.000	3.453	10.081	5.455	2.507	0.180	1.464	3.101	0.000	0.050	0.000	0.008	0.003	2.646	0.000	0.001	0.006	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	32.589	0.777	0.000	0.001
751	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1060.95	purplish evaporite	Lloydminster Block	%	13.369	3.588	0.000	0.000	12.583	0.000	4.575	13.358	9.641	3.564	0.306	1.940	5.183	0.000	0.092	0.000	0.008	0.007	5.926	0.000	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.003	35.171	0.739	0.000	0.001
752	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1061.19	grey evaporite	Lloydminster Block	%	40.255	10.804	2.155	0.000	25.867	0.321	13.775	40.223	19.604	7.962	0.713	5.841	10.654	1.361	0.137	0.000	0.009	0.012	13.303	0.027	0.003	0.000	0.005	0.000	0.004	0.000	0.003	0.001	0.001	0.006	0.004	30.318	0.731	0.001	0.001
753	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1061.36	colourless evaporite w. red specks	Lloydminster Block	%	5.679	1.524	29.404	27.880	1.760	31.026	1.943	5.674	3.106	1.223	0.196	0.824	0.725

Appendix 5
Historic Core XRF Results

Sample ID	Well	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error	Bi	Bi Error	As	As Error	Se	Se Error	Au	Au Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Al	Al Error	P	P Error	Si	Si Error	Ca	Ca Error	K	K Error	Cl	Cl Error	S	S Error	Mg	Mg Error
690	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.005	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.007	0.006	0.002	0.001	0.001	0.002	0.001	0.004	0.001	0.003	0.115	0.009	0.012	0.006	0.000	0.009	0.000	0.015	0.031	0.023	0.996	0.137	0.000	0.028	2.161	0.050	6.485	0.078	0.000	0.037	50.939	0.323	5.722	0.047	1.476	0.579
691	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.002	0.000	0.004	0.001	0.002	0.000	0.004	0.000	0.003	0.029	0.006	0.003	0.005	0.003	0.009	0.000	0.015	0.006	0.021	0.440	0.157	0.010	0.031	0.648	0.049	0.987	0.027	0.000	0.037	66.355	0.404	0.143	0.029	0.000	0.705
692	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.003	0.000	0.001	0.001	0.007	0.000	0.001	0.003	0.002	0.000	0.004	0.000	0.003	0.092	0.009	0.002	0.006	0.000	0.009	0.004	0.017	0.025	0.024	0.246	0.132	0.000	0.029	0.757	0.048	1.505	0.031	0.000	0.038	57.298	0.389	1.551	0.033	0.212	0.595
693	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.001	0.006	0.001	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.144	0.010	0.005	0.006	0.003	0.009	0.004	0.016	0.028	0.023	1.134	0.147	0.000	0.027	2.497	0.052	2.145	0.040	5.735	0.086	56.465	0.331	0.709	0.027	1.557	0.616
694	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.006	0.006	0.001	0.001	0.003	0.002	0.000	0.004	0.000	0.003	0.071	0.008	0.003	0.006	0.010	0.010	0.000	0.015	0.002	0.022	0.510	0.140	0.000	0.029	1.316	0.050	2.082	0.038	0.343	0.047	59.574	0.387	0.537	0.028	0.563	0.616
695	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.003	0.006	0.001	0.001	0.002	0.002	0.000	0.004	0.000	0.004	0.235	0.013	0.004	0.006	0.000	0.009	0.008	0.016	0.041	0.023	1.136	0.139	0.000	0.028	2.654	0.055	3.167	0.047	0.587	0.044	55.466	0.347	0.916	0.029	1.134	0.580
697	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.001	0.006	0.002	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.326	0.015	0.004	0.006	0.009	0.010	0.000	0.016	0.056	0.025	1.289	0.136	0.000	0.028	3.266	0.058	4.408	0.059	1.328	0.049	49.459	0.318	1.413	0.030	1.791	0.555
698	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.008	0.006	0.000	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.102	0.009	0.002	0.005	0.007	0.009	0.010	0.016	0.027	0.022	1.029	0.154	0.016	0.030	2.102	0.053	2.314	0.040	0.000	0.038	62.171	0.384	0.698	0.029	1.624	0.654
699	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.004	0.001	0.002	0.002	0.000	0.004	0.000	0.003	0.135	0.010	0.004	0.006	0.010	0.010	0.001	0.016	0.025	0.023	0.923	0.164	0.000	0.032	2.263	0.060	3.029	0.051	0.193	0.049	59.355	0.373	1.018	0.034	1.180	0.700
700	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.001	0.007	0.009	0.002	0.000	0.002	0.001	0.004	0.000	0.004	0.231	0.013	0.010	0.007	0.010	0.010	0.004	0.017	0.036	0.024	1.313	0.128	0.000	0.027	3.978	0.061	4.776	0.063	3.612	0.066	43.987	0.284	2.253	0.033	1.106	0.518
701	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.003	0.006	0.002	0.001	0.002	0.002	0.000	0.003	0.000	0.003	0.107	0.009	0.000	0.005	0.005	0.009	0.009	0.016	0.027	0.023	0.582	0.137	0.000	0.028	1.547	0.049	2.668	0.043	0.245	0.042	58.086	0.366	1.654	0.032	0.723	0.599
702	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.003	0.006	0.001	0.001	0.001	0.002	0.000	0.004	0.000	0.003	0.104	0.009	0.007	0.006	0.002	0.009	0.018	0.017	0.003	0.021	0.622	0.134	0.000	0.027	1.490	0.048	2.023	0.040	8.051	0.105	53.455	0.313	0.710	0.027	0.197	0.592
703	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.001	0.002	0.000	0.004	0.000	0.004	0.210	0.012	0.007	0.006	0.002	0.009	0.015	0.017	0.016	0.022	1.340	0.135	0.000	0.028	3.248	0.057	2.802	0.044	2.549	0.058	52.410	0.326	0.644	0.027	0.707	0.552
704	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.002	0.002	0.000	0.003	0.000	0.004	0.217	0.012	0.002	0.005	0.007	0.009	0.000	0.014	0.046	0.023	1.459	0.146	0.000	0.029	3.376	0.058	2.985	0.046	1.016	0.048	55.988	0.345	0.634	0.028	1.441	0.593
705	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.002	0.002	0.000	0.004	0.000	0.004	0.193	0.012	0.003	0.006	0.007	0.010	0.006	0.016	0.032	0.023	1.298	0.140	0.000	0.028	3.187	0.056	4.481	0.060	0.714	0.045	52.599	0.332	2.027	0.033	1.420	0.572
706	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.003	0.002	0.000	0.004	0.000	0.004	0.363	0.015	0.006	0.006	0.009	0.010	0.014	0.017	0.048	0.024	1.878	0.142	0.000	0.028	4.499	0.061	5.053	0.063	0.191	0.040	50.423	0.313	2.150	0.033	1.353	0.552
707	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.003	0.006	0.002	0.001	0.001	0.002	0.001	0.004	0.000	0.004	0.237	0.013	0.003	0.006	0.006	0.009	0.006	0.016	0.046	0.024	1.635	0.135	0.000	0.027	4.103	0.060	5.758	0.070	0.470	0.041	48.036	0.302	1.587	0.030	1.678	0.533
708	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.003	0.002	0.002	0.004	0.000	0.003	0.077	0.008	0.010	0.006	0.003	0.009	0.003	0.015	0.019	0.022	0.870	0.156	0.000	0.030	1.581	0.050	2.343	0.041	0.014	0.042	64.170	0.390	1.297	0.032	1.049	0.672
709	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.001	0.006	0.000	0.001	0.001	0.002	0.002	0.004	0.004	0.003	0.094	0.008	0.003	0.005	0.000	0.009	0.013	0.017	0.040	0.023	1.070	0.148	0.000	0.028	1.749	0.049	4.254	0.059	0.461	0.043	58.167	0.356	3.848	0.040	0.940	0.627
710	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.134	0.010	0.007	0.006	0.000	0.009	0.003	0.017	0.054	0.025	1.008	0.148	0.000	0.029	2.611	0.055	2.838	0.046	0.000	0.043	59.701	0.386	1.108	0.031	1.109	0.628
711	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.002	0.006	0.004	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.134	0.010	0.005	0.006	0.006	0.009	0.001	0.015	0.006	0.021	1.338	0.149	0.000	0.028	3.154	0.056	2.955	0.047	3.541	0.068	56.419	0.338	1.488	0.031	1.014	0.614
712	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.007	0.006	0.003	0.001	0.001	0.002	0.001	0.004	0.000	0.003	0.141	0.010	0.004	0.006	0.002	0.009	0.014	0.017	0.036	0.023	1.313	0.152	0.000	0.029	3.075	0.056	2.940	0.048	3.870	0.072	56.171	0.337	1.469	0.031	1.467	0.630
713	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.000	0.006	0.004	0.001	0.000	0.002	0.000	0.003	0.001	0.003	0.145	0.010	0.004	0.006	0.010	0.010	0.016	0.017	0.026	0.022	1.460	0.143	0.000	0.029	4.048	0.061	3.326	0.049	0.509	0.044	55.100	0.341	1.159	0.030	0.751	0.580
714	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.003	0.006	0.002	0.001	0.001	0.002	0.000	0.004	0.000	0.004	0.167	0.011	0.007	0.006	0.005	0.009	0.000	0.015	0.029	0.023	1.315	0.152	0.000	0.029	3.143	0.057	2.664	0.043	0.000	0.037	60.088	0.371	0.381	0.027	1.773	0.627
715	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.001	0.003	0.126	0.009	0.005	0.006	0.006	0.009	0.007	0.016	0.019	0.022	1.024	0.152	0.000	0.029	2.083	0.052	2.777	0.044	0.000	0.037	61.179	0.376	1.302	0.031	1.819	0.642
716	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.004	0.006	0.002	0.001	0.000	0.002	0.003	0.004	0.000	0.003	0.149	0.010	0.009	0.006	0.010	0.010	0.000	0.016	0.044	0.024	1.547	0.147	0.000	0.029	3.676	0.059	4.246	0.058	0.502	0.044	54.411	0.342	1.862	0.033	1.687	0.592
717	CH LPGS 2 Hughenden 10-33-40-7W4	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.006	0.006	0.002	0.001	0.001	0.002	0.002	0.004	0.000	0.003	0.169	0.011	0.004	0.006	0.000	0.008	0.005	0.016	0.042	0.023	1.496	0.165	0.000	0.032	3.987	0.066	3.537	0.054	0.047	0.044	57.494	0.353	0.804	0.032	1.540	0.669
718	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.004	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.218	0.012	0.008	0.006	0.000	0.009	0.002	0.016	0.041	0.024	1.568	0.145	0.000	0.029	4.087	0.060	4.205	0.057	0.219	0.041	54.987	0.345	1.247	0.030	1.136	0.583
719	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.006	0.006	0.000	0.001	0.000	0.002	0.002	0.004	0.000	0.003	0.077	0.008	0.000	0.005	0.008	0.009	0.000	0.015	0.010	0.021	0.737	0.152	0.000	0.030	1.629	0.051	1.524	0.032	0.000	0.039	63.713	0.394	0.038	0.027	1.566	0.660
720	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.004	0.001	0.003	0.002	0.000	0.004	0.000	0.004	0.276	0.013	0.000	0.005	0.014	0.010	0.002	0.016	0.038	0.023	2.290	0.146	0.000	0.028	5.983	0.066	5.573	0.068	0.588	0.042	49.428	0.305	1.335	0.029	1.845	0.546
721	CH LPGS 2 Hughenden 10-33-40-7W4	0.001	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.002	0.006	0.002	0.001	0.002	0.002	0.000	0.003	0.000	0.003	0.177	0.011	0.003	0.005	0.002	0.009	0.000	0.015	0.034	0.022	1.627	0.149	0.000	0.028	3.734	0.056	3.744	0.054	5.792	0.083	52.135	0.300	2.530	0.034	1.965	0.599
722	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.001	0.001	0.002	0.006	0.001	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.129	0.010	0.005	0.006	0.012	0.010	0.001	0.016	0.047	0.024	0.935	0.150	0.000	0.029	2.278	0.054	2.305	0.040	0.404	0.045	60.339	0.376	1.089	0.031	1.331	0.639
723	CH LPGS 2 Hughenden 10-33-40-7W4	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.001	0.006	0.001	0.001	0.001	0.002	0.002	0.004	0.002	0.003	0.034	0.006	0.000	0.005	0.004	0.009	0.009	0.016	0.002	0.021	0.123	0.160	0.000	0.032	0.504	0.049	1.060	0.029	0.964	0.055	65.102	0.397	0.416	0.031	0.888	0.730
724	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.004	0.003	0.000	0.001	0.000	0.006	0.001	0.001	0.000	0.002	0.000	0.003	0.002	0.003	0.035	0.006	0.002	0.005	0.006	0.009	0.000	0.015	0.018	0.022	0.235	0.149	0.000	0.029	0.522	0.045	1.144	0.029	1.110	0.052	65.280	0.397	0.465	0.029	0.755	0.675
725	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.000	0.006	0.004	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.115	0.009	0.002	0.005	0.000	0.009	0.010	0.016	0.032	0.023	0.981	0.145	0.000	0.029	2.255	0.052	4.674	0.062	0.000	0.038	57.071	0.346	2.986	0.037	0.952	0.617
726	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.002	0.006	0.002	0.001	0.001	0.002	0.000	0.003	0.000	0.005	0.371	0.015	0.007	0.006	0.009	0.009	0.009	0.016	0.069	0.025	1.669	0.132	0.000	0.026	4.217	0.058	6.071	0.072	3.028	0.057	45.155	0.270	2.536	0.033	1.854	0.519
727	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.001	0.006	0.001	0.001	0.002	0.002	0.001	0.004	0.002	0.003	0.115	0.009	0.012	0.006	0.002	0.009	0.006	0.016	0.018	0.022	1.099	0.150	0.000	0.029	2.981	0.057	3.272	0.050	0.848	0.047	57.927	0.356	1.721	0.033	1.455	0.628
728	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.002	0.001	0.007	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.006	0.006	0.001	0.001	0.001	0.002	0.000	0.003	0.000	0.006	0.873	0.023	0.016	0.007	0.010	0.009	0.000	0.016	0.120	0.027	1.764	0.097	0.000	0.022	8.418	0.076	8.839	0.086	1.359	0.036	24.005	0.154	1.253	0.024	3.254	0.353
729	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.001	0.002	0.000	0.004	0.000	0.003	0.162	0.011	0.008	0.006	0.000	0.009	0.000	0.015	0.031	0.023	1.382	0.148	0.000	0.029	3.363	0.057	3.768	0.053	0.000	0.037	57.012	0.352	1.171	0.030	2.099	0.605
730	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.005	0.006	0.001	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.121	0.009	0.003	0.005	0.006	0.009	0.000	0.015	0.026	0.022	0.620	0.144	0.000	0.029	1.508	0.049	2.675	0.043	0.000	0.033	60.723	0.368	1.238	0.031	1.130	0.629
731	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.005	0.006	0.001	0.001	0.000	0.002	0.003	0.004	0.000	0.004	0.189	0.011	0.008	0.006	0.009	0.009	0.000	0.016	0.044	0.023	1.614	0.143	0.000	0.028	4.018	0.059	4.854	0.062	0.114	0.038	52.413	0.323	2.161	0.033	2.050	0.570
732	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.002	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.000	0.004	0.197	0.012	0.004	0.006	0.000	0.009	0.000	0.015	0.036	0.023	0.985	0.139	0.000	0.028	2.539	0.055	3.499	0.051	0.000	0.041	56.054	0.353	0.990	0.029	1.075	0.589
733	CH LPGS 2 Hughenden 10-33-40-7W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.001	0.006	0.001	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.114	0.009	0.000	0.005	0.000	0.008	0.000	0.015	0.025	0.023	1.308	0.145	0.000	0.029	2.942	0.056	2.712	0.043	0.000	0.040	57.239	0.362	1.201	0.030	1.415	0.595
734	CH LPGS 2 Hughenden 10-33-40-7W4	0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.002	0.006	0.002	0.001	0.001	0.002	0.004	0.004	0.000	0.003	0.061	0.007	0.004	0.006	0.004	0.009	0.000	0.015	0.003	0.021	0.451	0.147	0.000	0.029	1.458	0.050	1.942	0.037	0.240	0.043	63

Appendix 5
Historic Core XRF Results

Sample ID	Well	Sample Depth (m)	Description	Located on Alberta Potash Project	Unit	Carnallite[1] (%)	KCl in Carnallite[1] (%)	KCl total[1] (%)	KCl sylvite[1] (%)	$CaSO_4$[1] (%)	K/Mg molar[2]	$MgCl_2$[3]	Carnallite[3]	SiO2	Al2O3	Fe2O3	MgO	CaO	K2O	TiO2	P2O5	MnO	Cr2O3	SO4	V2O5	NiO	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Pd	Pd Error	Ag	Ag Error	Bal	Bal Error	Mo	Mo Error
781	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1068.4	grey evaporite	Lloydminster Block	%	19.996	5.367	0.000	0.000	12.444	0.000	6.843	19.980	9.911	3.896	0.285	2.901	5.125	0.000	0.088	0.000	0.009	0.006	7.871	0.000	0.000	0.005	0.005	0.003	0.004	0.002	0.003	0.001	0.001	0.008	0.005	30.417	0.767	0.001	0.001
782	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1069.06	pink evaporite	Lloydminster Block	%	22.852	6.134	0.463	0.000	12.879	0.122	7.820	22.834	14.294	5.723	0.363	3.316	5.304	0.293	0.103	0.000	0.012	0.007	7.101	0.000	0.004	0.000	0.005	0.001	0.004	0.000	0.003	0.001	0.001	0.007	0.005	30.586	0.766	0.000	0.001
783	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1069.82	grey evaporite	Lloydminster Block	%	14.797	3.972	0.000	0.000	9.604	0.000	5.063	14.785	6.039	2.058	0.156	2.147	3.956	0.000	0.052	0.057	0.005	0.006	5.504	0.000	0.001	0.004	0.005	0.000	0.004	0.001	0.003	0.000	0.001	0.007	0.005	32.344	0.829	0.001	0.001
784	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1070.61	pinkish grey evaporite	Lloydminster Block	%	23.858	6.403	12.873	6.470	7.600	3.233	8.164	23.839	7.068	3.118	0.306	3.462	3.130	8.132	0.065	0.000	0.008	0.000	2.394	0.025	0.001	0.003	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	29.751	0.770	0.001	0.001
785	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1070.44	white evaporite	Lloydminster Block	%	17.928	4.812	0.000	0.000	4.318	0.000	6.135	17.914	4.556	2.060	0.130	2.601	1.778	0.000	0.040	0.000	0.005	0.010	3.197	0.009	0.000	0.001	0.005	0.003	0.004	0.000	0.003	0.000	0.001	0.005	0.004	30.424	0.812	0.000	0.001
786	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1070.9	white evaporite	Lloydminster Block	%	5.610	1.506	0.000	0.000	7.206	0.000	1.920	5.606	3.102	1.253	0.106	0.814	2.968	0.000	0.040	0.050	0.009	0.000	3.976	0.000	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.003	34.215	0.763	0.000	0.001
787	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1071.83	grey evaporite	Lloydminster Block	%	27.903	7.489	11.828	4.339	6.927	2.540	9.548	27.881	10.386	4.625	0.312	4.049	2.853	7.472	0.090	0.000	0.014	0.001	5.156	0.032	0.001	0.000	0.005	0.004	0.004	0.001	0.003	0.001	0.001	0.006	0.005	27.708	0.779	0.001	0.001
788	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1071.63	white evaporite	Lloydminster Block	%	12.100	3.248	0.000	0.000	6.625	0.000	4.141	12.091	8.824	3.443	0.336	1.756	2.728	0.000	0.008	0.000	0.000	0.000	4.213	0.018	0.000	0.000	0.005	0.002	0.004	0.002	0.003	0.000	0.001	0.006	0.004	32.739	0.761	0.001	0.001
789	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	Duplicate of 788	duplicate of 789	Lloydminster Block	%	12.009	3.223	0.000	0.000	6.710	0.000	4.109	11.999	8.499	3.257	0.325	1.742	2.763	0.000	0.083	0.000	0.003	0.004	3.958	0.000	0.000	0.000	0.003	0.005	0.003	0.004	0.001	0.003	0.001	0.001	0.006	0.004	32.039	0.763	0.000	0.001
790	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1072.05	pinkish white evaporite	Lloydminster Block	%	23.035	6.183	0.000	0.000	8.666	0.000	7.883	23.017	6.125	2.352	0.192	3.342	3.569	0.000	0.020	0.000	0.004	0.001	5.186	0.000	0.000	0.002	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	31.318	0.792	0.001	0.001
791	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1072.48	clear white evaporite	Lloydminster Block	%	14.443	3.876	0.000	0.000	3.706	0.000	4.942	14.431	1.887	1.049	0.106	2.096	1.527	0.000	0.015	0.018	0.004	0.000	0.818	0.020	0.006	0.005	0.005	0.004	0.004	0.000	0.003	0.001	0.001	0.007	0.005	28.224	0.844	0.000	0.001
792	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1073.44	pink evaporite	Lloydminster Block	%	7.393	1.984	0.000	0.000	3.360	0.000	2.530	7.387	5.042	2.292	0.224	1.073	1.384	0.000	0.070	0.009	0.001	0.000	2.001	0.000	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	35.288	0.752	0.000	0.001
793	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1073.97	grey evaporite	Lloydminster Block	%	23.538	6.318	4.102	0.000	9.652	1.044	8.055	23.519	11.721	4.147	0.417	3.415	3.975	2.591	0.085	0.000	0.012	0.000	4.216	0.032	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	32.762	0.751	0.000	0.001
794	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1074.68	pinkish white evaporite	Lloydminster Block	%	19.550	5.247	1.962	0.000	6.397	0.601	6.690	19.535	7.149	3.131	0.196	2.837	2.635	1.240	0.088	0.000	0.000	0.012	3.859	0.002	0.000	0.005	0.005	0.002	0.004	0.001	0.003	0.002	0.002	0.008	0.006	32.118	0.761	0.001	0.001
795	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1075.04	grey evaporite	Lloydminster Block	%	22.098	5.931	2.414	0.000	33.684	0.655	7.562	22.081	26.319	8.490	1.535	3.206	13.873	1.525	0.214	0.000	0.014	0.018	4.548	0.000	0.005	0.003	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.007	0.005	39.473	0.620	0.001	0.001
796	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	Duplicate of 794	Duplicate of 795	Lloydminster Block	%	18.979	5.094	2.416	0.000	34.713	0.763	6.495	18.964	26.674	8.393	1.791	2.754	14.297	1.526	0.205	0.000	0.028	0.010	4.770	0.037	0.004	0.000	0.005	0.000	0.004	0.000	0.003	0.001	0.001	0.004	0.003	39.386	0.618	0.000	0.001
797	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1075.81	grey-white evaporite	Lloydminster Block	%	33.650	9.032	3.911	0.000	23.917	0.696	11.515	33.624	14.431	5.292	0.682	4.883	9.850	2.471	0.105	0.000	0.013	0.000	6.966	0.021	0.001	0.000	0.005	0.000	0.004	0.001	0.003	0.001	0.001	0.006	0.005	35.738	0.687	0.000	0.001
798	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1076.58	grey evaporite	Lloydminster Block	%	19.905	5.342	0.139	0.000	9.862	0.042	6.811	19.889	11.047	4.673	0.299	2.888	4.062	0.088	0.100	0.000	0.013	0.010	5.004	0.000	0.000	0.001	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	31.257	0.777	0.000	0.001
799	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1077.37	grey evaporite	Lloydminster Block	%	5.713	1.533	0.000	0.000	4.447	0.000	1.955	5.709	2.090	1.234	0.096	0.829	1.832	0.000	0.045	0.000	0.003	0.000	1.528	0.012	0.003	0.003	0.005	0.001	0.004	0.000	0.003	0.001	0.001	0.006	0.004	28.838	0.832	0.000	0.001
800	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1078.2	pink evaporite	Lloydminster Block	%	16.088	4.318	0.000	0.000	9.964	0.000	5.505	16.075	13.381	4.042	0.556	2.334	4.104	0.000	0.122	0.000	0.008	0.016	3.820	0.020	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	35.351	0.733	0.001	0.001
801	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1078.97	grey evaporite	Lloydminster Block	%	8.078	2.168	0.000	0.000	3.289	0.000	2.764	8.072	0.409	0.240	0.040	1.172	1.354	0.000	0.017	0.000	0.000	0.000	1.977	0.020	0.000	0.002	0.005	0.001	0.004	0.000	0.003	0.000	0.001	0.007	0.005	30.175	0.862	0.001	0.001
802	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1079.74	dark grey evaporite	Lloydminster Block	%	7.804	2.095	0.000	0.000	6.261	0.000	2.671	7.798	3.930	1.757	0.219	1.132	2.579	0.000	0.048	0.000	0.006	0.013	1.163	0.000	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	35.547	0.746	0.001	0.001
803	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1082.54	dark grey evaporite	Lloydminster Block	%	19.128	5.134	0.412	0.000	19.317	0.129	6.545	19.112	8.893	2.575	0.465	2.775	7.956	0.260	0.087	0.000	0.006	0.000	11.335	0.004	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	39.482	0.669	0.001	0.001
804	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1084.34	grey evaporite	Lloydminster Block	%	32.485	8.719	2.441	0.000	11.785	0.450	11.116	32.459	14.343	5.925	0.292	4.713	4.854	1.542	0.063	0.000	0.000	0.003	1.951	0.000	0.001	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	30.933	0.763	0.001	0.001
805	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1086.55	grey evaporite	Lloydminster Block	%	8.227	2.208	2.698	0.490	15.716	1.965	2.815	8.220	5.590	2.107	0.210	1.194	6.473	1.705	0.048	0.000	0.001	0.003	10.355	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.003	0.001	0.001	0.005	0.004	35.328	0.718	0.001	0.001
806	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1088.58	grey evaporite	Lloydminster Block	%	20.556	5.517	0.000	0.000	6.536	0.000	7.034	20.540	4.045	2.063	0.133	2.983	2.692	0.000	0.025	0.000	0.004	0.004	2.337	0.009	0.000	0.001	0.004	0.001	0.004	0.000	0.002	0.001	0.001	0.003	0.002	31.278	0.784	0.000	0.001
807	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	1090.7	grey evaporite	Lloydminster Block	%	11.198	3.005	0.000	0.000	8.925	0.000	3.832	11.189	1.889	0.709	0.060	1.625	3.676	0.000	0.000	0.071	0.003	0.000	7.679	0.018	0.000	0.005	0.005	0.004	0.004	0.000	0.003	0.000	0.001	0.006	0.004	32.644	0.780	0.001	0.001
808	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	Duplicate of 806	Duplicate of 807	Lloydminster Block	%	0.000	0.000	0.000	0.000	8.789	#DIV/0!	0.000	0.000	1.750	0.401	0.070	0.000	3.620	0.000	0.017	0.007	0.000	0.000	7.485	0.032	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.003	37.375	0.717	0.000	0.001
816	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1020.84	Green Mudstone	No	%	9.587	2.573	4.870	2.297	22.911	3.044	3.280	9.579	18.048	3.959	3.310	1.391	9.436	3.077	0.319	0.000	0.025	0.016	5.861	0.032	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	51.313	0.454	0.000	0.001
818	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1021.55	Green Mudstone	No	%	0.000	0.000	0.000	0.000	24.093	#DIV/0!	0.000	0.000	2.372	0.300	1.413	0.000	9.923	0.000	0.122	0.000	0.013	0.004	10.634	0.012	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.000	0.002	64.422	0.457	0.000	0.001
819	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1022.37	Green Mudstone	No	%	10.318	2.769	2.265	0.000	22.456	1.316	3.531	10.310	14.070	3.488	2.538	1.497	9.249	1.431	0.270	0.000	0.034	0.003	3.305	0.012	0.001	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	53.232	0.445	0.000	0.001
820	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1023.15	Green Mudstone	No	%	7.530	2.021	2.685	0.664	20.672	2.137	2.577	7.524	23.822	4.822	4.496	1.093	8.514	1.696	0.407	0.000	0.045	0.015	3.527	0.018	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	56.095	0.393	0.000	0.001
821	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1023.9	Hematitic stained Green Mudstone	No	%	18.910	5.076	3.978	0.000	42.231	1.260	6.471	18.895	20.171	3.805	1.691	2.744	17.393	2.513	0.234	0.000	0.014	0.012	26.993	0.016	0.000	0.000	0.004	0.000	0.004	0.001	0.002	0.001	0.001	0.000	0.002	44.020	0.486	0.000	0.001
822	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1024.65	Hematitic stained Green Mudstone	No	%	11.918	3.199	2.830	0.000	30.793	1.423	4.078	11.908	8.734	2.589	2.571	1.729	12.682	1.788	0.214	0.000	0.030	0.000	22.328	0.000	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	44.428	0.546	0.000	0.001
826	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1025.38	Hematitic stained Green Mudstone with anhydrite/salt - 20 cm above PE Contact	No	%	16.545	4.441	1.937	0.000	30.480	0.702	5.662	16.532	17.308	4.391	2.376	2.401	12.554	1.224	0.269	0.000	0.027	0.007	11.979	0.009	0.001	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	53.350	0.440	0.000	0.001
827	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1025.68	Anhydrite about 5 cm below PE Contact	No	%	27.914	7.492	0.000	0.000	16.446	0.000	9.552	27.892	9.149	3.178	0.345	4.050	6.774	0.000	0.105	0.000	0.006	0.006	8.587	0.009	0.001	0.001	0.005	0.001	0.004	0.001	0.003	0.001	0.001	0.007	0.005	34.536	0.719	0.000	0.001
828	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1025.95	PE Anhydrite; From 4.5 to 6.0 m about 25 cm lost core	No	%	13.563	3.640	0.000	0.000	8.867	0.000	4.641	13.552	3.031	1.563	0.146	1.968	3.652	0.000	0.070	0.000	0.004	0.012	5.591	0.004	0.000	0.002	0.005	0.001	0.004	0.001	0.003	0.001	0.001	0.006	0.005	31.061	0.785	0.000	0.001
830	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1026.16	PE Anhydrite	No	%	12.569	3.373	0.000	0.000	11.870	0.000	4.301	12.559	4.002	1.549	0.190	1.824	4.889	0.000	0.032	0.000	0.004	0.012	8.554	0.004	0.000	0.000	0.004	0.000	0.004	0.000	0.003	0.000	0.001	0.003	0.002	36.698	0.704	0.001	0.001
831	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1026.69	From 6.0 to 7.5 m about 85 cm lost core	No	%	6.342	1.702	0.000	0.000	8.500	0.000	2.170	6.337	2.629	1.052	0.162	0.920	3.501	0.000	0.013	0.000	0.004	0.000	5.147	0.011	0.001	0.005	0.005	0.001	0.004	0.002	0.003	0.000	0.001	0.007	0.005	33.335	0.754	0.000	0.001
834	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1027.05	PE Anhydrite	No	%	0.000	0.000	3.061	3.061	4.179	#DIV/0!	0.000	0.000	0.034	0.000	0.061	0.000	1.721	1.933	0.032	0.000	0.000	0.001	2.565	0.000	0.000	0.000	0.005	0.000	0.005	0.000	0.003	0.000	0.001	0.005	0.004	36.019	0.775	0.000	0.001
835	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4		Duplicate	No	%	4.433	1.190	2.672	1.482	4.573	3.611	1.517	4.430	0.175	0.030	0.080	0.643	1.883	1.688	0.000	0.000	0.003	0.001	2.637	0.005	0.003	0.000	0.005	0.002	0.005	0.000	0.003	0.000	0.001	0.005	0.004	34.169	0.799	0.001	0.001
837	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1028.07	PE Salt; From 7.5 to 9.0 m about 40 cm of lost core	No	%	0.000	0.000	0.000	0.000	2.782	#DIV/0!	0.000	0.000	0.000	0.000	0.074	0.000	1.146	0.000	0.002	0.000	0.000	0.000	0.629	0.000	0.000	0.001	0.006	0.000	0.005	0.000	0.003	0.000	0.001	0.002	0.002	51.151	0.712	0.000	0.001
838	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1028.38	Potash present PE	No	%	11.780	3.162	8.306	5.145	19.697	4.225	4.031	11.771	8.818	3.188	0.227	1.709	8.113	5.247	0.072	0.000	0.004	0.003	15.385	0.036	0.000	0.001	0.005	0.000	0.004	0.000	0.003	0.001	0.001	0.006	0.004	32.888	0.703	0.001	0.001
839	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1028.86	PE Salt	No	%	3.691	0.991	0.000	0.000	2.212	0.000	1.263	3.688	0.000	0.000	0.049	0.536	0.911	0.000	0.010	0.000	0.000	0.000	0.000	0.021	0.000	0.001	0.006	0.000	0.005	0.000	0.003	0.000	0.002	0.005	0.004	38.634	0.897	0.001	0.001
840	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1029.19	PE Salt	No	%	6.353	1.705	0.000	0.000	9.750	0.000	2.174	6.348	5.459	1.457	0.232	0.922	4.016	0.000	0.107	0.000	0.012	0.004	1.609	0.045	0.001	0.004	0.005	0.001	0.004	0.000	0.003	0.000	0.001	0.006	0.004	36.378	0.721	0.001	0.001
841	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1029.42	PE Salt	No	%	16.545	4.441	0.000	0.000	16.579	0.000	5.662	16.532	10.035	3.730	0.276	2.401	6.828	0.000	0.125	0.000	0.015	0.007	5.489	0.041	0.000	0.002	0.005	0.000	0.004	0.001	0.003	0.001	0.001	0.007	0.005	35.291	0.723	0.000	0.001
842	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1029.69	PE Salt; From 9.0 to 10.5 m about 60 cm of lost core	No	%	6.204	1.665	0.000	0.000	17.737	0.000	2.123	6.200	14.641	3.229	0.560	0.900	7.305	0.000	0.123	0.000	0.010	0.000	4.383	0.020	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.002	0.002	45.532	0.636	0.000	0.001
843	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1029.98	PE Salt - Potash present	No	%	27.789	7.458	7.988	0.529	24.667	1.722	9.509	27.767	18.016	5.608	0.831	4.032	10.160	5.046	0.215	0.000	0.013	0.018	9.351	0.020	0.000	0.002	0.004	0.005	0.004	0.002	0.003	0.001	0.001	0.005	0.004	35.674	0.647	0.000	0.001
844	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4		Duplicate	No	%	20.876	5.603	7.704	2.101	23.156	2.211	7.144	20.859	16.904	5.251	0.735	3.029	9.537	4.867	0.214	0.000	0.013	0.003	8.869	0.034	0.000	0.001	0.005	0.001	0.004	0.001	0.003	0.001	0.001	0.006	0.004	36.745	0.647	0.000	0.001
845	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1030.31	PE Salt - Potash present	No	%	1.988	0.534	11.066	10.532	3.897	33.351	0.680	1.987	2.826	0.680	0.144	0.288	1.605	6.990	0.028	0.000	0.000	0.000	1.798	0.002	0.000	0.000	0.005	0.000	0.005	0.000	0.003	0.000	0.001	0.004	0.003	47.301	0.658	0.000	0.001
846	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	1030.47	PE Salt	No	%	9.118	2.447	0.381	0.000	19.996	0.251	3.120	9.111	13.875	3.250	0.545	1.323	8.236	0.241	0.160	0.000	0.008	0.000	7.422	0.002	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	44.788	0.611	0.001	0.001
847	Pectal Dina 10-32-45-1W4	1048.7	Hematitic stained mudstone 10 cm above PE contact	Wainwright Block	%	35.490	9.525	2.679	0.000	53.225	0.452	12.144	35.462	24.316	5.506	3.248	5.149	21.921	1.692	0.259	0.000	0.019	0.004	43.765	0.030	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	45.938	0.470	0.000	0.001
848	Pectal Dina 10-32-45-1W4	1048.95	PE Anhydrite 5 cm below PE Contat	Wainwright Block	%	19.756	5.303	1.548	0.000	34.492	0.470	6.760	19.740	11.141	3.463	0.469	2.867	14.206	0.978	0.681	0.000	0.026	0.016	9.663	0.475	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	42.804	0.607	0.000	0.001
849	Pectal Dina 10-32-45-1W4	1049.52	PE Anhydrite	Wainwright Block	%	13.643	3.662	0.000	0.000	33.738	0.000	4.669	13.632	8.088	2.477	0.276	1.980	13.895	0.000	0.662	0.000	0.023	0.004	6.469	0.480	0.000	0.001	0.005	0.004	0.004	0.000	0.003	0.000	0.001	0.006	0.004	43.453	0.725	0.001	0.001
850	Pectal Dina 10-32-45-1W4	1049.88	PE Anhydrite and trace potash	Wainwright Block	%	24.189	6.492	0.952	0.000	28.265	0.236	8.277	24.170	8.484	2.337	1.091	3.510	11.641	0.601	0.128	0.000	0.018	0.000	11.571	0.025	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.000	0.002	46.739	0.562	0.000	0.001
851	Pectal Dina 10-32-45-1W4	1050.13	PE Salt, Anhydrite and minor potash	Wainwright Block	%	21.436	5.753	2.591	0.000	47.844	0.724	7.335	21.419	13.284	3.662	0.846	3.110	19.705	1.637	1.086	0.000	0.041	0.012	10.879	0.793	0.003	0.000	0.005	0.001	0.004	0.000	0.003	0.000	0.001	0.005	0.004	45.601	0.549	0.001	0.001
852	Pectal Dina 10-32-45-1W4	1050.42	PE Salt, Anhydrite and trace potash	Wainwright Block	%	13.403	3.597	0.080	0.000	32.070	0.036	4.586	13.392	6.629	2.173	0.209	1.945	13.208	0.051	0.622	0.000	0.022	0.001	8.782	0.480	0.001	0.001	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	40.194	0.647	0.001

Appendix 5
Historic Core XRF Results

Sample ID	Well	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error	Bi	Bi Error	As	As Error	Se	Se Error	Au	Au Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Al	Al Error	P	P Error	Si	Si Error	Ca	Ca Error	K	K Error	Cl	Cl Error	S	S Error	Mg	Mg Error
781	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.001	0.001	0.000	0.006	0.001	0.001	0.002	0.002	0.000	0.004	0.001	0.004	0.199	0.012	0.007	0.006	0.004	0.009	0.000	0.016	0.053	0.024	2.062	0.151	0.000	0.029	4.633	0.062	3.663	0.051	0.000	0.039	54.556	0.343	2.627	0.036	1.750	0.583
782	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.002	0.006	0.000	0.001	0.001	0.002	0.003	0.004	0.000	0.004	0.254	0.013	0.009	0.005	0.009	0.000	0.015	0.062	0.025	3.029	0.159	0.000	0.029	6.682	0.069	3.791	0.052	0.243	0.041	50.948	0.329	2.370	0.035	2.000	0.558
783	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.005	0.006	0.000	0.001	0.003	0.002	0.001	0.004	0.000	0.003	0.109	0.009	0.004	0.006	0.004	0.009	0.000	0.015	0.031	0.023	1.089	0.161	0.025	0.033	2.823	0.062	2.827	0.047	0.000	0.041	57.587	0.363	1.837	0.037	1.295	0.676
784	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.001	0.006	0.001	0.001	0.001	0.002	0.001	0.004	0.000	0.004	0.214	0.012	0.006	0.006	0.000	0.008	0.014	0.016	0.039	0.023	1.650	0.149	0.000	0.027	3.304	0.056	2.237	0.040	6.751	0.091	53.126	0.306	0.799	0.027	2.088	0.597
785	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.005	0.006	0.000	0.001	0.003	0.002	0.000	0.004	0.001	0.003	0.091	0.008	0.004	0.006	0.007	0.009	0.005	0.016	0.024	0.022	1.090	0.156	0.000	0.030	2.130	0.054	1.271	0.029	0.000	0.041	62.296	0.391	1.067	0.031	1.569	0.654
786	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.002	0.002	0.000	0.004	0.000	0.003	0.074	0.008	0.007	0.006	0.000	0.009	0.000	0.015	0.024	0.023	0.663	0.140	0.022	0.029	1.450	0.050	2.121	0.038	0.000	0.035	59.591	0.385	1.327	0.031	0.491	0.612
787	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.001	0.006	0.001	0.001	0.002	0.001	0.004	0.004	0.000	0.003	0.218	0.012	0.011	0.006	0.001	0.009	0.018	0.017	0.054	0.024	2.448	0.157	0.000	0.028	4.855	0.061	2.039	0.038	6.203	0.086	52.258	0.304	1.721	0.031	2.442	0.587
788	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.005	0.006	0.000	0.001	0.001	0.002	0.000	0.003	0.000	0.004	0.235	0.013	0.000	0.005	0.000	0.009	0.010	0.016	0.005	0.021	1.822	0.149	0.000	0.029	4.125	0.062	1.950	0.035	0.000	0.038	56.627	0.363	1.406	0.031	1.059	0.586
789	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.001	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.000	0.004	0.227	0.012	0.002	0.005	0.003	0.009	0.000	0.016	0.050	0.024	1.724	0.149	0.000	0.029	3.973	0.060	1.975	0.035	0.000	0.036	57.615	0.365	1.321	0.031	1.051	0.590
790	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.002	0.006	0.000	0.001	0.002	0.002	0.000	0.004	0.000	0.003	0.134	0.010	0.003	0.006	0.001	0.009	0.000	0.016	0.012	0.022	1.245	0.150	0.000	0.029	2.863	0.056	2.551	0.042	0.000	0.036	58.109	0.377	1.731	0.033	2.016	0.619
791	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.001	0.001	0.002	0.006	0.000	0.001	0.000	0.002	0.005	0.004	0.003	0.003	0.074	0.008	0.003	0.005	0.000	0.008	0.011	0.016	0.009	0.021	0.555	0.160	0.008	0.030	0.882	0.048	1.091	0.028	0.000	0.040	67.573	0.409	0.273	0.029	1.264	0.705
792	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.001	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.001	0.004	0.157	0.011	0.001	0.005	0.000	0.009	0.000	0.015	0.042	0.024	1.213	0.143	0.004	0.029	2.357	0.055	0.989	0.024	0.000	0.036	58.620	0.381	0.668	0.029	0.647	0.593
793	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.000	0.004	0.292	0.014	0.009	0.006	0.000	0.009	0.018	0.017	0.051	0.024	2.195	0.149	0.000	0.029	5.479	0.066	2.841	0.044	2.151	0.056	50.721	0.324	1.407	0.030	2.060	0.561
794	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.003	0.006	0.000	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.137	0.010	0.000	0.005	0.008	0.009	0.001	0.016	0.053	0.024	1.657	0.148	0.000	0.028	3.342	0.057	1.883	0.034	1.029	0.047	56.747	0.357	1.288	0.030	1.711	0.589
795	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.004	0.001	0.004	0.006	0.002	0.001	0.002	0.002	0.004	0.004	0.000	0.007	1.074	0.027	0.011	0.007	0.012	0.010	0.000	0.017	0.128	0.029	4.493	0.142	0.000	0.025	12.303	0.090	9.915	0.100	1.266	0.040	27.839	0.181	1.518	0.027	1.934	0.397
796	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.001	0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.005	0.001	0.003	0.006	0.002	0.001	0.001	0.002	0.003	0.004	0.000	0.007	1.253	0.029	0.022	0.007	0.007	0.010	0.021	0.018	0.123	0.028	4.442	0.143	0.000	0.026	12.469	0.090	10.218	0.102	1.267	0.040	27.511	0.177	1.592	0.028	1.661	0.399
797	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.002	0.006	0.000	0.001	0.003	0.002	0.001	0.004	0.000	0.005	0.477	0.018	0.010	0.006	0.000	0.009	0.012	0.017	0.063	0.025	2.801	0.140	0.000	0.026	6.746	0.068	7.040	0.079	2.051	0.049	39.771	0.248	2.325	0.032	2.945	0.488
798	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.003	0.006	0.000	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.209	0.012	0.010	0.006	0.007	0.009	0.000	0.015	0.060	0.025	2.473	0.157	0.000	0.029	5.164	0.065	2.903	0.045	0.073	0.042	54.416	0.352	1.670	0.032	1.742	0.582
799	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.000	0.002	0.002	0.004	0.000	0.003	0.067	0.007	0.002	0.005	0.000	0.009	0.007	0.016	0.027	0.022	0.653	0.156	0.000	0.030	0.977	0.048	1.309	0.030	0.000	0.034	67.087	0.410	0.510	0.029	0.500	0.689
800	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.002	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.000	0.005	0.389	0.016	0.006	0.006	0.011	0.010	0.011	0.018	0.073	0.026	2.139	0.145	0.000	0.029	6.255	0.071	2.933	0.044	0.000	0.039	50.134	0.336	1.275	0.030	1.408	0.543
801	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.005	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.001	0.003	0.028	0.006	0.000	0.005	0.000	0.008	0.011	0.016	0.010	0.021	0.127	0.162	0.000	0.032	0.191	0.046	0.968	0.028	0.000	0.046	67.099	0.413	0.660	0.032	0.707	0.739
802	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.153	0.010	0.005	0.006	0.009	0.009	0.000	0.015	0.029	0.023	0.930	0.140	0.000	0.029	1.837	0.052	1.843	0.034	0.000	0.036	58.561	0.374	0.388	0.027	0.683	0.595
803	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.004	0.006	0.000	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.325	0.015	0.005	0.006	0.000	0.009	0.002	0.016	0.052	0.024	1.363	0.125	0.000	0.027	4.157	0.060	5.686	0.068	0.216	0.038	43.240	0.283	3.783	0.040	1.674	0.500
804	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.001	0.002	0.001	0.004	0.000	0.004	0.204	0.012	0.000	0.005	0.002	0.009	0.000	0.015	0.038	0.023	3.136	0.161	0.000	0.028	6.705	0.070	3.469	0.049	1.280	0.048	50.721	0.319	0.651	0.027	2.843	0.558
805	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.000	0.002	0.003	0.004	0.000	0.003	0.147	0.010	0.001	0.005	0.002	0.009	0.000	0.015	0.029	0.022	1.115	0.134	0.000	0.028	2.613	0.054	4.626	0.061	1.415	0.048	50.531	0.313	3.456	0.039	0.720	0.560
806	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.004	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.003	0.002	0.000	0.004	0.000	0.003	0.093	0.008	0.003	0.005	0.003	0.009	0.005	0.015	0.015	0.021	1.092	0.150	0.000	0.029	1.891	0.052	1.924	0.035	0.000	0.035	61.098	0.374	0.780	0.029	1.799	0.631
807	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.002	0.006	0.000	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.042	0.006	0.002	0.005	0.000	0.009	0.010	0.016	0.000	0.021	0.375	0.142	0.031	0.029	0.883	0.047	2.627	0.043	0.000	0.032	59.819	0.381	2.563	0.037	0.980	0.634
808	Vermillion Consolidated Oils 15 (VCO#15) 6-12-49-6W4	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.002	0.002	0.000	0.004	0.000	0.003	0.049	0.007	0.000	0.005	0.000	0.009	0.018	0.017	0.010	0.022	0.212	0.128	0.003	0.029	0.818	0.046	2.587	0.042	0.000	0.031	56.415	0.365	2.498	0.036	0.000	0.578
816	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.001	0.001	0.007	0.001	0.024	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.000	0.005	0.004	0.001	0.001	0.002	0.000	0.003	0.004	0.009	2.315	0.035	0.019	0.007	0.011	0.009	0.018	0.016	0.191	0.027	2.095	0.091	0.000	0.021	8.437	0.071	6.744	0.064	2.554	0.040	23.459	0.140	1.956	0.026	0.839	0.308
818	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.004	0.001	0.047	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.001	0.002	0.000	0.004	0.000	0.007	0.988	0.027	0.010	0.007	0.003	0.010	0.007	0.018	0.073	0.027	0.159	0.080	0.000	0.024	1.109	0.049	7.092	0.079	0.000	0.035	22.531	0.171	3.549	0.041	0.000	0.347
819	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.001	0.001	0.009	0.001	0.020	0.001	0.004	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.002	0.005	0.003	0.001	0.001	0.002	0.001	0.003	0.001	0.008	1.775	0.030	0.026	0.007	0.002	0.008	0.007	0.015	0.162	0.026	1.846	0.088	0.000	0.020	6.577	0.063	6.610	0.062	1.188	0.030	26.526	0.155	1.103	0.021	0.903	0.310
820	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.001	0.001	0.008	0.001	0.010	0.001	0.007	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.005	0.013	0.001	0.002	0.002	0.000	0.003	0.020	0.011	3.145	0.041	0.035	0.007	0.010	0.009	0.010	0.016	0.244	0.028	2.552	0.084	0.000	0.019	11.136	0.082	6.085	0.055	1.408	0.029	17.381	0.108	1.177	0.020	0.659	0.250
821	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.001	0.001	0.005	0.001	0.044	0.001	0.003	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.004	0.005	0.001	0.001	0.000	0.002	0.000	0.003	0.000	0.007	1.183	0.025	0.011	0.006	0.008	0.009	0.009	0.015	0.140	0.025	2.014	0.092	0.000	0.022	9.429	0.069	12.431	0.105	2.086	0.036	17.943	0.108	9.009	0.056	1.655	0.321
822	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.004	0.001	0.051	0.001	0.003	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.000	0.005	0.004	0.001	0.000	0.002	0.000	0.003	0.006	0.009	1.798	0.033	0.023	0.007	0.000	0.008	0.000	0.015	0.128	0.026	1.370	0.100	0.000	0.023	4.083	0.053	9.064	0.087	1.484	0.036	29.057	0.175	7.452	0.051	1.043	0.391
826	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.001	0.001	0.003	0.001	0.036	0.001	0.004	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.000	0.005	0.003	0.001	0.001	0.002	0.001	0.003	0.000	0.008	1.662	0.030	0.021	0.007	0.005	0.008	0.005	0.015	0.161	0.026	2.324	0.090	0.000	0.020	8.091	0.070	8.972	0.079	1.016	0.029	18.895	0.118	3.998	0.036	1.448	0.291
827	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.002	0.002	0.001	0.001	0.002	0.006	0.001	0.001	0.000	0.002	0.001	0.004	0.001	0.004	0.241	0.013	0.005	0.006	0.004	0.009	0.005	0.016	0.063	0.025	1.682	0.138	0.000	0.028	4.277	0.060	4.841	0.061	0.000	0.036	49.016	0.311	2.866	0.036	2.443	0.543
828	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.003	0.006	0.000	0.001	0.002	0.002	0.000	0.003	0.000	0.003	0.102	0.009	0.003	0.006	0.008	0.009	0.002	0.016	0.042	0.023	0.827	0.147	0.000	0.029	1.417	0.049	2.610	0.042	0.000	0.034	60.852	0.373	1.866	0.033	1.187	0.634
830	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.000	0.001	0.004	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.005	0.006	0.000	0.001	0.000	0.002	0.000	0.003	0.000	0.003	0.133	0.010	0.003	0.005	0.008	0.009	0.002	0.015	0.019	0.022	0.820	0.130	0.000	0.027	1.871	0.050	3.494	0.049	0.000	0.032	52.980	0.332	2.855	0.036	1.100	0.555
831	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.002	0.006	0.001	0.001	0.001	0.002	0.001	0.004	0.000	0.003	0.113	0.009	0.003	0.005	0.000	0.008	0.006	0.016	0.008	0.021	0.557	0.139	0.000	0.029	1.229	0.048	2.502	0.041	0.000	0.032	59.949	0.369	1.718	0.033	0.555	0.613
834	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.003	0.000	0.001	0.000	0.007	0.000	0.001	0.003	0.002	0.000	0.004	0.003	0.003	0.043	0.007	0.000	0.006	0.001	0.009	0.000	0.016	0.019	0.024	0.000	0.138	0.000	0.029	0.016	0.043	1.230	0.030	1.605	0.060	60.195	0.403	0.856	0.030	0.000	0.634
835	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.003	0.000	0.001	0.000	0.007	0.000	0.001	0.000	0.002	0.002	0.004	0.000	0.003	0.056	0.008	0.002	0.006	0.001	0.010	0.003	0.017	0.000	0.022	0.016	0.142	0.000	0.030	0.082	0.044	1.346	0.032	1.401	0.059	61.643	0.413	0.880	0.031	0.388	0.655
837	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.003	0.001	0.001	0.001	0.008	0.001	0.001	0.000	0.003	0.000	0.004	0.000	0.003	0.052	0.009	0.000	0.006	0.000	0.011	0.000	0.019	0.001	0.026	0.000	0.125	0.000	0.032	0.000	0.051	0.819	0.025	0.000	0.044	47.756	0.406	0.210	0.030	0.000	0.566
838	Blackfoot Devonian Test Syndicate #1 12-15-50-2W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.005	0.006	0.002	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.159	0.010	0.003	0.005	0.002	0.009	0.020	0.017	0.043	0.023	1.687	0.133	0.000	0.027	4.122	0.056	5.798	0.071	4.356	0.068	44.736	0.271	5.135	0.043	1.031

Appendix 5
Historic Core XRF Results

Sample ID	Well	Sample Depth (m)	Description	Located on Alberta Potash Project	Unit	Carnallite[1] (%)	KCl in Carnallite[1] (%)	KCl total[1] (%)	KCl sylvite[1] (%)	$CaSO_4$[1] (%)	K/Mg molar[2]	$MgCl_2$[3]	Carnallite[3]	SiO2	Al2O3	Fe2O3	MgO	CaO	K2O	TiO2	P2O5	MnO	Cr2O3	SO4	V2O5	NiO	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Pd	Pd Error	Ag	Ag Error	Bal	Bal Error	Mo	Mo Error
885	Pectal Dina 10-32-45-1W4	1059.78	PE Salt and Potash	Wainwright Block	%	20.362	5.465	6.869	1.404	18.518	2.021	6.968	20.345	5.802	2.131	0.249	2.954	7.627	4.339	0.424	0.000	0.012	0.015	4.404	0.243	0.001	0.006	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.006	0.004	38.187	0.686	0.000	0.001
886	Pectal Dina 10-32-45-1W4	Duplicate of 884	Duplicate of 885	Wainwright Block	%	14.957	4.014	6.258	2.244	17.707	2.507	5.118	14.945	5.635	1.895	0.230	2.170	7.293	3.953	0.339	0.000	0.008	0.000	4.336	0.280	0.000	0.003	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.005	0.004	39.874	0.667	0.000	0.001
887	Pectal Dina 10-32-45-1W4	1060.07	PE Salt and minor Potash	Wainwright Block	%	28.588	7.673	4.611	0.000	26.567	0.966	9.783	28.566	8.497	3.208	0.420	4.148	10.942	2.913	0.397	0.000	0.012	0.000	6.070	0.303	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.001	0.001	0.004	0.003	37.002	0.673	0.000	0.001
888	Pectal Dina 10-32-45-1W4	1060.4	PE Salt and minor Potash	Wainwright Block	%	21.230	5.698	1.274	0.000	29.665	0.360	7.265	21.213	9.107	2.827	0.340	3.080	12.218	0.805	0.684	0.000	0.034	0.006	6.978	0.421	0.001	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	41.214	0.640	0.001	0.001
889	Pectal Dina 10-32-45-1W4	1060.61	PE Salt and minor Potash	Wainwright Block	%	30.051	8.066	2.185	0.000	31.387	0.436	10.283	30.027	16.307	4.877	0.769	4.360	12.927	1.380	0.487	0.000	0.019	0.018	8.099	0.268	0.001	0.001	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	42.404	0.612	0.000	0.001
890	Pectal Dina 10-32-45-1W4	1061	PE Salt and minor Potash	Wainwright Block	%	22.030	5.913	1.741	0.000	27.956	0.474	7.538	22.012	10.454	3.626	0.475	3.196	11.514	1.100	0.505	0.000	0.013	0.019	7.029	0.364	0.001	0.003	0.005	0.003	0.004	0.002	0.003	0.001	0.001	0.008	0.005	39.425	0.649	0.001	0.001
891	Pectal Dina 10-32-45-1W4	1061.3	PE Salt and minor Potash	Wainwright Block	%	17.379	4.665	2.338	0.000	36.256	0.806	5.947	17.366	12.664	3.807	0.529	2.522	14.932	1.477	0.699	0.000	0.036	0.015	8.243	0.532	0.001	0.005	0.005	0.000	0.004	0.001	0.003	0.000	0.001	0.007	0.005	44.063	0.581	0.000	0.001
892	Pectal Dina 10-32-45-1W4	1061.55	PE Salt and minor Potash	Wainwright Block	%	22.407	6.014	0.744	0.000	18.821	0.199	7.668	22.389	6.925	2.642	0.259	3.251	7.752	0.470	0.280	0.000	0.013	0.006	7.796	0.141	0.000	0.001	0.005	0.005	0.004	0.001	0.003	0.002	0.001	0.005	0.003	35.588	0.708	0.000	0.001
893	Pectal Dina 10-32-45-1W4	1061.88	PE Salt and minor Potash	Wainwright Block	%	29.103	7.811	4.527	0.000	15.933	0.932	9.959	29.080	7.228	2.747	0.290	4.223	6.562	2.860	0.209	0.000	0.014	0.000	3.667	0.134	0.000	0.005	0.005	0.001	0.004	0.000	0.003	0.000	0.001	0.006	0.004	35.017	0.719	0.001	0.001
894	Pectal Dina 10-32-45-1W4	1062.19	PE Salt and minor Potash	Wainwright Block	%	24.087	6.465	5.492	0.000	15.519	1.366	8.242	24.067	9.235	2.258	0.608	3.495	6.392	3.469	0.187	0.000	0.010	0.003	2.691	0.041	0.001	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.003	45.480	0.616	0.000	0.001
895	Pectal Dina 10-32-45-1W4	1062.56	PE Salt and minor Potash	Wainwright Block	%	33.593	9.016	3.438	0.000	30.045	0.613	11.495	33.567	11.319	3.405	0.495	4.874	12.375	2.172	0.724	0.000	0.035	0.028	6.894	0.525	0.001	0.002	0.004	0.000	0.004	0.000	0.002	0.001	0.001	0.005	0.004	40.140	0.627	0.000	0.001
896	Pectal Dina 10-32-45-1W4	1062.85	PE Salt and minor Potash	Wainwright Block	%	9.678	2.598	1.838	0.000	7.481	1.138	3.312	9.670	3.637	1.098	0.157	1.404	3.081	1.161	0.137	0.000	0.010	0.000	2.133	0.089	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	39.923	0.691	0.001	0.001
897	Pectal Dina 10-32-45-1W4	1063.06	PE Salt and minor Potash	Wainwright Block	%	13.997	3.757	1.726	0.000	14.211	0.739	4.790	13.986	4.509	1.769	0.157	2.031	5.853	1.090	0.255	0.000	0.017	0.006	3.437	0.195	0.001	0.001	0.005	0.002	0.004	0.004	0.003	0.001	0.001	0.005	0.003	37.728	0.697	0.001	0.001
898	Pectal Dina 10-32-45-1W4	1063.36	PE Salt and minor Potash	Wainwright Block	%	19.367	5.198	3.076	0.000	29.016	0.952	6.627	19.352	6.965	2.400	0.312	2.810	11.951	1.943	0.515	0.000	0.025	0.000	6.295	0.407	0.001	0.000	0.005	0.000	0.004	0.001	0.003	0.001	0.001	0.005	0.003	40.204	0.654	0.000	0.001
899	Pectal Dina 10-32-45-1W4	1063.65	PE Salt and minor Potash	Wainwright Block	%	29.434	7.900	1.752	0.000	26.618	0.357	10.072	29.411	8.480	3.352	0.246	4.271	10.963	1.107	0.405	0.000	0.017	0.006	5.750	0.286	0.004	0.007	0.005	0.002	0.004	0.001	0.003	0.000	0.001	0.007	0.005	37.050	0.691	0.001	0.001
900	Pectal Dina 10-32-45-1W4	1063.97	PE Salt and minor Potash	Wainwright Block	%	27.617	7.412	5.082	0.000	19.018	1.103	9.450	27.595	7.994	2.847	0.465	4.007	7.833	3.210	0.138	0.000	0.009	0.009	7.604	0.086	0.003	0.001	0.005	0.000	0.004	0.002	0.003	0.000	0.001	0.006	0.004	39.330	0.660	0.001	0.001
901	Pectal Dina 10-32-45-1W4	1064.16	PE Salt and Potash	Wainwright Block	%	47.476	12.743	8.463	0.000	17.822	1.068	16.246	47.438	5.406	2.075	0.237	6.889	7.340	5.346	0.300	0.000	0.009	0.015	3.622	0.164	0.000	0.002	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.006	0.004	33.616	0.728	0.001	0.001
902	Pectal Dina 10-32-45-1W4	1064.33	PE Salt and Potash	Wainwright Block	%	36.610	9.826	2.723	0.000	27.953	0.446	12.528	36.581	8.826	2.902	0.357	5.312	11.513	1.720	0.242	0.000	0.009	0.013	5.876	0.145	0.004	0.006	0.005	0.000	0.004	0.001	0.003	0.001	0.001	0.005	0.004	38.172	0.664	0.001	0.001
903	Pectal Dina 10-32-45-1W4	1064.62	PE Salt and Potash	Wainwright Block	%	45.065	12.095	12.076	0.000	25.632	1.606	15.421	45.029	9.164	2.864	0.410	6.539	10.557	7.629	0.492	0.000	0.030	0.001	5.207	0.393	0.000	0.002	0.005	0.006	0.004	0.001	0.003	0.001	0.001	0.005	0.004	35.350	0.684	0.000	0.001
905	Pectal Dina 10-32-45-1W4	1064.86	PE Salt	Wainwright Block	%	11.003	2.953	0.107	0.000	20.159	0.058	3.765	10.995	3.690	1.345	0.154	1.597	8.303	0.067	0.337	0.000	0.014	0.000	3.050	0.228	0.000	0.001	0.005	0.004	0.004	0.003	0.003	0.001	0.001	0.006	0.004	36.889	0.712	0.001	0.001
906	Pectal Dina 10-32-45-1W4	1065.24	PE Salt and minor Potash	Wainwright Block	%	19.539	5.244	1.114	0.000	30.704	0.342	6.686	19.523	11.004	3.042	0.279	2.835	12.646	0.703	0.535	0.000	0.026	0.015	5.426	0.409	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	39.114	0.658	0.001	0.001
907	Pectal Dina 10-32-45-1W4	1065.41	PE Salt and minor Potash	Wainwright Block	%	20.739	5.566	1.649	0.000	32.797	0.477	7.097	20.722	7.810	2.407	0.217	3.009	13.508	1.042	0.764	0.000	0.019	0.013	7.365	0.478	0.000	0.005	0.005	0.001	0.004	0.000	0.003	0.001	0.001	0.005	0.004	41.649	0.631	0.001	0.001
908	Pectal Dina 10-32-45-1W4	1065.76	PE Salt and minor Potash	Wainwright Block	%	12.855	3.450	4.147	0.697	21.216	1.933	4.399	12.844	5.286	1.332	0.353	1.865	8.738	2.620	0.596	0.000	0.021	0.010	4.581	0.453	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	52.699	0.542	0.000	0.001
909	Pectal Dina 10-32-45-1W4	1066.03	PE Salt and minor Potash	Wainwright Block	%	35.718	9.587	2.029	0.000	17.856	0.340	12.223	35.690	9.207	3.042	0.227	5.183	7.354	1.282	0.224	0.000	0.010	0.000	3.823	0.129	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	36.517	0.704	0.001	0.001
910	Pectal Dina 10-32-45-1W4	1066.36	PE Salt and minor Potash	Wainwright Block	%	25.766	6.916	4.643	0.000	23.349	1.080	8.817	25.746	5.412	1.959	0.183	3.739	9.617	2.933	0.497	0.000	0.019	0.004	5.543	0.318	0.000	0.001	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.005	0.004	38.190	0.674	0.000	0.001
911	Pectal Dina 10-32-45-1W4	1066.65	PE Salt and minor Potash	Wainwright Block	%	19.036	5.109	2.016	0.000	30.113	0.634	6.514	19.021	6.989	2.294	0.309	2.762	12.403	1.273	0.609	0.000	0.030	0.001	7.233	0.455	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	42.409	0.637	0.000	0.001
912	Pectal Dina 10-32-45-1W4	1067.03	PE Salt and minor Potash	Wainwright Block	%	17.596	4.723	2.370	0.000	38.362	0.807	6.021	17.582	8.582	2.439	0.326	2.553	15.800	1.497	0.926	0.000	0.040	0.016	8.698	0.721	0.003	0.005	0.005	0.004	0.004	0.000	0.003	0.000	0.001	0.007	0.005	44.622	0.597	0.001	0.001
913	Pectal Dina 10-32-45-1W4	1067.25	PE Salt and minor Potash	Wainwright Block	%	15.643	4.198	2.519	0.000	16.392	0.965	5.353	15.630	4.343	1.723	0.127	2.270	6.751	1.591	0.212	0.000	0.012	0.000	7.874	0.145	0.003	0.001	0.005	0.000	0.004	0.000	0.003	0.001	0.001	0.005	0.004	35.886	0.711	0.001	0.001
914	Pectal Dina 10-32-45-1W4	1067.53	PE Salt and minor Potash	Wainwright Block	%	17.928	4.812	3.652	0.000	30.225	1.221	6.135	17.914	6.715	2.343	0.197	2.601	12.449	2.307	0.582	0.000	0.021	0.000	5.663	0.428	0.000	0.003	0.005	0.000	0.004	0.001	0.003	0.000	0.001	0.008	0.005	37.544	0.680	0.001	0.001
915	Pectal Dina 10-32-45-1W4	Duplicate of 913	Duplicate of 914	Wainwright Block	%	12.900	3.462	3.911	0.449	29.312	1.817	4.414	12.890	6.730	2.205	0.190	1.872	12.072	2.471	0.592	0.000	0.025	0.000	5.591	0.446	0.000	0.003	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	39.291	0.649	0.001	0.001
916	Pectal Dina 10-32-45-1W4	1067.88	PE Salt and minor Potash	Wainwright Block	%	21.207	5.692	2.342	0.000	43.600	0.662	7.257	21.190	8.835	3.084	0.347	3.077	17.957	1.479	0.961	0.000	0.039	0.012	9.663	0.810	0.000	0.000	0.005	0.000	0.004	0.001	0.003	0.001	0.001	0.006	0.005	42.836	0.600	0.001	0.001
917	Pectal Dina 10-32-45-1W4	1068.06	PE Salt	Wainwright Block	%	6.170	1.656	0.000	0.000	1.705	0.000	2.111	6.165	0.000	0.096	0.014	0.895	0.702	0.000	0.025	0.000	0.003	0.006	0.360	0.021	0.003	0.004	0.005	0.003	0.004	0.001	0.003	0.001	0.001	0.006	0.004	31.193	0.807	0.001	0.001
918	Pectal Dina 10-32-45-1W4	1068.4	PE Salt and minor Potash	Wainwright Block	%	19.276	5.174	5.702	0.528	22.204	1.772	6.596	19.261	3.087	1.132	0.119	2.797	9.145	3.602	0.355	0.000	0.019	0.009	7.461	0.252	0.001	0.003	0.005	0.000	0.004	0.000	0.003	0.001	0.001	0.005	0.003	34.944	0.713	0.000	0.001
919	Pectal Dina 10-32-45-1W4	1068.56	PE Salt and trace Potash	Wainwright Block	%	13.540	3.634	0.896	0.000	23.387	0.397	4.633	13.529	3.006	0.678	0.262	1.965	9.632	0.566	0.616	0.000	0.021	0.003	4.812	0.493	0.004	0.007	0.005	0.003	0.004	0.001	0.003	0.000	0.001	0.007	0.005	44.987	0.647	0.000	0.001
920	Pectal Dina 10-32-45-1W4	1069.01	PE Salt	Wainwright Block	%	5.073	1.362	0.000	0.000	6.339	0.000	1.736	5.069	0.000	0.072	0.021	0.736	2.611	0.000	0.055	0.057	0.001	0.000	3.784	0.023	0.000	0.002	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.005	0.004	31.458	0.792	0.000	0.001
921	Pectal Dina 10-32-45-1W4	1069.38	PE Salt and minor Potash	Wainwright Block	%	44.962	12.068	1.691	0.000	25.405	0.225	15.386	44.927	4.199	1.725	0.209	6.524	10.463	1.068	0.482	0.000	0.019	0.003	5.001	0.370	0.006	0.000	0.005	0.003	0.004	0.000	0.003	0.000	0.001	0.005	0.003	37.928	0.696	0.001	0.001
922	Pectal Dina 10-32-45-1W4	1069.67	PE Salt and minor Potash	Wainwright Block	%	2.182	0.586	0.389	0.000	2.636	1.068	0.747	2.181	0.000	0.079	0.021	0.317	1.086	0.246	0.000	0.011	0.010	0.000	0.740	0.041	0.001	0.004	0.005	0.003	0.004	0.002	0.003	0.001	0.001	0.005	0.003	32.679	0.788	0.001	0.001
923	Pectal Dina 10-32-45-1W4	1070.02	PE Salt and Potash	Wainwright Block	%	26.612	7.143	8.478	1.335	13.022	1.909	9.106	26.591	2.650	0.918	0.266	3.861	5.363	5.356	0.222	0.000	0.021	0.000	3.455	0.171	0.000	0.000	0.005	0.000	0.004	0.001	0.003	0.001	0.001	0.007	0.005	38.141	0.704	0.001	0.001
924	Pectal Dina 10-32-45-1W4	Duplicate of 922	Duplicate of 923	Wainwright Block	%	42.300	11.353	11.144	0.000	11.911	1.579	14.475	42.266	2.445	1.020	0.250	6.138	4.906	7.040	0.237	0.000	0.013	0.009	3.736	0.186	0.004	0.000	0.005	0.001	0.004	0.000	0.003	0.000	0.001	0.006	0.004	34.375	0.704	0.000	0.001
931	Pectal Dina 10-32-45-1W4	1070.15	PE Salt and minor Potash	Wainwright Block	%	10.786	2.895	0.595	0.000	8.272	0.331	3.691	10.778	1.904	0.240	0.276	1.565	3.407	0.376	0.095	0.000	0.000	0.000	3.338	0.005	0.000	0.000	0.005	0.000	0.005	0.000	0.003	0.000	0.001	0.004	0.003	48.901	0.653	0.000	0.001
935	Pectal Dina 10-32-45-1W4	1070.5	PE Salt and minor Potash	Wainwright Block	%	14.866	3.990	2.153	0.000	29.087	0.868	5.087	14.854	6.328	2.120	0.315	2.157	11.980	1.360	0.470	0.000	0.023	0.003	5.031	0.298	0.001	0.002	0.005	0.001	0.004	0.001	0.003	0.000	0.001	0.008	0.006	39.961	0.654	0.000	0.001
936	Pectal Dina 10-32-45-1W4	1070.85	PE Salt and minor Potash	Wainwright Block	%	28.097	7.541	2.429	0.000	33.113	0.518	9.615	28.075	8.088	2.713	0.232	4.077	13.638	1.535	0.611	0.000	0.022	0.004	9.099	0.421	0.001	0.005	0.005	0.004	0.004	0.001	0.003	0.000	0.001	0.008	0.005	38.288	0.660	0.001	0.001
937	Pectal Dina 10-32-45-1W4	1071.15	Halite	Wainwright Block	%	8.707	2.337	0.019	0.000	11.377	0.013	2.979	8.700	2.396	0.780	0.133	1.263	4.686	0.012	0.167	0.000	0.003	0.000	3.134	0.095	0.001	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	37.942	0.715	0.000	0.001
938	Pectal Dina 10-32-45-1W4	1071.63	PE Salt and minor Potash	Wainwright Block	%	26.955	7.235	1.859	0.000	35.162	0.413	9.224	26.933	8.822	2.910	0.305	3.911	14.482	1.174	0.542	0.000	0.025	0.019	13.863	0.448	0.003	0.001	0.005	0.000	0.004	0.001	0.003	0.000	0.001	0.005	0.004	36.585	0.670	0.001	0.001
939	Pectal Dina 10-32-45-1W4	1072.07	Halite	Wainwright Block	%	21.367	5.735	0.622	0.000	38.929	0.174	7.312	21.350	9.325	3.006	0.250	3.100	16.033	0.393	0.702	0.000	0.022	0.019	9.654	0.516	0.003	0.003	0.005	0.000	0.004	0.001	0.003	0.000	0.001	0.007	0.005	40.424	0.635	0.001	0.001
940	Pectal Dina 10-32-45-1W4	1072.34	Halite	Wainwright Block	%	25.355	6.805	0.313	0.000	12.730	0.074	8.676	25.335	3.187	1.238	0.160	3.679	5.243	0.198	0.209	0.000	0.017	0.009	2.792	0.136	0.000	0.000	0.005	0.001	0.004	0.002	0.003	0.001	0.001	0.006	0.004	35.071	0.735	0.000	0.001
941	Pectal Dina 10-32-45-1W4	1072.66	PE Salt and minor Potash	Wainwright Block	%	2.400	0.644	3.053	2.409	4.406	7.624	0.821	2.398	0.582	0.272	0.053	0.348	1.815	1.929	0.038	0.000	0.012	0.000	0.276	0.046	0.000	0.006	0.005	0.002	0.004	0.002	0.003	0.001	0.001	0.009	0.006	32.941	0.827	0.001	0.001
942	Pectal Dina 10-32-45-1W4	1072.92	PE Salt and trace Potash	Wainwright Block	%	19.653	5.275	1.676	0.000	11.051	0.511	6.725	19.638	2.315	1.030	0.099	2.852	4.552	1.059	0.209	0.000	0.008	0.013	1.744	0.121	0.001	0.004	0.005	0.003	0.004	0.000	0.003	0.000	0.001	0.006	0.005	33.337	0.764	0.001	0.001
943	Pectal Dina 10-32-45-1W4	1073.29	Halite	Wainwright Block	%	20.442	5.487	0.000	0.000	12.614	0.000	6.995	20.425	3.827	1.880	0.150	2.966	5.195	0.000	0.224	0.000	0.009	0.012	1.097	0.125	0.000	0.000	0.004	0.000	0.004	0.001	0.003	0.000	0.001	0.007	0.005	33.424	0.755	0.001	0.001
944	Pectal Dina 10-32-45-1W4	Duplicate of 942	Duplicate of 943	Wainwright Block	%	16.659	4.471	0.000	0.000	12.424	0.000	5.701	16.646	3.607	1.874	0.156	2.417	5.117	0.000	0.222	0.000	0.006	0.000	1.043	0.143	0.000	0.001	0.004	0.001	0.004	0.000	0.002	0.000	0.001	0.006	0.004	33.246	0.812	0.001	0.001
945	Pectal Dina 10-32-45-1W4	1073.58	PE Salt and minor Potash	Wainwright Block	%	7.267	1.950	3.188	1.238	7.770	2.629	2.487	7.261	1.065	0.510	0.054	1.054	3.200	2.014	0.145	0.000	0.009	0.003	2.349	0.095	0.003	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	33.983	0.756	0.001	0.001
946	Pectal Dina 10-32-45-1W4	1073.9	PE Salt and minor Potash	Wainwright Block	%	20.567	5.520	0.942	0.000	44.640	0.274	7.038	20.551	8.681	2.657	0.340	2.984	18.385	0.595	1.143	0.000	0.036	0.012	8.422	0.868	0.001	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	42.985	0.595	0.001	0.001
947	Pectal Dina 10-32-45-1W4	1074.22	PE Salt and minor Potash	Wainwright Block	%	14.888	3.996	2.208	0.000	33.473	0.889	5.095	14.877	8.242	2.849	0.295	2.160	13.786	1.395	0.716	0.000	0.030	0.019	6.990	0.580	0.000	0.003	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	41.307	0.631	0.001	0.001
948	Pectal Dina 10-32-45-1W4	1074.63	PE Salt and minor Potash	Wainwright Block	%	26.349	7.072	1.588	0.000	43.536	0.361	9.016	26.328	14.934	4.941	0.443	3.823	17.931	1.003	0.904	0.000	0.032	0.020	8.866	0.536	0.001	0.002	0.005	0.003	0.004	0.000	0.003	0.000	0.001	0.006	0.004	40.057	0.623	0.001	0.001
949	Pectal Dina 10-32-45-1W4	1075.18	PE Salt and minor Potash	Wainwright Block	%	14.317	3.843	3.840	0.000	28.591	1.607	4.899	14.306	5.521	1.978	0.202	2.077	11.776	2.426	0.489	0.000	0.022	0.000	5.801	0.386	0.005	0.004	0.005	0.003	0.004	0.001	0.003	0.000	0.001	0.009	0.006	36.071	0.692	0.001	0.001
950	Pectal Dina 10-32-45-1W4	1075.79	PE Salt and minor Potash	Wainwright Block	%	12.729	3.416	0.646	0.000	22.904	0.304	4.356	12.719	5.063	2.058	0.130	1.847	9.433	0.408	0.355	0.000	0.027	0.000	5.013	0.282	0.000	0.001	0.005	0.000	0.004	0.002	0.003	0.000	0.001	0.007	0.005	36.559	0.705	0.000	0.001
951	Pectal Dina 10-32-45-1W4	1076.4	PE Salt and trace Potash	Wainwright Block	%	17.402	4.671	1.405	0.000	27.993	0.484	5.955	17.388	8.993	3.018	0.270	2.525	11.529	0.888	0.497	0.000	0.017	0.020	7.967	0.325	0.000	0.002	0.004	0.000	0.004	0.000	0.002	0.001	0.001	0.006	0.004	39.087	0.645	0.001	0.001
952	Pectal Dina 10-32-45-1W4	1077.06	PE Salt and minor Potash	Wainwright Block	%	19.082	5.122	7.187	2.065	10.372	2.257	6.530	19.067	0.898	0.382	0.172	2.769	4.272	4.540	0.304	0.000	0.019	0.006	1.273	0.195	0.000	0.001	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	32.884	0.768	0.001	0.001
953	Pectal Dina 10-32-45-1W4	1077.6	Salt	Wainwright Block	%	16.728	4.490	0.000	0.000	8.829	0.000	5.724	16.715	1.547	0.966	0.099	2.427	3.637	0.000	0.125	0.000	0.013	0.003	1.420	0.100	0.003	0.004	0.005	0.003	0.004	0.000	0.003	0.001	0.001	0.007	0.005	32.917	0.779	0.001	0.001
954	Pectal Dina 10-32-45-1W4	1078.22	PE Salt and Potash	Wainwright Block	%	6.627	1.779	9.914	8.135	11.228	8.964	2.268	6.622	0.864

Appendix 5
Historic Core XRF Results

Sample ID	Well	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error	Bi	Bi Error	As	As Error	Se	Se Error	Au	Au Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Al	Al Error	P	P Error	Si	Si Error	Ca	Ca Error	K	K Error	Cl	Cl Error	S	S Error	Mg	Mg Error
885	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.001	0.002	0.001	0.004	0.000	0.003	0.174	0.011	0.009	0.006	0.010	0.011	0.136	0.026	0.254	0.035	1.128	0.127	0.000	0.026	2.712	0.053	5.451	0.068	3.602	0.063	45.060	0.275	1.470	0.029	1.782	0.525
886	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.001	0.002	0.000	0.004	0.000	0.003	0.161	0.011	0.006	0.006	0.000	0.010	0.157	0.026	0.203	0.032	1.003	0.123	0.000	0.026	2.634	0.053	5.212	0.065	3.282	0.060	44.694	0.275	1.447	0.029	1.309	0.512
887	Pectal Dina 10-32-45-1W4	0.000	0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.000	0.002	0.000	0.003	0.000	0.004	0.294	0.014	0.009	0.006	0.000	0.010	0.170	0.026	0.238	0.033	1.698	0.129	0.000	0.025	3.972	0.057	7.820	0.085	2.418	0.051	41.836	0.248	2.026	0.030	2.502	0.503
888	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.001	0.001	0.000	0.006	0.004	0.001	0.000	0.002	0.001	0.004	0.000	0.004	0.238	0.013	0.026	0.007	0.004	0.011	0.236	0.031	0.410	0.041	1.496	0.120	0.000	0.026	4.257	0.060	8.732	0.093	0.668	0.038	38.514	0.241	2.329	0.032	1.858	0.473
889	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.000	0.006	0.004	0.001	0.000	0.002	0.001	0.004	0.000	0.005	0.538	0.019	0.015	0.007	0.012	0.011	0.150	0.026	0.292	0.036	2.581	0.124	0.000	0.025	7.623	0.074	9.239	0.095	1.146	0.040	30.645	0.197	2.703	0.033	2.630	0.425
890	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.000	0.006	0.004	0.001	0.003	0.002	0.001	0.004	0.000	0.004	0.332	0.014	0.010	0.006	0.013	0.011	0.204	0.028	0.303	0.036	1.919	0.126	0.000	0.026	4.887	0.062	8.229	0.088	0.913	0.040	39.457	0.241	2.346	0.032	1.928	0.477
891	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.003	0.006	0.001	0.001	0.002	0.001	0.004	0.000	0.004	0.370	0.015	0.028	0.007	0.010	0.012	0.298	0.032	0.419	0.040	2.015	0.113	0.000	0.024	5.920	0.065	10.672	0.104	1.226	0.039	30.674	0.187	2.751	0.032	1.521	0.413
892	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.004	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.004	0.006	0.002	0.001	0.000	0.002	0.000	0.004	0.001	0.004	0.181	0.011	0.010	0.006	0.004	0.010	0.079	0.022	0.168	0.030	1.398	0.134	0.000	0.027	3.237	0.056	5.540	0.067	0.390	0.039	48.816	0.302	2.602	0.034	1.961	0.542
893	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.000	0.003	0.203	0.012	0.011	0.006	0.000	0.009	0.075	0.021	0.125	0.028	1.454	0.137	0.000	0.027	3.379	0.057	4.690	0.060	2.374	0.055	48.880	0.294	1.224	0.029	2.547	0.553
894	Pectal Dina 10-32-45-1W4	0.000	0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.002	0.006	0.000	0.001	0.002	0.002	0.001	0.004	0.000	0.005	0.425	0.017	0.008	0.006	0.002	0.009	0.023	0.018	0.112	0.028	1.195	0.115	0.000	0.026	4.317	0.063	4.568	0.058	2.880	0.056	37.969	0.247	0.898	0.026	2.108	0.460
895	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.004	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.001	0.001	0.000	0.006	0.003	0.001	0.000	0.002	0.001	0.003	0.000	0.004	0.346	0.015	0.027	0.007	0.019	0.012	0.294	0.032	0.434	0.040	1.802	0.120	0.000	0.025	5.291	0.062	8.844	0.091	1.803	0.044	35.736	0.214	2.301	0.031	2.940	0.459
896	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.110	0.009	0.008	0.006	0.000	0.009	0.050	0.020	0.082	0.026	0.581	0.126	0.000	0.028	1.700	0.051	2.202	0.037	0.964	0.046	52.809	0.343	0.712	0.028	0.847	0.546
897	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.004	0.001	0.001	0.002	0.001	0.004	0.000	0.003	0.110	0.009	0.013	0.006	0.004	0.010	0.109	0.023	0.153	0.029	0.936	0.130	0.000	0.027	2.108	0.051	4.183	0.055	0.905	0.044	51.353	0.313	1.147	0.029	1.225	0.549
898	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.003	0.006	0.002	0.001	0.001	0.002	0.001	0.004	0.000	0.004	0.218	0.012	0.019	0.007	0.004	0.011	0.228	0.030	0.309	0.037	1.270	0.121	0.000	0.025	3.256	0.055	8.541	0.093	1.613	0.046	40.525	0.247	2.101	0.031	1.695	0.491
899	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.002	0.006	0.000	0.001	0.001	0.002	0.003	0.004	0.000	0.003	0.172	0.011	0.013	0.006	0.004	0.011	0.160	0.027	0.243	0.034	1.774	0.133	0.000	0.026	3.964	0.058	7.835	0.087	0.919	0.042	43.339	0.267	1.919	0.031	2.576	0.515
900	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.004	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.002	0.006	0.002	0.001	0.000	0.002	0.002	0.004	0.000	0.004	0.325	0.014	0.007	0.006	0.010	0.048	0.019	0.083	0.026	1.507	0.125	0.000	0.026	3.737	0.057	5.598	0.067	2.665	0.053	41.716	0.259	2.538	0.033	2.417	0.493
901	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.004	0.006	0.002	0.001	0.000	0.002	0.000	0.003	0.000	0.003	0.166	0.010	0.007	0.006	0.010	0.010	0.092	0.022	0.180	0.030	1.098	0.137	0.000	0.026	2.527	0.052	5.246	0.065	4.438	0.069	47.233	0.274	1.209	0.028	4.155	0.567
902	Pectal Dina 10-32-45-1W4	0.000	0.001	0.001	0.001	0.004	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.000	0.002	0.003	0.004	0.000	0.004	0.250	0.013	0.007	0.006	0.009	0.010	0.081	0.022	0.145	0.029	1.536	0.126	0.000	0.025	4.126	0.058	8.228	0.088	1.428	0.043	40.824	0.245	1.961	0.030	3.204	0.497
903	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.002	0.001	0.000	0.006	0.003	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.287	0.014	0.023	0.007	0.001	0.011	0.220	0.029	0.295	0.036	1.516	0.128	0.000	0.025	4.284	0.057	7.545	0.084	6.333	0.080	38.437	0.221	1.738	0.028	3.944	0.508
905	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.001	0.002	0.000	0.004	0.000	0.003	0.108	0.009	0.011	0.006	0.000	0.010	0.128	0.025	0.202	0.032	0.712	0.130	0.000	0.027	1.725	0.049	5.934	0.072	0.056	0.038	52.230	0.322	1.018	0.028	0.963	0.563
906	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.000	0.006	0.005	0.001	0.001	0.002	0.000	0.003	0.000	0.004	0.195	0.011	0.020	0.007	0.010	0.011	0.229	0.030	0.321	0.037	1.610	0.125	0.000	0.026	5.144	0.064	9.038	0.096	0.584	0.039	40.196	0.246	1.811	0.030	1.710	0.490
907	Pectal Dina 10-32-45-1W4	0.001	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.001	0.001	0.003	0.006	0.001	0.000	0.002	0.002	0.000	0.004	0.000	0.003	0.152	0.010	0.015	0.007	0.009	0.012	0.268	0.032	0.458	0.042	1.274	0.116	0.000	0.025	3.651	0.056	9.654	0.100	0.865	0.039	37.701	0.232	2.458	0.032	1.815	0.470
908	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.004	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.002	0.001	0.005	0.006	0.008	0.001	0.001	0.002	0.000	0.004	0.000	0.004	0.247	0.013	0.016	0.007	0.007	0.012	0.254	0.032	0.357	0.039	0.705	0.097	0.000	0.024	2.471	0.053	6.245	0.071	2.175	0.048	32.140	0.213	1.529	0.028	1.125	0.407
909	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.002	0.006	0.002	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.159	0.010	0.008	0.006	0.000	0.009	0.072	0.021	0.134	0.029	1.610	0.135	0.000	0.027	4.304	0.061	5.256	0.065	1.064	0.044	46.460	0.291	1.276	0.029	3.126	0.532
910	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.006	0.006	0.001	0.001	0.001	0.002	0.000	0.003	0.000	0.003	0.128	0.009	0.015	0.006	0.003	0.010	0.178	0.027	0.298	0.035	1.037	0.125	0.000	0.026	2.530	0.052	6.873	0.078	2.435	0.053	44.186	0.261	1.850	0.030	2.255	0.521
911	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.001	0.006	0.008	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.216	0.012	0.023	0.007	0.001	0.011	0.255	0.031	0.365	0.039	1.214	0.118	0.000	0.026	3.267	0.056	8.864	0.094	1.057	0.043	38.224	0.236	2.414	0.033	1.666	0.481
912	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.004	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.002	0.001	0.000	0.006	0.013	0.002	0.002	0.002	0.002	0.004	0.000	0.004	0.228	0.012	0.031	0.008	0.011	0.013	0.404	0.038	0.555	0.045	1.291	0.110	0.000	0.024	4.012	0.058	11.292	0.113	1.243	0.041	31.824	0.197	2.903	0.034	1.540	0.437
913	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.004	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.005	0.006	0.002	0.001	0.002	0.002	0.002	0.004	0.000	0.003	0.089	0.008	0.009	0.006	0.000	0.009	0.081	0.022	0.127	0.028	0.912	0.131	0.000	0.027	2.030	0.050	4.825	0.062	1.321	0.047	50.696	0.309	2.628	0.035	1.369	0.557
914	Pectal Dina 10-32-45-1W4	0.001	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.002	0.006	0.005	0.001	0.001	0.002	0.000	0.004	0.000	0.003	0.138	0.010	0.016	0.007	0.000	0.011	0.240	0.031	0.349	0.038	1.240	0.126	0.000	0.026	3.139	0.054	8.897	0.097	1.915	0.049	43.035	0.256	1.890	0.030	1.569	0.517
915	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.002	0.006	0.005	0.001	0.001	0.002	0.000	0.003	0.000	0.003	0.133	0.010	0.019	0.007	0.000	0.010	0.250	0.030	0.355	0.037	1.167	0.120	0.000	0.025	3.146	0.054	8.628	0.092	2.051	0.048	41.938	0.245	1.866	0.030	1.129	0.495
916	Pectal Dina 10-32-45-1W4	0.001	0.001	0.000	0.001	0.005	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.005	0.006	0.009	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.243	0.013	0.030	0.008	0.008	0.013	0.454	0.039	0.576	0.046	1.632	0.112	0.000	0.024	4.130	0.057	12.834	0.124	1.228	0.039	30.916	0.187	3.225	0.034	1.856	0.431
917	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.006	0.006	0.000	0.001	0.001	0.002	0.002	0.004	0.002	0.002	0.010	0.004	0.002	0.005	0.004	0.009	0.012	0.016	0.015	0.021	0.051	0.149	0.000	0.030	0.000	0.040	0.502	0.019	0.000	0.035	67.521	0.412	0.120	0.028	0.540	0.684
918	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.002	0.001	0.000	0.002	0.001	0.004	0.001	0.003	0.083	0.008	0.015	0.006	0.006	0.010	0.141	0.025	0.213	0.032	0.599	0.129	0.000	0.026	1.443	0.046	6.536	0.078	2.990	0.059	48.834	0.287	2.490	0.033	1.687	0.563
919	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.004	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.004	0.003	0.004	0.001	0.000	0.007	0.005	0.001	0.002	0.002	0.003	0.004	0.000	0.004	0.183	0.012	0.016	0.007	0.002	0.012	0.276	0.034	0.369	0.041	0.359	0.114	0.000	0.027	1.405	0.049	6.884	0.081	0.470	0.042	42.215	0.277	1.606	0.031	1.185	0.506
920	Pectal Dina 10-32-45-1W4	0.001	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.006	0.006	0.001	0.001	0.001	0.002	0.000	0.004	0.002	0.002	0.015	0.005	0.001	0.005	0.000	0.008	0.013	0.016	0.033	0.023	0.038	0.144	0.025	0.029	0.000	0.040	1.866	0.036	0.000	0.039	64.822	0.397	1.263	0.032	0.444	0.663
921	Pectal Dina 10-32-45-1W4	0.000	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.005	0.001	0.002	0.002	0.005	0.004	0.001	0.003	0.146	0.010	0.015	0.007	0.002	0.011	0.207	0.029	0.289	0.036	0.913	0.128	0.000	0.026	1.963	0.049	7.478	0.084	0.887	0.042	44.538	0.273	1.669	0.030	3.935	0.537
922	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.000	0.002	0.001	0.004	0.000	0.002	0.015	0.005	0.008	0.006	0.000	0.009	0.023	0.017	0.000	0.020	0.042	0.144	0.005	0.029	0.000	0.041	0.776	0.023	0.204	0.044	65.785	0.407	0.247	0.028	0.191	0.663
923	Pectal Dina 10-32-45-1W4	0.000	0.001	0.001	0.001	0.002	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.004	0.003	0.001	0.001	0.000	0.007	0.007	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.186	0.011	0.016	0.007	0.000	0.010	0.096	0.023	0.133	0.029	0.486	0.127	0.000	0.026	1.239	0.047	3.833	0.054	4.446	0.072	47.913	0.294	1.153	0.028	2.329	0.555
924	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.004	0.006	0.008	0.001	0.000	0.002	0.003	0.004	0.000	0.004	0.175	0.011	0.010	0.006	0.006	0.010	0.104	0.023	0.142	0.029	0.540	0.127	0.000	0.026	1.143	0.045	3.506	0.051	5.844	0.082	46.177	0.279	1.247	0.028	3.702	0.551
931	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.193	0.012	0.000	0.006	0.000	0.010	0.003	0.018	0.057	0.027	0.127	0.116	0.000	0.029	0.890	0.051	2.435	0.041	0.312	0.047	45.013	0.329	1.114	0.031	0.944	0.517
935	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.006	0.006	0.001	0.001	0.002	0.002	0.001	0.004	0.000	0.004	0.220	0.012	0.018	0.007	0.002	0.010	0.167	0.027	0.282	0.035	1.122	0.121	0.000	0.026	2.958	0.054	8.562	0.092	1.129	0.042	42.567	0.257	1.679	0.029	1.301	0.498
936	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.004	0.006	0.004	0.001	0.001	0.002	0.001	0.004	0.001	0.004	0.162	0.011	0.017	0.007	0.003	0.011	0.236	0.031	0.366	0.039	1.436	0.123	0.000	0.025	3.781	0.056	9.747	0.102	1.274	0.042	39.158	0.237	3.037	0.034	2.459	0.491
937	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.003	0.006	0.001	0.001	0.002	0.002	0.001	0.004	0.000	0.003	0.093	0.008	0.002	0.005	0.000	0.009	0.053	0.020	0.100	0.027	0.413	0.130	0.000	0.028	1.120	0.048	3.349	0.049	0.010	0.039	55.091	0.348	1.046	0.029	0.762	0.576
938	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.003	0.006	0.003	0.001	0.000	0.002	0.002	0.004	0.000	0.004	0.213	0.012	0.019	0.007	0.013	0.012	0.251	0.031	0.325	0.037	1.540	0.125	0.000	0.025	4.124	0.057	10.350	0.106	0.975	0.040	38.596	0.234	4.627	0.041	2.359	0.497
939	Pectal Dina 10-32-45-1W4	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.001	0.001	0.000	0.006	0.004	0.001	0.002	0.002	0.002	0.004	0.000	0.003	0.175	0.011	0.017	0.007	0.013	0.012	0.289	0.033	0.421	0.041	1.591	0.119	0.000	0.025	4.

Appendix 5
Historic Core XRF Results

Sample ID	Well	Sample Depth (m)	Description	Located on Alberta Potash Project	Unit	Carnallite[1] (%)	KCl in Carnallite[1] (%)	KCl total[1] (%)	KCl sylvite[1] (%)	$CaSO_4$[1] (%)	K/Mg molar[2]	$MgCl_2$[3]	Carnallite[3]	SiO2	Al2O3	Fe2O3	MgO	CaO	K2O	TiO2	P2O5	MnO	Cr2O3	SO4	V2O5	NiO	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Pd	Pd Error	Ag	Ag Error	Bal	Bal Error	Mo	Mo Error
972	CDN Land MedHat 14-36-20-1W4	1674.91	Coarse-grained salt and trace potash	South Block	%	17.585	4.720	1.951	0.000	18.355	0.665	6.017	17.571	5.825	2.324	0.495	2.552	7.560	1.232	0.445	0.000	0.022	0.000	11.158	0.403	0.000	0.006	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.008	0.005	35.002	0.719	0.001	0.001
973	CDN Land MedHat 14-36-20-1W4	1675.68	Coarse-grained salt and trace potash	South Block	%	7.953	2.134	1.873	0.000	4.841	1.411	2.721	7.946	1.025	0.550	0.050	1.154	1.994	1.183	0.047	0.073	0.010	0.000	3.347	0.045	0.001	0.004	0.005	0.002	0.004	0.000	0.003	0.000	0.001	0.006	0.004	32.378	0.777	0.000	0.001
974	CDN Land MedHat 14-36-20-1W4	1676.3	Coarse-grained salt	South Block	%	15.837	4.251	0.000	0.000	4.848	0.000	5.419	15.824	1.155	0.812	0.046	2.298	1.997	0.000	0.038	0.000	0.003	0.018	2.876	0.048	0.000	0.004	0.005	0.002	0.004	0.002	0.003	0.000	0.001	0.009	0.006	30.014	0.815	0.001	0.001
975	CDN Land MedHat 14-36-20-1W4	1676.92	Coarse-grained salt	South Block	%	16.671	4.474	2.698	0.000	30.422	0.970	5.705	16.658	10.589	4.049	0.813	2.419	12.530	1.705	0.217	0.000	0.013	0.004	28.134	0.059	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.004	0.003	34.482	0.667	0.000	0.001
976	CDN Land MedHat 14-36-20-1W4	1677.54	Coarse-grained salt	South Block	%	0.000	0.000	0.000	0.000	2.667	#DIV/0!	0.000	0.000	0.000	0.208	0.051	0.000	1.098	0.000	0.078	0.000	0.004	0.007	1.201	0.061	0.001	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	31.013	0.859	0.001	0.001
977	CDN Land MedHat 14-36-20-1W4	1678.09	Coarse-grained salt and minor potash	South Block	%	3.999	1.073	3.802	2.729	3.037	5.697	1.369	3.996	0.000	0.304	0.076	0.580	1.251	2.402	0.028	0.000	0.004	0.001	2.208	0.002	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.003	32.085	0.792	0.000	0.001
978	CDN Land MedHat 14-36-20-1W4	1678.76	Coarse-grained salt	South Block	%	6.604	1.773	0.505	0.000	1.118	0.458	2.260	6.599	0.000	0.000	0.013	0.958	0.460	0.319	0.000	0.041	0.000	0.000	0.237	0.012	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	30.178	0.818	0.001	0.001
979	CDN Land MedHat 14-36-20-1W4	Duplicate of 977	Duplicate of 978	South Block	%	15.265	4.097	0.543	0.000	1.831	0.213	5.224	15.253	0.034	0.346	0.030	2.215	0.754	0.343	0.005	0.025	0.003	0.016	0.126	0.018	0.000	0.002	0.005	0.000	0.004	0.001	0.003	0.000	0.001	0.007	0.005	30.200	0.862	0.001	0.001
980	CDN Land MedHat 14-36-20-1W4	1679.34	Coarse-grained salt	South Block	%	7.187	1.929	0.000	0.000	0.679	0.000	2.459	7.181	0.000	0.000	0.020	1.043	0.280	0.000	0.040	0.000	0.005	0.000	0.000	0.000	0.001	0.000	0.004	0.002	0.004	0.000	0.003	0.000	0.001	0.006	0.004	30.940	0.813	0.001	0.001
981	CDN Land MedHat 14-36-20-1W4	1679.86	Coarse-grained salt	South Block	%	7.633	2.049	0.000	0.000	2.735	0.000	2.612	7.627	0.496	0.327	0.047	1.107	1.126	0.000	0.018	0.000	0.000	0.001	1.429	0.002	0.000	0.004	0.005	0.004	0.004	0.001	0.003	0.000	0.001	0.007	0.005	32.573	0.783	0.001	0.001
982	CDN Land MedHat 14-36-20-1W4	1680.49	Coarse-grained salt and minor potash	South Block	%	16.317	4.379	5.902	1.522	13.300	2.167	5.583	16.304	3.335	1.206	0.339	2.367	5.478	3.728	0.087	0.000	0.010	0.000	8.557	0.005	0.000	0.000	0.004	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	38.292	0.684	0.000	0.001
983	CDN Land MedHat 14-36-20-1W4	1681.1	Coarse-grained salt	South Block	%	2.251	0.604	0.000	0.000	9.122	0.000	0.770	2.249	0.019	0.000	0.097	0.327	3.757	0.000	0.057	0.000	0.009	0.010	6.244	0.012	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	35.277	0.741	0.001	0.001
984	CDN Land MedHat 14-36-20-1W4	1681.72	Coarse-grained salt	South Block	%	5.496	1.475	0.000	0.000	14.336	0.000	1.881	5.492	2.201	0.839	0.113	0.797	5.905	0.000	0.204	0.000	0.008	0.000	18.520	0.118	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	34.797	0.734	0.000	0.001
985	CDN Land MedHat 14-36-20-1W4	1682.28	Coarse-grained salt	South Block	%	13.597	3.649	0.530	0.000	19.507	0.234	4.653	13.586	7.070	3.016	0.250	1.973	8.034	0.335	0.555	0.000	0.027	0.000	10.145	0.471	0.004	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.007	0.005	34.909	0.710	0.000	0.001
986	CDN Land MedHat 14-36-20-1W4	1682.9	Coarse-grained salt	South Block	%	6.810	1.828	0.000	0.000	10.039	0.000	2.330	6.805	1.957	0.947	0.067	0.988	4.135	0.000	0.142	0.002	0.009	0.009	5.498	0.102	0.000	0.000	0.004	0.000	0.004	0.001	0.003	0.000	0.001	0.007	0.005	36.258	0.783	0.001	0.001
987	CDN Land MedHat 14-36-20-1W4	1684.12	Coarse-grained salt	South Block	%	8.021	2.153	0.589	0.000	18.277	0.440	2.745	8.015	6.989	3.303	0.219	1.164	7.528	0.372	0.322	0.000	0.015	0.003	9.792	0.230	0.000	0.002	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	33.545	0.731	0.000	0.001
988	CDN Land MedHat 14-36-20-1W4	1685.3	Coarse-grained salt	South Block	%	10.352	2.779	0.000	0.000	12.658	0.000	3.542	10.344	3.682	1.532	0.129	1.502	5.213	0.000	0.240	0.000	0.013	0.000	7.326	0.211	0.000	0.003	0.005	0.000	0.004	0.000	0.002	0.000	0.001	0.006	0.004	33.686	0.746	0.000	0.001
989	CDN Land MedHat 14-36-20-1W4	1686.5	Coarse-grained salt	South Block	%	0.000	0.000	0.000	0.000	1.169	#DIV/0!	0.000	0.000	0.000	0.000	0.016	0.000	0.481	0.000	0.023	0.044	0.008	0.003	0.000	0.014	0.000	0.002	0.005	0.003	0.004	0.000	0.002	0.000	0.001	0.005	0.003	31.018	0.852	0.000	0.001
990	CDN Land MedHat 14-36-20-1W4	1687.75	Coarse-grained salt	South Block	%	0.000	0.000	0.000	0.000	17.180	#DIV/0!	0.000	0.000	1.035	0.758	0.097	0.000	7.076	0.000	0.150	0.000	0.009	0.000	14.136	0.111	0.000	0.000	0.005	0.001	0.004	0.000	0.003	0.000	0.001	0.006	0.005	35.166	0.731	0.001	0.001
991	CDN Land MedHat 14-36-20-1W4	1688.98	Coarse-grained salt	South Block	%	12.615	3.386	1.022	0.000	4.515	0.486	4.317	12.605	1.696	1.434	0.087	1.830	1.860	0.646	0.057	0.000	0.005	0.001	2.121	0.041	0.004	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	33.078	0.834	0.000	0.001
992	CDN Land MedHat 14-36-20-1W4	1690.17	Coarse-grained salt	South Block	%	7.804	2.095	0.000	0.000	6.353	0.000	2.671	7.798	1.889	1.075	0.080	1.132	2.617	0.000	0.157	0.000	0.008	0.000	4.482	0.154	0.001	0.005	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.006	0.004	31.691	0.843	0.000	0.001
993	CDN Land MedHat 14-36-20-1W4	1691.31	Intebedded salt and carbonates; At 24.23 into intebedded carbonates and salt	South Block	%	33.285	8.934	0.078	0.000	30.161	0.014	11.390	33.258	5.810	1.321	0.376	4.829	12.422	0.049	0.157	0.000	0.009	0.000	11.407	0.041	0.003	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.002	0.002	38.667	0.654	0.000	0.001
994	CDN Land MedHat 14-36-20-1W4	Duplicate of 992	Duplicate of 993	South Block	%	32.451	8.710	0.116	0.000	31.961	0.021	11.104	32.425	6.191	1.171	0.382	4.708	13.164	0.073	0.095	0.000	0.001	0.000	11.796	0.059	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.004	0.003	40.118	0.638	0.000	0.001
1042	Husky DH Wildmere 10-3-49-6W4	1111.93	Contact (altered mudstone)	Lloydminster Block	%	24.658	6.618	2.408	0.000	23.720	0.585	8.438	24.638	21.604	4.705	2.998	3.578	9.769	1.521	0.209	0.000	0.030	0.031	1.723	0.021	0.001	0.000	0.004	0.000	0.004	0.000	0.002	0.001	0.001	0.000	0.002	51.474	0.474	0.000	0.001
1043	Husky DH Wildmere 10-3-49-6W4	1112.23	Contact (salt with potash)	Lloydminster Block	%	4.570	1.227	6.152	4.925	1.947	8.065	1.564	4.567	1.076	0.508	0.176	0.663	0.802	3.886	0.048	0.000	0.006	0.000	0.458	0.000	0.000	0.001	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	33.590	0.758	0.001	0.001
1044	Husky DH Wildmere 10-3-49-6W4	1112.45	Coarse dark grey salt	Lloydminster Block	%	14.854	3.987	0.000	0.000	5.972	0.000	5.083	14.842	3.712	1.100	0.159	2.155	2.460	0.000	0.057	0.009	0.006	0.000	1.921	0.000	0.001	0.000	0.004	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	34.422	0.745	0.000	0.001
1045	Husky DH Wildmere 10-3-49-6W4	1113.4	Salt/anhydrite	Lloydminster Block	%	10.535	2.828	0.000	0.000	5.449	0.000	3.605	10.527	4.375	1.338	0.242	1.529	2.244	0.000	0.042	0.030	0.005	0.006	0.662	0.016	0.005	0.003	0.005	0.001	0.004	0.000	0.003	0.000	0.001	0.007	0.005	34.757	0.743	0.000	0.001
1046	Husky DH Wildmere 10-3-49-6W4	1114.22	Salt/anhydrite	Lloydminster Block	%	2.342	0.629	0.017	0.000	4.253	0.044	0.802	2.341	2.426	0.527	0.456	0.340	1.752	0.011	0.093	0.000	0.009	0.000	0.237	0.000	0.000	0.004	0.005	0.000	0.004	0.002	0.003	0.000	0.001	0.006	0.004	37.827	0.763	0.000	0.001
1047	Husky DH Wildmere 10-3-49-6W4	1114.91	Salt/anhydrite	Lloydminster Block	%	10.946	2.938	0.000	0.000	4.134	0.000	3.746	10.938	0.971	0.444	0.047	1.588	1.703	0.000	0.015	0.000	0.000	0.006	1.732	0.023	0.000	0.000	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.004	0.003	32.528	0.781	0.000	0.001
1048	Husky DH Wildmere 10-3-49-6W4	1116.52	Salt/anhydrite	Lloydminster Block	%	6.890	1.849	0.000	0.000	2.939	0.000	2.358	6.885	0.738	0.610	0.102	1.000	1.210	0.000	0.027	0.000	0.006	0.000	0.674	0.012	0.000	0.001	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	33.722	0.775	0.000	0.001
1049	Husky DH Wildmere 10-3-49-6W4	1116.98	Salt/anhydrite	Lloydminster Block	%	3.588	0.963	0.000	0.000	1.277	0.000	1.228	3.585	0.148	0.246	0.024	0.521	0.526	0.000	0.028	0.000	0.008	0.003	0.000	0.029	0.003	0.003	0.005	0.003	0.004	0.001	0.003	0.001	0.001	0.006	0.004	31.853	0.794	0.000	0.001
1050	Husky DH Wildmere 10-3-49-6W4	1117.78	Salt (start of pinkish) with trace potash	Lloydminster Block	%	19.882	5.336	2.172	0.000	7.331	0.655	6.803	19.866	4.263	1.419	0.123	2.885	3.019	1.372	0.040	0.044	0.003	0.000	2.022	0.014	0.000	0.003	0.005	0.003	0.005	0.000	0.003	0.000	0.001	0.007	0.005	32.625	0.805	0.000	0.001
1051	Husky DH Wildmere 10-3-49-6W4	1119.21	Dark brown salt	Lloydminster Block	%	6.856	1.840	18.203	16.363	0.696	15.910	2.346	6.850	1.450	0.414	0.074	0.995	0.287	11.499	0.017	0.000	0.005	0.000	0.000	0.016	0.001	0.003	0.005	0.000	0.004	0.000	0.003	0.000	0.001	0.005	0.004	30.200	0.791	0.001	0.001
1052	Husky DH Wildmere 10-3-49-6W4	1120.69	Reddish salt	Lloydminster Block	%	12.660	3.398	0.000	0.000	15.152	0.000	4.332	12.650	3.239	0.888	0.169	1.837	6.240	0.000	0.043	0.000	0.003	0.010	9.007	0.000	0.000	0.003	0.005	0.000	0.004	0.000	0.003	0.001	0.001	0.005	0.004	40.968	0.693	0.000	0.001
1053	Husky DH Wildmere 10-3-49-6W4	1122.18	Brown-red salt	Lloydminster Block	%	14.923	4.005	0.000	0.000	4.236	0.000	5.106	14.911	2.948	1.385	0.166	2.165	1.745	0.000	0.073	0.000	0.000	0.004	1.609	0.000	0.003	0.000	0.004	0.002	0.004	0.000	0.003	0.001	0.001	0.005	0.003	32.445	0.782	0.000	0.001
1054	Husky DH Wildmere 10-3-49-6W4	Duplicate of 1052	Duplicate of 1053	Lloydminster Block	%	13.334	3.579	0.000	0.000	4.315	0.000	4.563	13.324	2.909	1.393	0.187	1.935	1.777	0.000	0.032	0.069	0.000	0.003	1.585	0.005	0.001	0.000	0.004	0.001	0.004	0.000	0.003	0.001	0.001	0.005	0.004	31.678	0.846	0.000	0.001
1055	Husky DH Wildmere 10-3-49-6W4	1123.9	Red salt (sample prev.) with trace potash	Lloydminster Block	%	11.255	3.021	1.791	0.000	5.959	0.953	3.851	11.246	4.368	1.591	0.303	1.633	2.454	1.131	0.365	0.009	0.015	0.006	2.661	0.232	0.000	0.001	0.004	0.001	0.004	0.000	0.003	0.001	0.001	0.006	0.004	33.368	0.750	0.000	0.001
1056	Husky DH Wildmere 10-3-49-6W4	1125.3	Brown salt with trace potash	Lloydminster Block	%	15.951	4.281	1.049	0.000	4.923	0.394	5.458	15.938	3.833	1.340	0.315	2.314	2.027	0.663	0.057	0.000	0.009	0.000	1.870	0.011	0.000	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001	0.005	0.003	35.547	0.781	0.000	0.001
1057	Husky DH Wildmere 10-3-49-6W4	1126.7	Red salt with trace potash	Lloydminster Block	%	5.576	1.497	3.097	1.600	2.670	3.328	1.908	5.572	0.674	0.191	0.122	0.809	1.100	1.956	0.028	0.000	0.004	0.000	2.244	0.004	0.000	0.004	0.005	0.000	0.004	0.000	0.003	0.001	0.001	0.006	0.005	40.025	0.687	0.000	0.001
1058	Husky DH Wildmere 10-3-49-6W4	1128.4	Red salt with trace potash	Lloydminster Block	%	5.622	1.509	3.713	2.204	2.252	3.957	1.924	5.617	0.477	0.000	0.094	0.816	0.928	2.345	0.002	0.000	0.000	0.004	1.240	0.012	0.000	0.000	0.004	0.000	0.004	0.000	0.003	0.000	0.001	0.003	0.002	41.677	0.674	0.001	0.001
1059	Husky DH Wildmere 10-3-49-6W4	1130.21	Dark grey salt	Lloydminster Block	%	9.678	2.598	0.719	0.000	1.617	0.445	3.312	9.670	0.404	0.128	0.089	1.404	0.666	0.454	0.013	0.000	0.001	0.001	0.135	0.000	0.001	0.000	0.004	0.000	0.004	0.000	0.003	0.001	0.001	0.006	0.004	36.861	0.738	0.000	0.001
1060	Husky DH Wildmere 10-3-49-6W4	1131.62	Dark grey salt	Lloydminster Block	%	2.937	0.788	0.000	0.000	5.371	0.000	1.005	2.934	1.542	0.321	0.064	0.426	2.212	0.000	0.023	0.000	0.009	0.000	2.175	0.002	0.001	0.007	0.005	0.004	0.004	0.001	0.003	0.001	0.001	0.006	0.004	35.036	0.749	0.000	0.001
1061	Husky DH Wildmere 10-3-49-6W4	1133.14	Pinkish-red salt	Lloydminster Block	%	13.871	3.723	0.000	0.000	7.854	0.000	4.747	13.860	3.151	1.022	0.259	2.013	3.235	0.000	0.048	0.000	0.006	0.009	3.116	0.036	0.000	0.008	0.005	0.002	0.004	0.001	0.003	0.000	0.001	0.008	0.006	34.278	0.773	0.001	0.001
1062	Husky DH Wildmere 10-3-49-6W4	1134.56	Clear to pinkish salt	Lloydminster Block	%	10.135	2.720	0.000	0.000	7.454	0.000	3.468	10.127	2.126	0.512	0.096	1.471	3.070	0.000	0.032	0.000	0.005	0.009	4.225	0.027	0.000	0.001	0.005	0.003	0.004	0.000	0.003	0.000	0.001	0.005	0.004	34.664	0.749	0.001	0.001
1063	Husky DH Wildmere 10-3-49-6W4	Duplicate of 1061	Duplicate of 1062	Lloydminster Block	%	10.512	2.821	0.000	0.000	7.892	0.000	3.597	10.504	2.039	0.493	0.090	1.525	3.250	0.000	0.053	0.000	0.005	0.000	4.554	0.007	0.000	0.002	0.005	0.002	0.004	0.001	0.003	0.000	0.001	0.005	0.003	34.946	0.815	0.000	0.001
1064	Husky DH Wildmere 10-3-49-6W4	1145.13	Pinkish-clear salt	Lloydminster Block	%	4.399	1.181	0.715	0.000	9.251	0.974	1.505	4.396	1.174	0.214	0.064	0.638	3.810	0.452	0.020	0.000	0.004	0.003	6.484	0.014	0.001	0.002	0.005	0.002	0.004	0.000	0.003	0.001	0.001	0.005	0.003	32.167	0.778	0.001	0.001

Appendix 5
Historic Core XRF Results

Sample ID	Well	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error	Bi	Bi Error	As	As Error	Se	Se Error	Au	Au Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Al	Al Error	P	P Error	Si	Si Error	Ca	Ca Error	K	K Error	Cl	Cl Error	S	S Error	Mg	Mg Error
972	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.001	0.001	0.017	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.002	0.000	0.001	0.004	0.006	0.001	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.346	0.015	0.017	0.007	0.000	0.011	0.226	0.029	0.267	0.034	1.230	0.135	0.000	0.028	2.723	0.054	5.403	0.067	1.023	0.045	48.457	0.298	3.724	0.039	1.539	0.558
973	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.003	0.006	0.000	0.001	0.001	0.002	0.001	0.004	0.001	0.003	0.035	0.006	0.008	0.006	0.000	0.008	0.025	0.017	0.028	0.022	2.291	0.143	0.032	0.029	0.479	0.044	1.425	0.031	0.982	0.049	62.482	0.383	1.117	0.031	0.696	0.642
974	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.004	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.000	0.002	0.032	0.006	0.002	0.006	0.012	0.010	0.027	0.017	0.023	0.022	0.430	0.152	0.000	0.029	0.540	0.045	1.427	0.031	0.000	0.039	65.119	0.402	0.960	0.031	1.386	0.674
975	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.001	0.001	0.012	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.003	0.006	0.001	0.001	0.001	0.002	0.000	0.003	0.000	0.005	0.569	0.018	0.010	0.006	0.003	0.009	0.033	0.018	0.130	0.027	2.143	0.129	0.000	0.027	4.950	0.058	8.955	0.093	1.415	0.042	36.435	0.221	9.390	0.059	1.459	0.480
976	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.004	0.006	0.000	0.001	0.000	0.002	0.001	0.004	0.003	0.003	0.036	0.006	0.003	0.006	0.005	0.009	0.034	0.018	0.047	0.024	0.110	0.161	0.000	0.032	0.000	0.045	0.785	0.025	0.000	0.038	67.548	0.417	0.401	0.031	0.000	0.739
977	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.002	0.002	0.000	0.001	0.004	0.006	0.000	0.001	0.000	0.002	0.000	0.004	0.001	0.003	0.053	0.007	0.003	0.005	0.001	0.009	0.001	0.015	0.017	0.022	0.161	0.144	0.000	0.029	0.000	0.041	0.894	0.026	1.994	0.059	63.688	0.390	0.737	0.030	0.350	0.660
978	CDN Land MedHat 14-36-20-1W4	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.005	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.000	0.002	0.009	0.004	0.000	0.005	0.000	0.008	0.007	0.016	0.000	0.020	0.000	0.149	0.018	0.030	0.000	0.041	0.329	0.017	0.265	0.045	68.521	0.422	0.079	0.028	0.578	0.692
979	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.004	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.003	0.003	0.021	0.005	0.002	0.005	0.011	0.009	0.010	0.016	0.003	0.020	0.183	0.163	0.011	0.032	0.016	0.045	0.539	0.022	0.285	0.048	67.319	0.410	0.042	0.029	1.336	0.740
980	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.011	0.006	0.000	0.001	0.000	0.002	0.001	0.004	0.000	0.002	0.014	0.005	0.004	0.005	0.000	0.009	0.000	0.015	0.024	0.022	0.000	0.149	0.000	0.030	0.000	0.042	0.200	0.014	0.000	0.035	68.165	0.417	0.000	0.027	0.629	0.691
981	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.001	0.001	0.007	0.006	0.000	0.001	0.002	0.002	0.000	0.004	0.000	0.002	0.033	0.006	0.000	0.005	0.001	0.009	0.001	0.015	0.011	0.021	0.173	0.144	0.000	0.029	0.232	0.043	0.805	0.023	0.000	0.039	64.996	0.404	0.477	0.029	0.668	0.652
982	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.001	0.001	0.006	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.002	0.006	0.000	0.001	0.000	0.002	0.000	0.004	0.000	0.004	0.237	0.012	0.008	0.006	0.000	0.008	0.003	0.016	0.052	0.024	0.638	0.124	0.000	0.027	1.559	0.048	3.915	0.053	3.095	0.061	47.900	0.294	2.856	0.035	1.428	0.538
983	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.006	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.000	0.003	0.068	0.008	0.007	0.006	0.007	0.009	0.007	0.016	0.034	0.023	0.000	0.132	0.000	0.028	0.009	0.040	2.685	0.043	0.000	0.032	59.605	0.377	2.084	0.034	0.197	0.607
984	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.005	0.006	0.000	0.001	0.001	0.002	0.000	0.004	0.000	0.003	0.079	0.008	0.006	0.006	0.000	0.010	0.066	0.022	0.122	0.029	0.444	0.131	0.000	0.028	1.029	0.046	4.220	0.058	0.000	0.035	52.558	0.345	6.181	0.050	0.481	0.578
985	CDN Land MedHat 14-36-20-1W4	0.001	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.002	0.006	0.003	0.001	0.002	0.002	0.003	0.004	0.000	0.003	0.175	0.011	0.021	0.007	0.000	0.011	0.264	0.031	0.333	0.037	1.596	0.136	0.000	0.027	3.305	0.055	5.742	0.069	0.278	0.038	48.777	0.301	3.386	0.038	1.190	0.541
986	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.002	0.002	0.000	0.003	0.000	0.002	0.047	0.006	0.007	0.006	0.006	0.010	0.057	0.020	0.085	0.026	0.501	0.148	0.001	0.032	0.915	0.051	2.955	0.048	0.000	0.043	56.718	0.354	1.835	0.036	0.596	0.652
987	CDN Land MedHat 14-36-20-1W4	0.001	0.001	0.000	0.001	0.006	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.005	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.153	0.010	0.012	0.006	0.002	0.010	0.129	0.025	0.193	0.031	1.748	0.141	0.000	0.028	3.267	0.056	5.380	0.067	0.309	0.040	51.269	0.316	3.268	0.038	0.702	0.560
988	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.006	0.006	0.002	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.090	0.008	0.010	0.006	0.000	0.009	0.118	0.023	0.144	0.029	0.811	0.139	0.000	0.028	1.721	0.050	3.726	0.052	0.000	0.034	56.322	0.344	2.445	0.035	0.906	0.599
989	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.003	0.006	0.000	0.001	0.000	0.002	0.000	0.003	0.000	0.002	0.011	0.005	0.006	0.006	0.002	0.009	0.008	0.016	0.014	0.021	0.000	0.159	0.019	0.032	0.000	0.044	0.344	0.018	0.000	0.033	68.561	0.418	0.000	0.029	0.000	0.738
990	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.010	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.003	0.006	0.001	0.001	0.001	0.002	0.000	0.004	0.001	0.003	0.068	0.008	0.007	0.006	0.000	0.009	0.062	0.021	0.090	0.027	0.401	0.130	0.000	0.028	0.484	0.042	5.057	0.066	0.000	0.033	53.919	0.344	4.718	0.044	0.000	0.581
991	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.001	0.006	0.001	0.001	0.001	0.002	0.003	0.004	0.000	0.003	0.061	0.007	0.004	0.006	0.001	0.009	0.023	0.017	0.034	0.023	0.759	0.160	0.000	0.032	0.793	0.051	1.329	0.032	0.536	0.050	61.555	0.386	0.708	0.032	1.104	0.695
992	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.004	0.006	0.001	0.001	0.000	0.002	0.001	0.004	0.000	0.003	0.056	0.007	0.006	0.006	0.000	0.009	0.086	0.022	0.094	0.027	0.569	0.160	0.000	0.032	0.883	0.051	1.870	0.038	0.000	0.036	62.544	0.392	1.496	0.035	0.683	0.705
993	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.001	0.001	0.004	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.000	0.002	0.002	0.004	0.000	0.004	0.263	0.013	0.007	0.006	0.000	0.008	0.023	0.017	0.094	0.026	0.699	0.117	0.000	0.025	2.716	0.051	8.878	0.092	0.041	0.033	41.880	0.252	3.807	0.038	2.913	0.502
994	CDN Land MedHat 14-36-20-1W4	0.000	0.001	0.001	0.001	0.004	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.002	0.002	0.000	0.003	0.000	0.004	0.267	0.013	0.001	0.005	0.000	0.009	0.033	0.018	0.057	0.024	0.620	0.114	0.000	0.025	2.894	0.052	9.408	0.096	0.061	0.033	39.744	0.240	3.937	0.038	2.840	0.488
1042	Husky DH Wildmere 10-3-49-6W4	0.001	0.001	0.005	0.001	0.012	0.001	0.003	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.005	0.005	0.004	0.001	0.001	0.002	0.001	0.003	0.000	0.009	2.097	0.035	0.023	0.007	0.021	0.010	0.012	0.016	0.125	0.025	2.490	0.098	0.000	0.022	10.099	0.081	6.982	0.067	1.263	0.033	22.649	0.142	0.575	0.019	2.158	0.316
1043	Husky DH Wildmere 10-3-49-6W4	0.001	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.004	0.006	0.001	0.001	0.001	0.002	0.000	0.004	0.001	0.003	0.123	0.009	0.005	0.006	0.000	0.008	0.000	0.014	0.029	0.022	0.269	0.139	0.000	0.028	0.503	0.044	0.573	0.022	3.226	0.066	61.109	0.366	0.153	0.026	0.400	0.626
1044	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.001	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.001	0.001	0.001	0.006	0.005	0.001	0.000	0.002	0.001	0.004	0.000	0.003	0.111	0.009	0.005	0.006	0.000	0.008	0.000	0.015	0.034	0.023	0.582	0.138	0.004	0.029	1.735	0.051	1.758	0.033	0.000	0.033	59.390	0.372	0.641	0.028	1.300	0.601
1045	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.002	0.006	0.004	0.001	0.001	0.002	0.004	0.004	0.000	0.003	0.169	0.011	0.004	0.006	0.004	0.009	0.009	0.016	0.025	0.022	0.708	0.138	0.013	0.029	2.045	0.052	1.604	0.031	0.000	0.034	59.495	0.376	0.221	0.026	0.922	0.595
1046	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.001	0.001	0.006	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.004	0.006	0.002	0.001	0.001	0.002	0.000	0.003	0.001	0.004	0.319	0.014	0.007	0.006	0.000	0.008	0.000	0.016	0.056	0.024	0.279	0.143	0.000	0.031	1.134	0.053	1.252	0.029	0.009	0.042	58.802	0.368	0.079	0.028	0.205	0.642
1047	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.002	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.004	0.006	0.000	0.001	0.000	0.002	0.000	0.004	0.000	0.002	0.033	0.006	0.000	0.005	0.004	0.009	0.013	0.016	0.009	0.021	0.235	0.143	0.000	0.029	0.454	0.044	1.217	0.028	0.000	0.035	63.959	0.400	0.578	0.029	0.958	0.645
1048	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.003	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.071	0.008	0.005	0.006	0.000	0.009	0.007	0.016	0.016	0.022	0.323	0.143	0.000	0.029	0.345	0.044	0.865	0.023	0.000	0.033	63.804	0.402	0.225	0.027	0.603	0.640
1049	Husky DH Wildmere 10-3-49-6W4	0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.000	0.002	0.002	0.004	0.001	0.002	0.017	0.005	0.006	0.006	0.002	0.009	0.016	0.016	0.017	0.022	0.130	0.146	0.000	0.029	0.069	0.042	0.376	0.017	0.000	0.032	67.175	0.411	0.000	0.027	0.314	0.668
1050	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.003	0.000	0.001	0.000	0.007	0.005	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.086	0.009	0.002	0.006	0.000	0.009	0.008	0.017	0.024	0.024	0.751	0.148	0.019	0.030	1.993	0.054	2.158	0.040	1.139	0.055	58.755	0.391	0.675	0.029	1.740	0.638
1051	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.006	0.006	0.002	0.001	0.002	0.002	0.001	0.004	0.000	0.002	0.052	0.007	0.004	0.005	0.000	0.008	0.009	0.016	0.010	0.021	0.219	0.144	0.000	0.028	0.678	0.044	0.205	0.024	9.546	0.120	58.455	0.327	0.000	0.025	0.600	0.655
1052	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.001	0.001	0.012	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.003	0.000	0.001	0.004	0.007	0.002	0.001	0.002	0.002	0.000	0.004	0.000	0.003	0.118	0.010	0.002	0.006	0.007	0.010	0.000	0.016	0.026	0.024	0.470	0.124	0.000	0.028	1.514	0.050	4.460	0.060	0.000	0.040	48.285	0.327	3.006	0.038	1.108	0.542
1053	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.002	0.006	0.000	0.001	0.002	0.002	0.002	0.004	0.000	0.003	0.116	0.009	0.000	0.005	0.003	0.009	0.000	0.015	0.044	0.023	0.733	0.148	0.000	0.029	1.378	0.050	1.247	0.028	0.000	0.039	62.170	0.382	0.537	0.029	1.306	0.640
1054	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.000	0.001	0.000	0.006	0.000	0.001	0.000	0.002	0.001	0.004	0.000	0.003	0.131	0.009	0.000	0.005	0.002	0.009	0.003	0.015	0.019	0.022	0.737	0.163	0.030	0.032	1.360	0.054	1.270	0.031	0.000	0.041	63.059	0.389	0.529	0.031	1.167	0.709
1055	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.004	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.003	0.006	0.004	0.001	0.000	0.002	0.000	0.003	0.000	0.003	0.212	0.012	0.012	0.006	0.004	0.010	0.130	0.024	0.219	0.032	0.842	0.141	0.004	0.029	2.042	0.052	1.754	0.033	0.939	0.046	58.577	0.356	0.888	0.029	0.985	0.605
1056	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.003	0.006	0.000	0.001	0.000	0.002	0.000	0.003	0.000	0.004	0.220	0.012	0.007	0.006	0.000	0.008	0.006	0.016	0.034	0.022	0.709	0.150	0.000	0.031	1.792	0.056	1.449	0.032	0.550	0.047	57.653	0.357	0.624	0.031	1.396	0.646
1057	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.003	0.006	0.000	0.001	0.002	0.002	0.000	0.004	0.003	0.003	0.085	0.008	0.003	0.005	0.000	0.009	0.002	0.016	0.017	0.022	0.101	0.123	0.000	0.027	0.315	0.042	0.786	0.022	1.624	0.050	55.782	0.355	0.749	0.028	0.488	0.559
1058	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.000	0.001	0.003	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001	0.000	0.006	0.001	0.001	0.000	0.002	0.000	0.004	0.000	0.003	0.066	0.007	0.000	0.005	0.003	0.009	0.007	0.016	0.001	0.021	0.000	0.120	0.000	0.027	0.223	0.042	0.663	0.021	1.947	0.054	54.492	0.348	0.414	0.026	0.492	0.549
1059	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.002	0.006	0.000	0.001	0.000	0.002	0.001	0.004	0.000	0.003	0.062	0.007	0.001	0.005	0.001	0.009	0.000	0.015	0.008	0.021	0.068	0.134	0.000	0.029	0.189	0.043	0.476	0.018	0.377	0.043	61.050	0.388	0.045	0.026	0.847	0.610
1060	Husky DH Wildmere 10-3-49-6W4	0.001	0.001	0.000	0.001	0.003	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.002	0.002	0.001	0.001	0.000	0.006	0.002	0.001	0.001	0.002	0.001	0.004	0.000	0.002	0.045	0.007	0.007	0.006	0.000	0.009	0.001	0.015	0.014	0.022	0.170	0.136	0.000	0.029	0.721	0.046	1.581	0.031	0.000	0.031	61.409	0.386	0.726	0.029	0.257	0.616
1061	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.001	0.006	0.006	0.005	0.001	0.001	0.002	0.000	0.004	0.000	0.004	0.181	0.012	0.005	0.006	0.006	0.010	0.020	0.018	0.029	0.024	0.541	0.141	0.000	0.029	1.473	0.051	2.312	0.040	0.000	0.037	58.863	0.388	1.040	0.030	1.214	0.618
1062	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.002	0.000	0.001	0.000	0.006	0.003	0.001	0.002	0.002	0.000	0.004	0.002	0.003	0.067	0.007	0.004	0.006	0.006	0.009	0.015	0.017	0.019	0.022	0.271	0.136	0.000	0.029	0.994	0.047	2.194	0.038	0.000	0.040	59.447	0.377	1.410	0.031	0.887	0.609
1063	Husky DH Wildmere 10-3-49-6W4	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.003	0.002	0.000	0.001

Appendix 6

Albert Lake Seismic Interpretation Report North (Lloydminster) Claim Block

RPS Boyd PetroSearch

2011 Albert Lake 2D
Depth Conversion

November 11, 2011

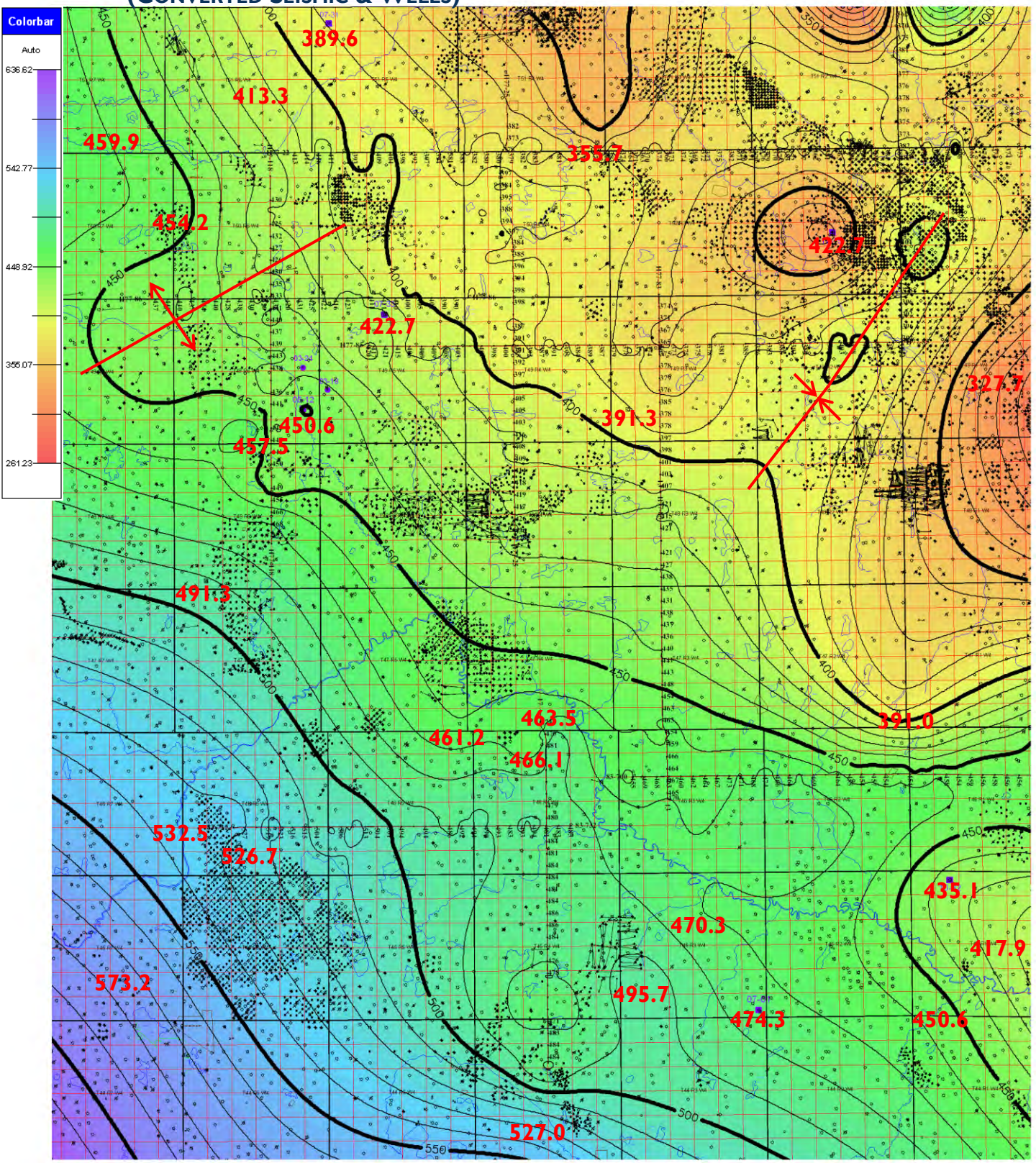
boydpetro.com | rpsgroup.com/Canada

Depth Maps

- The WinPics depth conversion work flow is based on depth below a datum, the maps shown were created with sea level as the datum, so all values are expressed as depth below sea level(reverse sign = elevation).
- For reasons discussed in the methodology, only the Prairie Evaporite and Winnipegosis time horizons were converted to depth.
- The trends of depth conversion match the corresponding time maps, some edge effects are noticeable on the depth maps because gridding was extended to the map edge.
- Prairie Evaporite and Winnipegosis structure maps both show regional dip, down to the southwest.
- Both maps also show a NE – SW structural low centred in township 49 range 2 W4M.
- A structurally high nose is centred in the NW corner of township 49 range 6 W4M.This NEE-SWW trend is somewhat broader on the Winnipegosis structure than the Prairie Evaporite.

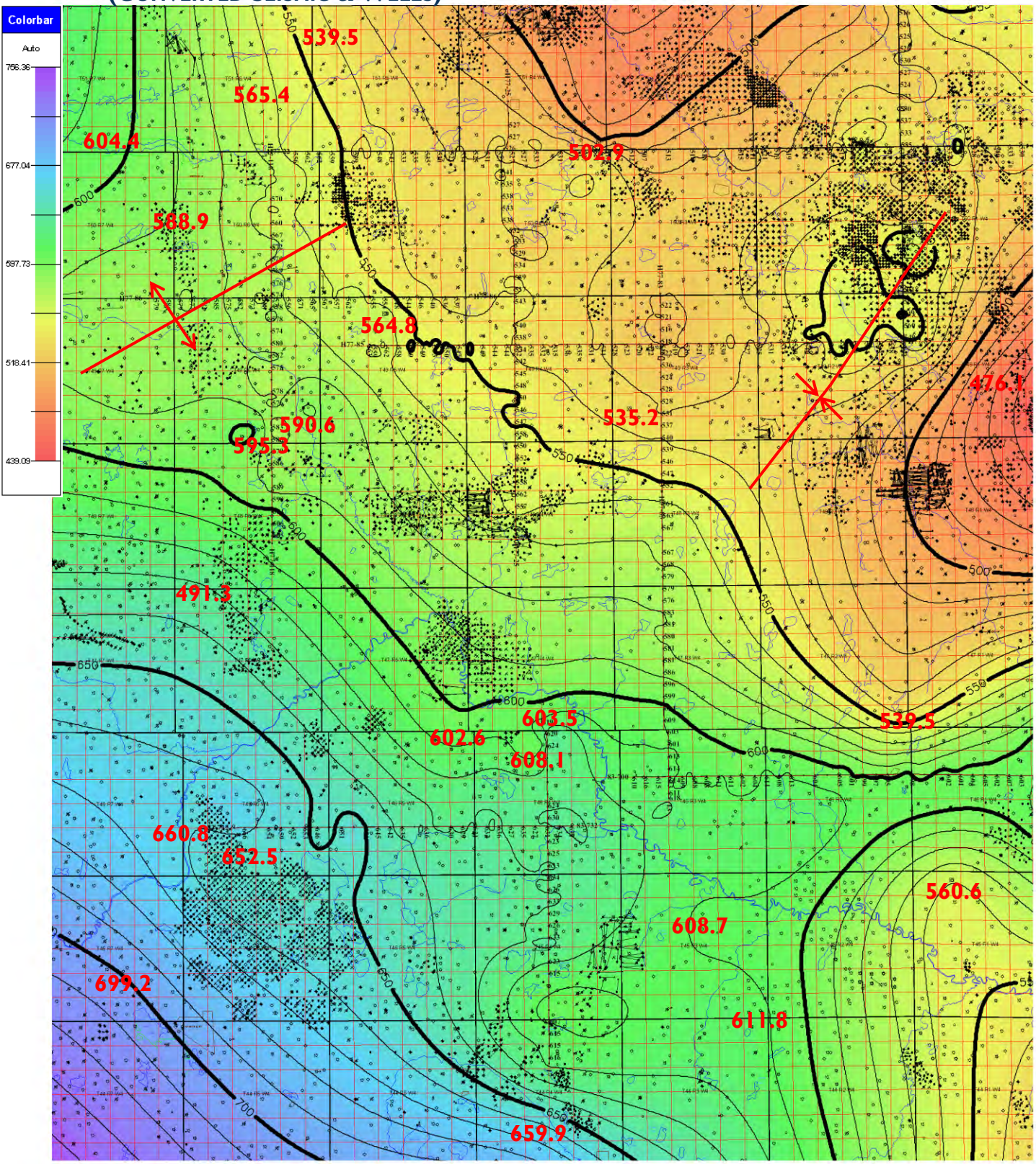
Prairie Evaporite Structure (m)

(Converted Seismic & Wells)

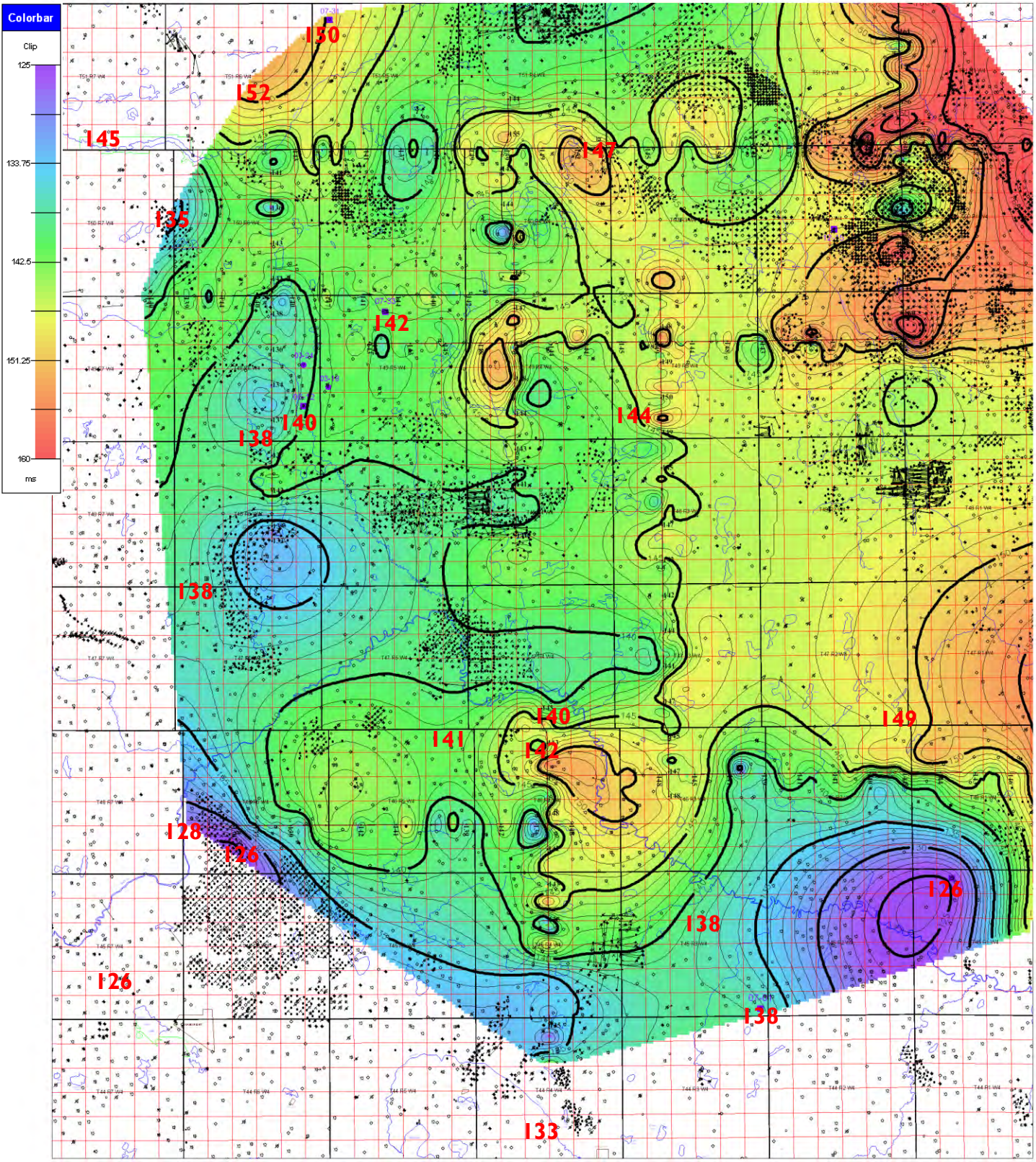


WINNIPEGOSIS STRUCTURE(M)

(CONVERTED SEISMIC & WELLS)



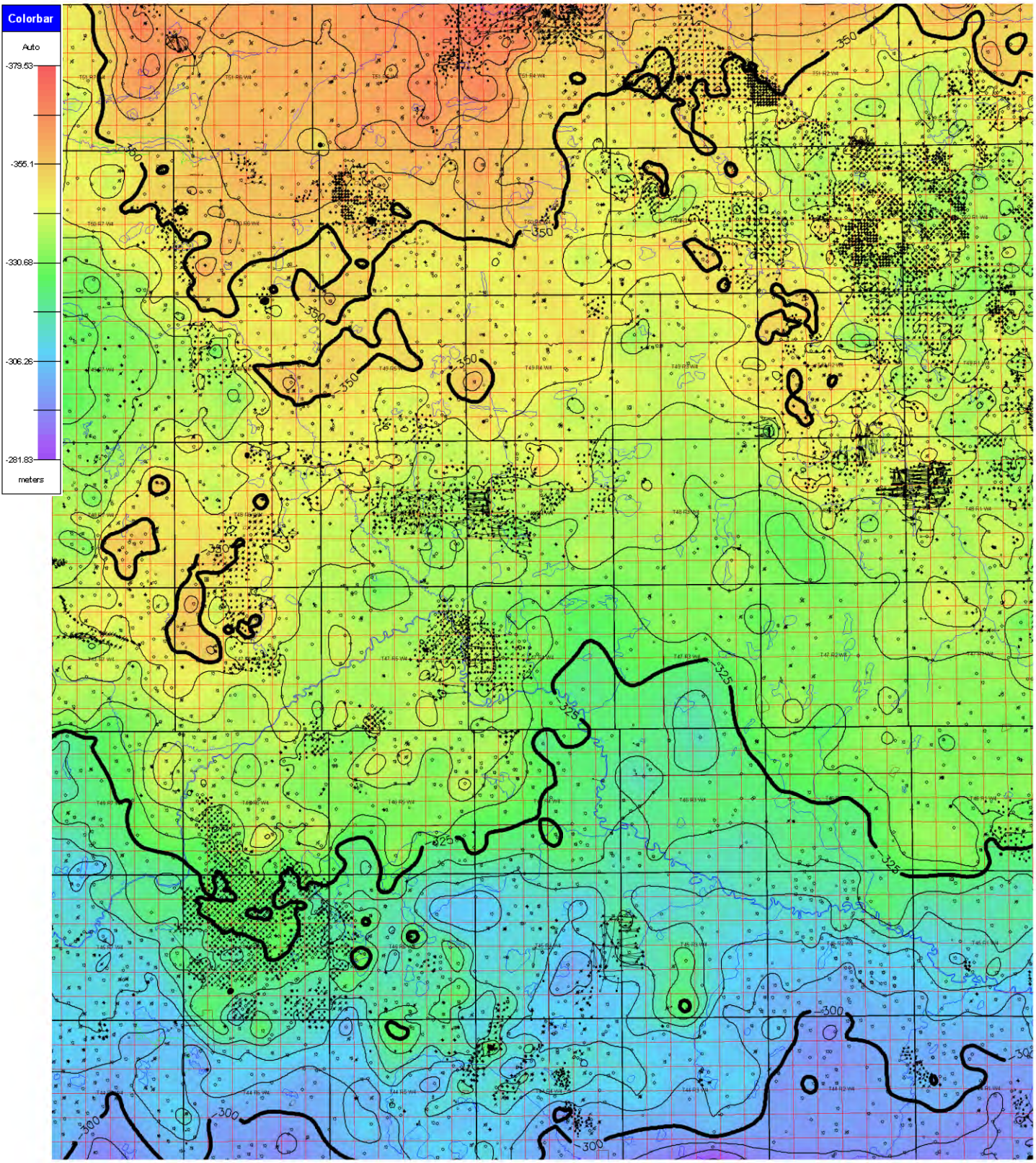
Prairie Evaporite – Winnipegosis Isopach(m)



Depth Conversion Method

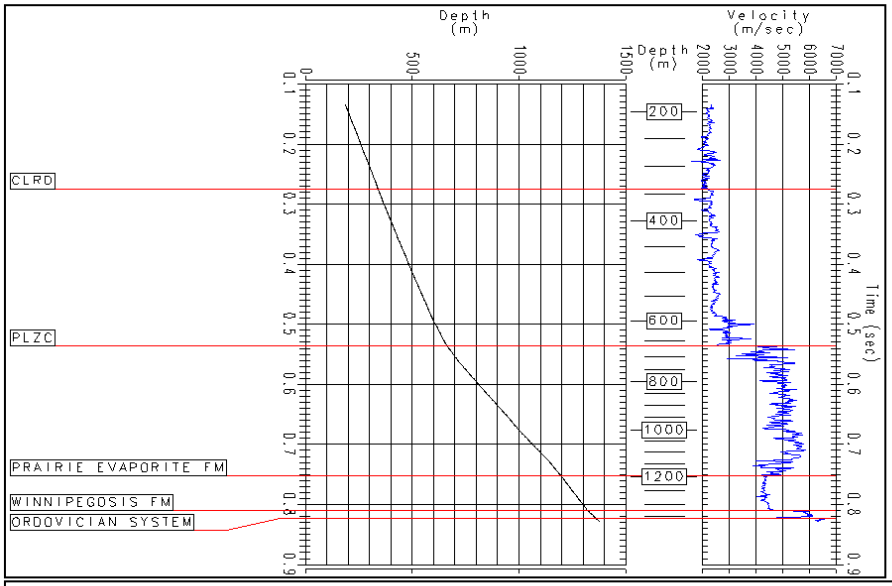
- The majority of wells in the project penetrate the Colorado, and the resulting structure map(page 7) forms the starting point for the time to depth conversion. Seismic isochrons will be converted to depth and referenced to this structure.
- Time-depth plots from sonic logs(pages 8-10), indicate a two layer velocity model would provide a good time to depth conversion.
- Significant problems were encountered with the Colorado to Paleozoic depth conversion. First, the geologic picks for the unconformity are inconsistent, the resulting Paleozoic structure map(page 11) even with significant editing, has so much topography that it could add significant errors to the depth conversion process. Second, cross plots of the Isochron to Isopach(page 12) show that a 200 metre search radius from seismic has limited points. Increasing the radius to 700 metres adds more values but the point scatter indicates the need for a complex velocity field that could also introduce significant errors.
- It was necessary to use a very simple model. Velocities for the Colorado to Prairie Evaporite from the digital sonic logs available were gridded as shown on page 13. The resulting velocity grid allowed conversion of the Colorado to Prairie Evaporite isochron to depth, which added to the Colorado structure produces the map shown on page 3.
- The Winnipegosis structure was created by adding the calculated Prairie isopach to the Prairie structure(page 4).

COLORADO STRUCTURE(WELLS ONLY)



TIME DEPTH PLOTS (FROM SONIC LOGS)

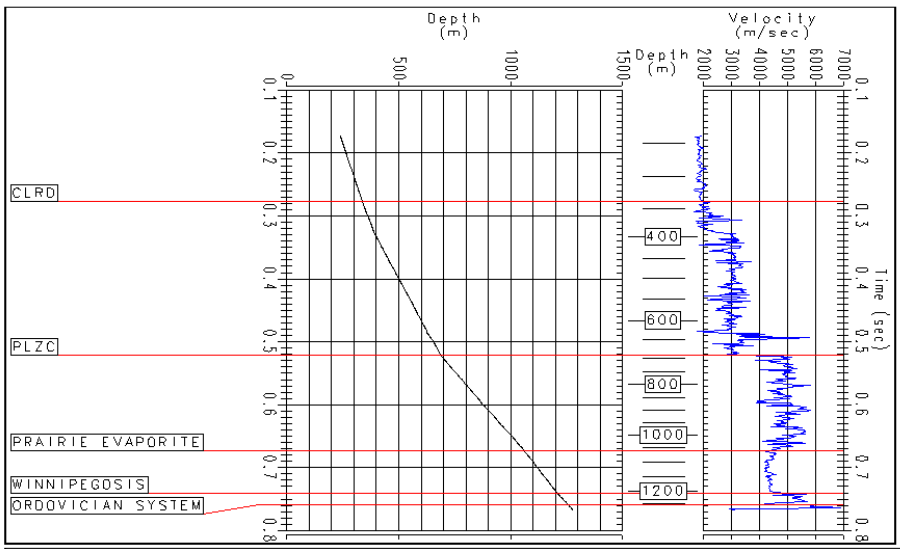
06-09-046-06W4



FORMATION TOPS

Name	Elev. (m)	Depth Below KB (m)	Depth Below SRD (m)	Time (ms)	Average Vel. (m/s)	RMS Vel. (m/s)	Int. Vel. (m/s)	Int. Time (ms)	Thickness (m)
CLRD	330.4	339.9	339.9	274.6	2475.7	2495.8	2464.1	261.9	322.7
PLZC	7.7	662.6	662.6	536.5	2470.0	2490.7	4947.4	216.0	534.3
PRAIRIE EVAPORITE FM	-526.6	1196.9	1196.9	752.5	3181.1	3396.7	4359.0	57.6	125.6
WINNIPEGOSIS FM	-652.2	1322.5	1322.5	810.1	3264.9	3474.2	5755.5	12.6	36.3
ORDOVICIAN SYSTEM	-688.5	1358.8	1358.8	822.7	3303.1	3520.7	6389.5	6.3	20.2

10-01-047-02W4

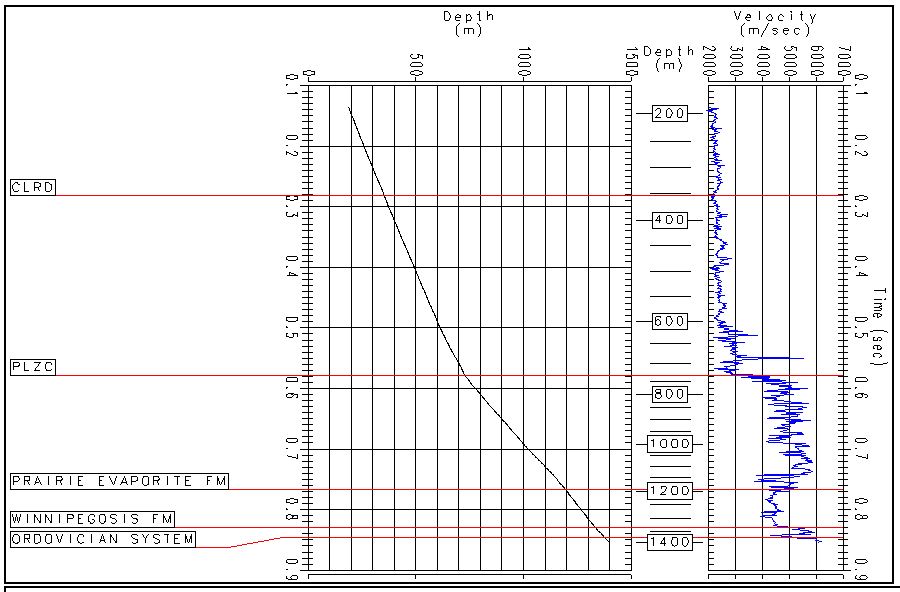


FORMATION TOPS

Name	Elev. (m)	Depth Below KB (m)	Depth Below SRD (m)	Time (ms)	Average Vel. (m/s)	RMS Vel. (m/s)	Int. Vel. (m/s)	Int. Time (ms)	Thickness (m)
CLRD	332.0	338.0	338.0	277.3	2437.4	2476.0	2868.8	244.6	350.8
PLZC	-18.8	688.8	688.8	521.9	2639.5	2696.0	4912.6	151.9	373.2
PRAIRIE EVAPORITE	-392.0	1062.0	1062.0	673.8	3152.1	3335.6	4381.3	67.0	146.8
WINNIPEGOSIS	-538.8	1208.8	1208.8	740.9	3263.3	3443.5	5144.3	18.3	47.0
ORDOVICIAN SYSTEM	-585.8	1255.8	1255.8	759.1	3308.5	3495.1	4928.8	8.6	21.2

TIME DEPTH PLOTS (FROM SONIC LOGS)

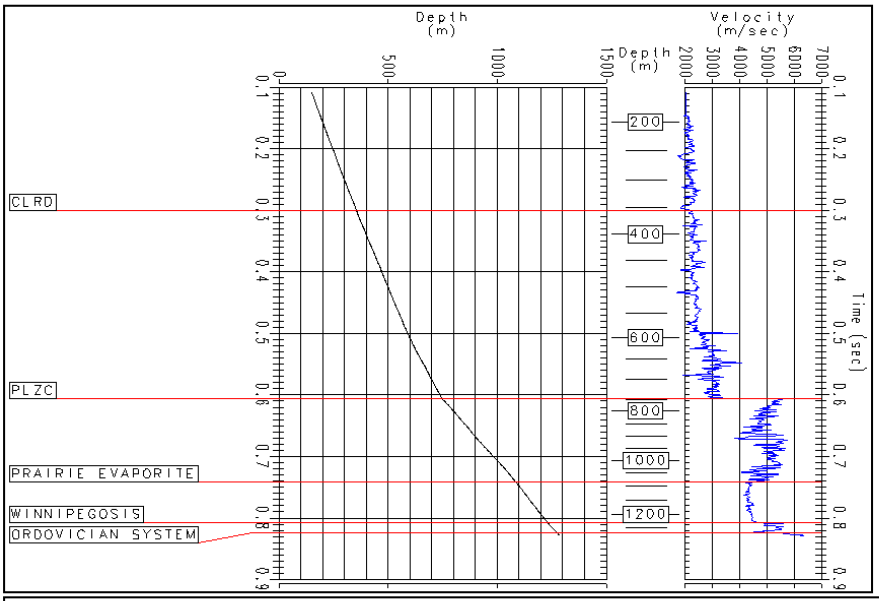
06-05-048-06W4



FORMATION TOPS

Name	Elev. (m)	Depth Below KB (m)	Depth Below SRD (m)	Time (ms)	Average Vel. (m/s)	RMS Vel. (m/s)	Int. Vel. (m/s)	Int. Time (ms)	Thickness (m)
CLRD	349.2	354.3	354.3	282.2	2510.9	2525.1	2524.8	295.9	373.6
PLZC	-24.4	727.9	727.9	578.1	2518.0	2539.7	4944.2	188.9	466.9
PRAIRIE EVAPORITE FM	-491.3	1194.8	1194.8	767.0	3115.4	3311.7	4412.7	82.3	137.5
WINNIPEGOSIS FM	-628.8	1332.3	1332.3	829.3	3212.9	3407.4	5270.5	16.8	44.2
ORDOVICIAN SYSTEM	-673.0	1376.5	1376.5	846.1	3253.7	3455.2	5977.4	8.5	25.5

07-07-049-03W4

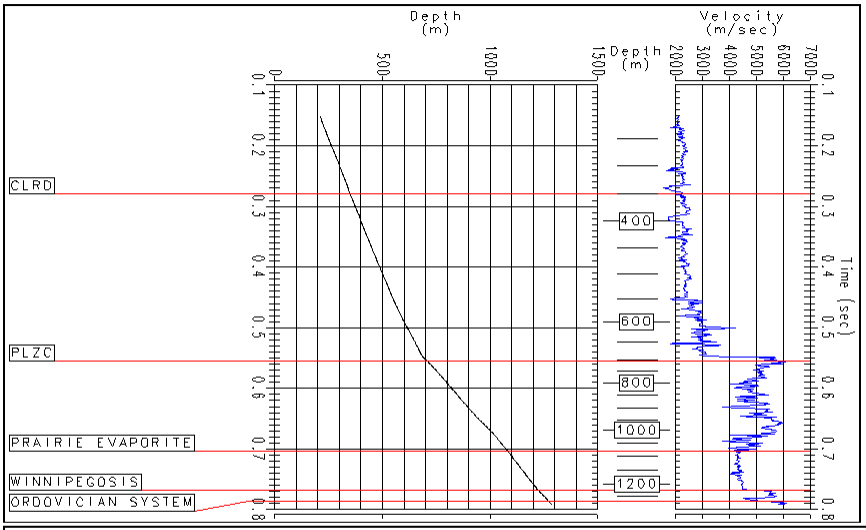


FORMATION TOPS

Name	Elev. (m)	Depth Below KB (m)	Depth Below SRD (m)	Time (ms)	Average Vel. (m/s)	RMS Vel. (m/s)	Int. Vel. (m/s)	Int. Time (ms)	Thickness (m)
CLRD	341.2	355.0	355.0	300.2	2364.7	2388.1	2571.1	306.2	393.6
PLZC	-52.4	748.6	748.6	606.4	2468.9	2499.9	4994.2	135.7	338.9
PRAIRIE EVAPORITE	-391.3	1087.5	1087.5	742.1	2930.7	3117.1	4378.6	65.5	143.3
WINNIPEGOSIS	-534.6	1230.8	1230.8	807.6	3048.1	3238.0	5212.4	16.1	42.0
ORDOVICIAN SYSTEM	-576.6	1272.8	1272.8	823.7	3090.4	3288.4	5999.4	5.6	16.7

TIME DEPTH PLOTS (FROM SONIC LOGS)

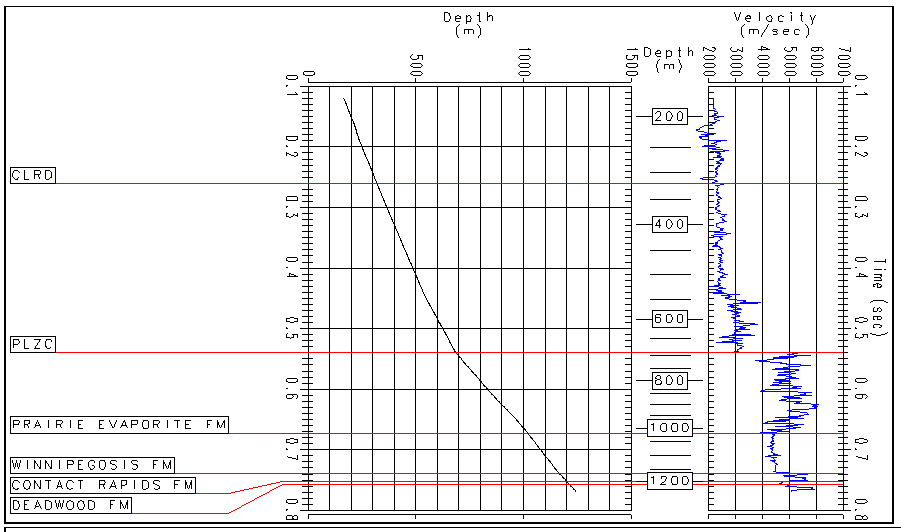
07-33-049-05W4



FORMATION TOPS

Name	Elev. (m)	Depth Below KB (m)	Depth Below SRD (m)	Time (ms)	Average Vel. (m/s)	RMS Vel. (m/s)	Int. Vel. (m/s)	Int. Time (ms)	Thickness (m)
CLRD	309.3	350.0	350.0	279.5	2504.1	2524.7	2586.2	275.2	355.9
PLZC	-46.6	705.9	705.9	554.8	2544.8	2593.1	5055.1	148.8	376.1
PRAIRIE EVAPORITE	-422.7	1082.0	1082.0	703.6	3075.7	3283.1	4376.0	64.9	142.1
WINNIPEGOSIS	-564.8	1224.1	1224.1	768.5	3185.6	3389.5	5328.1	17.4	46.3
ORDOVICIAN SYSTEM	-611.1	1270.4	1270.4	785.9	3233.0	3444.8	5844.8	5.7	16.6

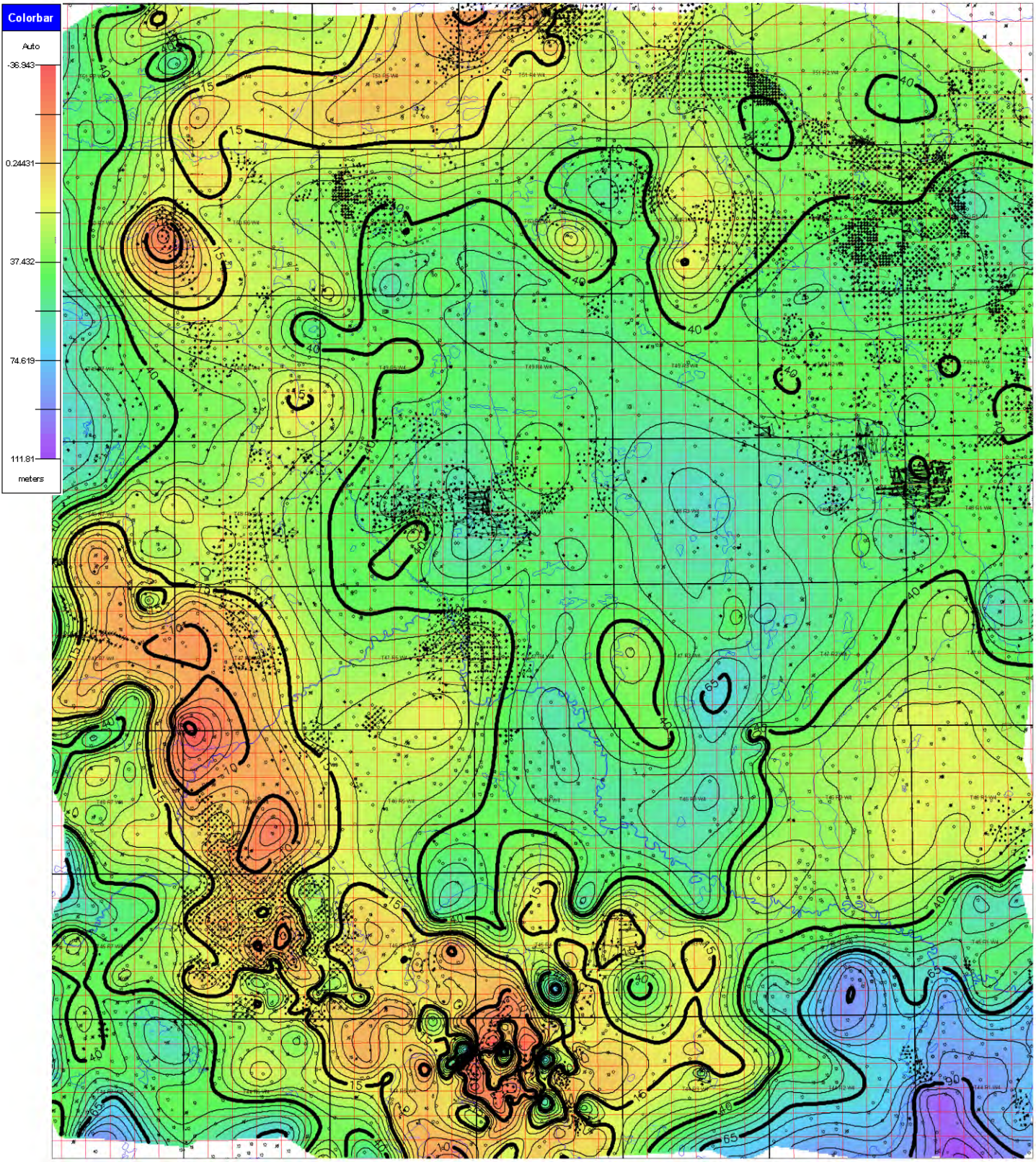
07-01-051-04W4



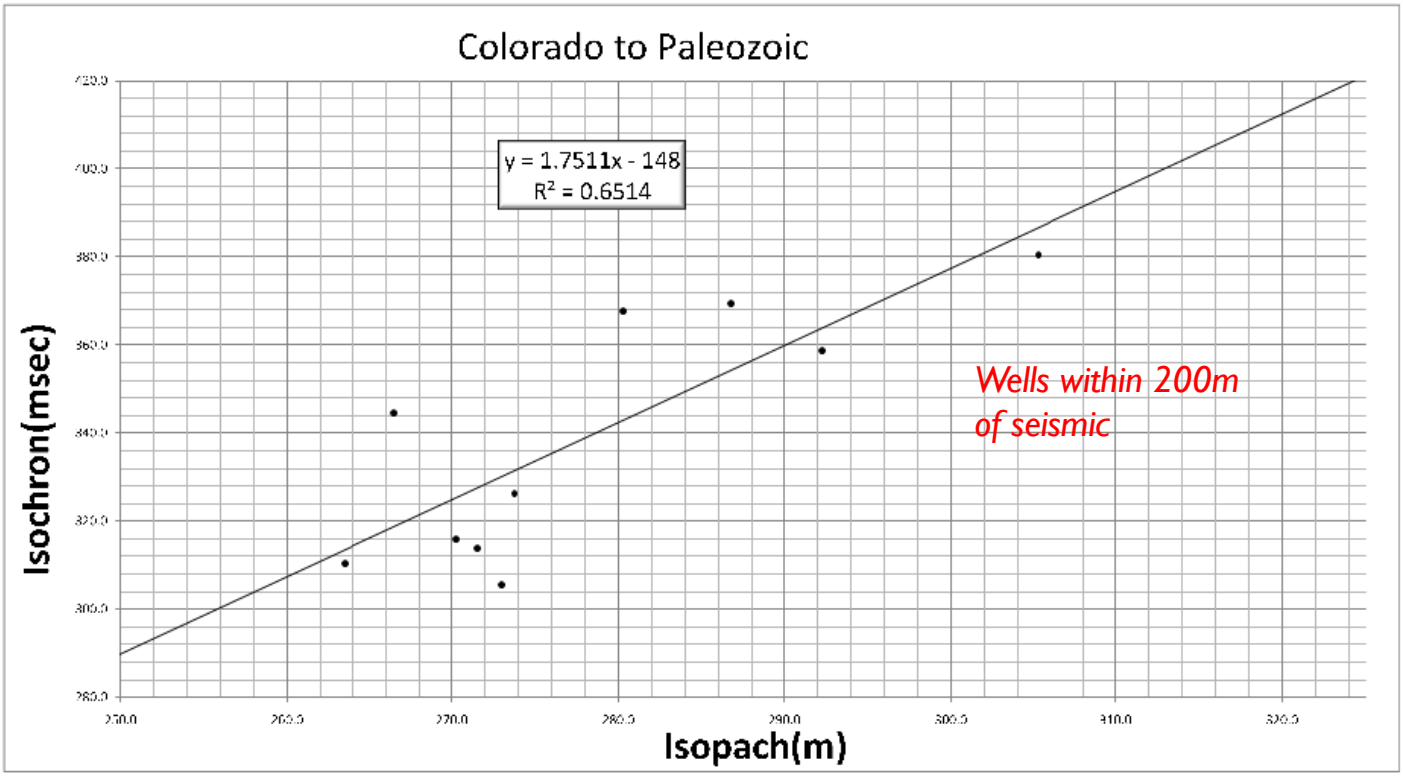
FORMATION TOPS

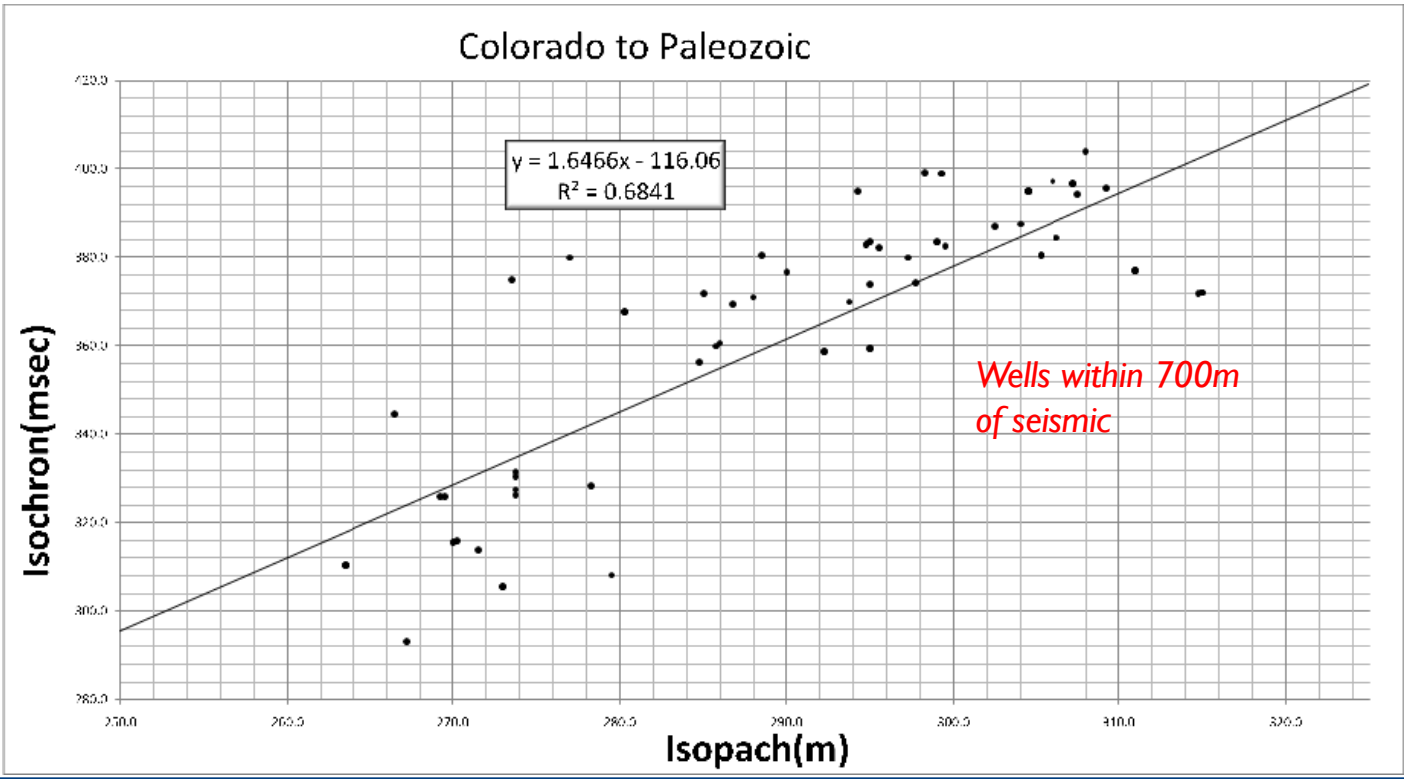
Name	Elev. (m)	Depth Below KB (m)	Depth Below SRD (m)	Time (ms)	Average Vel. (m/s)	RMS Vel. (m/s)	Int. Vel. (m/s)	Int. Time (ms)	Thickness (m)
CLRD	344.5	319.4	319.4	260.5	2452.4	2477.4	2624.8	279.0	366.1
PLZC	-21.6	685.5	685.5	539.4	2541.6	2570.0	5016.5	133.1	333.8
PRAIRIE EVAPORITE FM	-355.4	1019.3	1019.3	672.5	3031.3	3217.1	4414.3	66.4	146.6
WINNIPEGOSIS FM	-502.0	1165.9	1165.9	738.9	3155.6	3342.6	5372.1	12.8	34.4
CONTACT RAPIDS FM	-536.4	1200.3	1200.3	751.7	3193.4	3387.7	4648.2	5.5	12.8
DEADWOOD FM	-549.2	1213.1	1213.1	757.3	3204.0	3398.6	5326.5	10.9	28.9

PALEOZOIC STRUCTURE(WELLS ONLY)

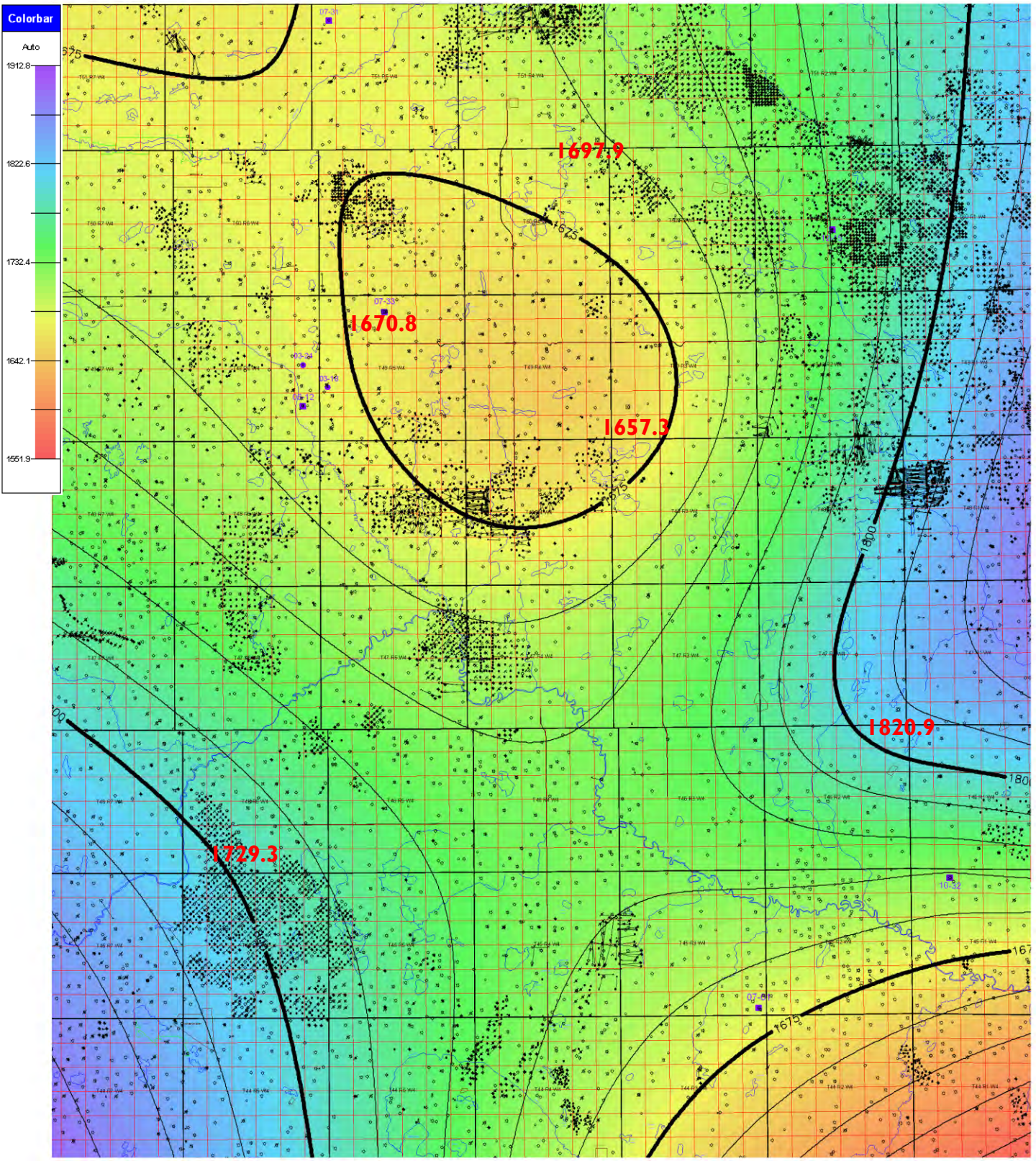


Cross Plot of Siesmic Isochron vs Well Isopach





Colorado – Prairie Evaporite Average Velocity



OVERVIEW AND FUTURE WORK

- The depth conversion is acceptable, but there may be artefacts introduced by the process.
- Additional log control for the Colorado to Prairie Evaporite interval, could be used to improve the velocity model.
- Detailed work on the Paleozoic surface would be time consuming, and may not provide a more reliable depth conversion.

- Although it is believed to be beyond the resolution of the current objectives, if desired, a velocity model could be created using existing well control to convert the seismic data and time interpretation to depth. GOCAD would be utilized for this process.
- The current depth calculations can be used to direct future drilling programs, and as such, are believed to be meet the objectives of the exercise.

- At this time, no future project work is required.
- Once new well data is available, it is recommended that the results be integrated with the current interpretation.

Appendix 7

Expenditures

	Data Compilation, historical data verification and resampling 2008- 2012	Seismic Study Summer 2011	Subtotals
APEX Geoscience Expenses			
APEX Trucks, Computers & Miscellaneous Equipment Rentals, Fees	$3,452.78		$3,452.78
APEX Geologists Office	$35,061.75	$3,179.13	$38,240.88
APEX Principals Directly Involved	$36,285.75	$4,813.88	$41,099.63
Total APEX Geoscience Costs June 2008 to August 2012	**$74,800.28**	**$7,993.00**	**$82,793.28**
APEX Third Party Expenses			
Analytical costs	$896.80		$896.80
Software Rentals	$11,000.00		$11,000.00
Miscellaneous field supplies	$132.46		$132.46
Maps, data and reproductions	$2,619.67		$2,619.67
Travel costs (Accomodations, Airfare, Bus Fare, Food & Fuel)	$1,615.64		$1,615.64
Communications	$197.32		$197.32
Frieght	$22.07		$22.07
Parallax Resources consulting	$525.00		$525.00
Total APEX Third Party Expenses June 2008 to August 2012	**$17,008.95**		**$17,008.95**
			$99,802.23
Grizzly Direct Paid Expenses			
RPS Boyd Petro Search Seismic Survey Costs		$198,119.82	$198,119.82
Grizzly Principal Directly Involved	80,000.00	$40,000.00	$120,000.00
Surveying	$29,992.50		$29,992.50
Construction	$9,148.34		$9,148.34
Land access fees	$24,238.23		$24,238.23
Total Grizzly Incurred Costs June 2008 to August 2012	$143,379.07	$198,119.82	**$381,498.89**
SUBTOTAL PROJECT COSTS JUNE 2008 to AUGUST 2012	**$235,188.30**	**$206,112.82**	
TOTAL PROJECT COSTS JUNE 2008 to AUGUST 2012			**$481,301.12**