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ASSESMENT REPORT FOR 2012-2014 EXPLORATION ON THE SWAN HILLS BENTONITIC CLAY PROPERTY, WEST-CENTRAL ALBERTA

ALBERTA METALLIC MINERAL PERMIT 9305031142

PART B

Prepared For:
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May 21, 2015
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1 Summary

APEX Geoscience Ltd. ("APEX") was retained during 2012 to 2014 as professional geological consultants by Headwater Mineral Exploration and Development Ltd. ("Headwater") for the continuation of project management for Headwater's Swan Hills Property (the "Property"). This report is written for filing toward assessment work requirements for Alberta Metallic and Industrial Mineral Permit 9305031142, which is part of contiguous block of 69 permits at their Swan Hills Property.

Currently, Headwater owns an undivided 100% interest in the Swan Hills Property, consisting of 69 contiguous metallic and industrial mineral permits covering approximately 506,254 hectares (1,250,981 acres). The Swan Hills permits are held in the name of Headwater Mineral Exploration and Development Ltd. and 620516 Alberta Ltd. Permit 9305031142 is held in the name of Headwater Mineral Exploration and Development Ltd. and encompasses 5,120 hectares (12,652 acres) of land.

Headwater's Swan Hills Property is located in west-central Alberta, within the 1:250,000 scale National Topographic System map sheets: 83J; 83K; 83N; and 83O. The center of the Property is approximately located at 538515 Easting/ 6089058 Northing, using the North American Datum of 1927 (NAD27) and Universal Transverse Mercator geographic coordinate system Zone 11 (or 116°23'55.28" West Longitude and 54°56'56.15" North Latitude). Using the Alberta Township System, a version of the legal Dominion Land Survey, the Property covers portions of Townships 63 to 71, Ranges 12 to 19 West of the 5th Meridian.

The Swan Hills Property lies in the northwestern part of the Western Canada Sedimentary Basin within the southern tectonometamorphic region of the Peace River Arch. The Property is mostly underlain by Uppermost Cretaceous Wapiti Formation and Tertiary Paskapoo Formation clastic sedimentary rocks. The Wapiti Formation consists of sandstone and siltstone with minor mudstone, bentonite, and coal beds deposited in fluvial to lacustrine environments. The Swan Hills Property bentonitic shale horizon, which host the bentonite-rich zones discussed in this Assessment Report, are likely part of the Upper Wapiti Formation and may be laterally or time equivalent to the Horseshoe Canyon Formation or Battle and Whitemud formations that are located an defined south of the Property near the city of Edmonton.

The Horseshoe Canyon Formation was deposited in a variety of successive environments including floodplains, estuarine channels, and coal swamps. The non-marine Scollard Formation is the most basal Tertiary formation in the area of the Property. The Scollard Formation overlies the Wapiti Formation and consists of sandstone and siltstone with minor mudstone and bentonite. The youngest bedrock unit in the area of the Swan Hills mineral permits is the Tertiary Paskapoo Formation. The Paskapoo Formation is composed of cycles of thick, tabular buff coloured sandstone beds overlain by interbedded siltstone and mudstones, which are locally high in smectite. The Paskapoo Formation is approximately 300 to 400 m in thickness but mostly occupies the highlands in the south-central portion of the Property. The majority of the Swan Hills Property is covered by drift of variable thickness, ranging from a discontinuous veneer to less than 15 m.

The majority of the historical exploration conducted on the Swan Hills Property has been for non-bentonite resources, including gold, precious metal, base metal, and diamond, and to a lesser extent lithium in Devonian formation waters. The recent Property focus is related to thick bentonite beds within permit 9305031142, which was discovered in outcrops and trenches during 2003, and auger and diamond drill tested in the 2008. The samples from the 2008 auger and diamond drilling were sent to the Saskatchewan Research Council for a number of tests including column settling tests followed by prepared randomly oriented and oriented clay samples for X-ray diffraction to determine clay abundances and mineralogy. Analyses of the randomly oriented samples indicates that the clay fraction of the samples (grains <2 micrometres [2µm]) ranges from ~6-72%, and the majority of clay fraction is smectite or smectite-illite, with smectite being the most prominent clay species (more than half of the clay fraction in 86% of samples). Much less common (<10% of clays in all samples) were chlorite and kaolinite. The cation exchange capacity work, which measures the total capacity of a soil to hold exchangeable cations, indicates the smectite has high action exchange capacity and is classified predominantly as calcium smectite.

This historic work defined a 'potential' bentonitic clay mineral deposit over an area 2.7 km by 4.3 km comprising an area of roughly eight square kilometres with the potential for a much larger deposit to be delineated with further work. Bentonite has many industrial applications, including as an ingredient in foundry sands, drilling muds, absorbents, food products, and cosmetics. The value and specific applicability of a bentonite deposit depends on several factors, including impurities, colour, size of clay particles, cation exchange capacity (CEC), and rheology. Because bentonite is an industrial mineral, the value of a given deposit is often dictated by the thickness of overburden and access to infrastructure and access to a specific market.

Recent (2012-2014) work completed by APEX on behalf of Headwater includes:

1. completion of analytical work on samples that were collected during a 2012 trenching program;
2. development of a three-dimensional geological model towards an estimation of the Inferred Bentonite Resource, which was calculated and finalized in 2014; and
3. construction work during the late fall of 2014 that was geared towards a geological sampling program (the program was ultimately cancelled due to large amounts of early snowfall hindering the progress).

A summation of expenditures of this work shows that Headwater has spent a total of CDN$65,757.18 (not including GST) on permit 9305031142 of the Swan Hills Property during 2012 to 2014.

Results of the 2014 non-oriented clay analysis conducted by the Saskatchewan Research Council indicate the composition of up to 34 % montmorillonite. Analyses of the oriented samples indicate the majority of clay fraction is smectite or smectite-illite, with smectite being the most prominent clay species. Less common clay minerals include chlorite and kaolinite with <2.25% of clays in most samples. The Saskatchewan

Research Council conducted X-ray diffraction analysis on loose powder to determine the deleterious element abundance. The calcium content in the samples is, in general, relatively high, CaO, whereas sodium content is relatively low. This supports the convention that the Swan Hills Bentonite is Ca-Rich bentontite and has low sodium content.

An Inferred Mineral Resource has been estimated for a portion of the bentonitic clay mineral deposit measuring 1.67 km by 0.7 km (approximately 1.2 square kilometres) within the potential bentonitic clay mineral deposit area (as defined by the CIM Definition Standard on Mineral Resources and Ore Reserves dated November 27, 2010). The resource area, which is defined by three drillholes and seven trenches, was wire-framed and block modelled for mineral resource estimation using the Inverse Distance technique. The near-surface Inferred Mineral Resource calculated in this Assessment Report, estimates that at a lower cut-off of 30% total clay minerals (bulk clay + mica) for the near-surface bentonitic clay bedrock, yields an Inferred Mineral Resource estimated at 24.7 million m^3, or 54.3 million tonnes (at an assumed specific gravity of 2.2 kg/m^3). The inferred mineral resource includes an average estimated grade of 50.3% total clay minerals (bulk clay + mica), with close to 60% of the clay mineral species being smectite.

An additional deeper Inferred Mineral Resource was estimated for the underlying clay-rich polymicton till and yields 33.6 million cubic metres or 74 million tonnes (at an assumed specific gravity of 2.2 kg/m^3) with an average estimated grade of 40.5% total clay minerals (bulk clay plus mica) and 56% of the clay mineral species being smectite. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the mineral resource will be converted into a mineral reserve.

During the late fall of 2014 Headwater attempted a bedrock sampling program in the vicinity of the bentonite deposit and commissioned Williscroft Bros. Const. (2005) Ltd. to open the access. The activity included repairing damaged portions of the existing access and the addition of some new road construction. As the construction neared completion, the sampling program was ultimately cancelled due to large amounts of early snowfall hindering the progress. Headwater is currently planning to complete the access construction and commence the sampling program.

It is recommended that additional work be completed on permit 9305031142. A multi-faceted exploration program estimated at CDN$2.25 million (not including GST) on Permit 9305031142 should consist of the following activities:

1. Clay analyses and cation exchange capacity analyses should be completed on all archived samples that have yet to be analyzed.

2. To bring the Inferred Mineral Resource to a greater level of confidence, further auger drilling and trenches is required. Full bulk and clay mineral analysis should be done on fresh sample material from every drillhole and trench.

3. Additional metallurgical work, market studies, potential material process design studies and environmental baseline work should be initiated to complete a Preliminary Economic Assessment scoping study of the clay potential of the Property. Materials Engineering specialist is recommended to assist or direct these studies.

2 Introduction

Headwater Mineral Exploration and Development Ltd. ("Headwater") of Red Deer, Alberta owns an undivided 100% interest in Metallic and Industrial Mineral (MAIM) Permit 9305031142. This Permit is a part of a contiguous group of MAIM permits in the Swan Hills area of west-central Alberta (the "Swan Hills Property" or the "Property").

APEX Geoscience Ltd. ("APEX") of Edmonton, Alberta has been retained as independent geological consultants by Headwater since 2005. Since then, APEX has: aided Headwater in project management; complied all available geological, geophysical and geochemical data for the Property; conducted exploratory bedrock sampling, auger and diamond drilling; and have interpreted and reported on geological aspects of the Property. The Property is considered prospective for numerous mineral resources including diamonds, gold, and bentonite, the latter of which is the focus of this Assessment Report.

Recent (2012-2014) work completed by APEX on behalf of Headwater includes:

1. completion of analytical work on samples that were collected during a 2012 trenching program;

2. development of a three-dimensional geological model towards an estimation of the Inferred Bentonite Resource, which was calculated and finalized in 2014; and

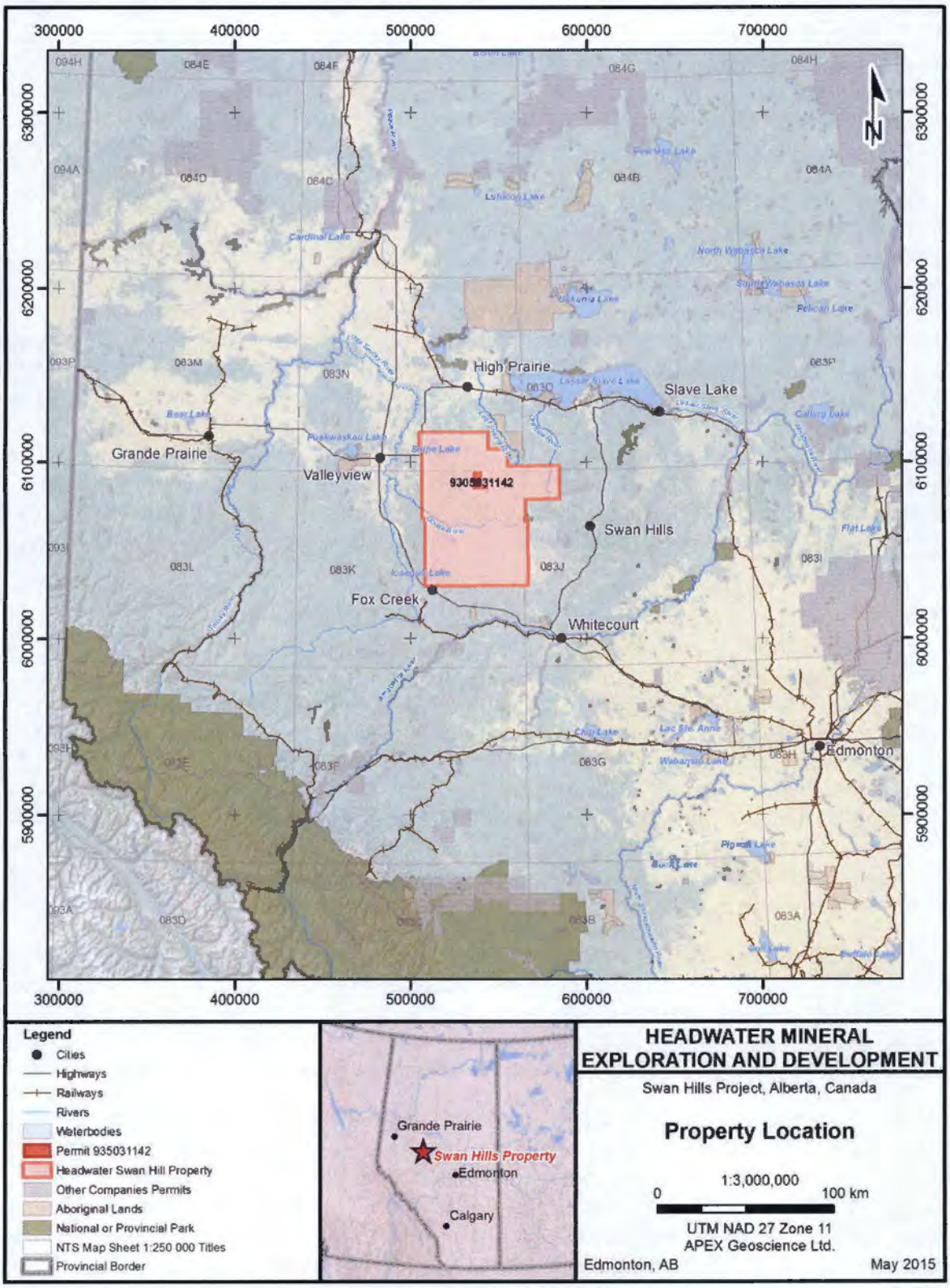
3. construction work during the late fall of 2014 that was geared towards a geological sampling program (the program was ultimately cancelled due to large amounts of early snowfall hindering the progress).

This report is written for filing toward assessment work requirements for Permit 9305031142 on the Swan Hills Property, owned 100% by Headwater and held in the name of Headwater Mineral Exploration and Development Ltd., described in which, is the work performed by APEX on behalf of Headwater to calculate the "Inferred Mineral Resource" and all other acceptable assessment work completed by Headwater. All work performed, and therefore assessment expenditures calculated, were for 2012 to 2014 (cut off for the previously submitted 2012 Assessment report was January 15, 2012). Headwater has spent a total of CDN$65,757.18 (not including GST) on Permit 9305031142 between 2012 and 2014. A breakdown of the expenditures is presented in Appendix 1.

3 Property Description and Location

The Swan Hills Property is located within the 1:250,000 scale National Topographic System map sheets: 83J; 83K; 83N; and 83O, with the center of the Property at approximately 538515 m Easting, 6089058 m Northing (Universal Transverse Mercator, Zone 11, North American Datum 1927; Figure 1). Using the Alberta Township System (ATS), a version of the legal Dominion Land Survey (DLS), the Property covers portions of Townships 63 to 71, Ranges 12 to 19 West of the 5th Meridian. Permit 9305031142 is located on the northern central part of the Property (Figure 1).

Figure 3.1 General location of Headwater Mineral Exploration and Development Ltd. Swan Hills Property.



Currently, Headwater owns an undivided 100% interest in the Swan Hills Property, consisting of 69 contiguous MAIM permits covering approximately 506,254 hectares (1,250,981 acres) of land. The MAIM permits are held in the name of Headwater Mineral Exploration and Development Ltd. and 620516 Alberta Ltd. Permit 9305031142 is held in the name of Headwater Mineral Exploration and Development Ltd. and encompasses 5,120 hectares (12,652 acres) of land (Table 1 and Figure 2).

The Property consists entirely of MAIM permits, which grant Headwater the exclusive right to explore for metallic and industrial minerals for seven consecutive two-year terms (a total of fourteen years), subject to traditional assessment work performance and reporting biannually. At the end of each two-year period, a report on the assessment work done during that time must be submitted within 90 days. The exclusive right to explore is subject to Alberta Regulation 213/98 of the Alberta Mines and Minerals Act. Work requirements for maintenance of the permits in good standing are $5/ ha for the first term, $10/ha for each of the second and third terms, and $15/ha for each the fourth, fifth, sixth and seventh terms. Mineral permits may be grouped and excess expenditures may be carried into the next two year period. The Alberta Metallic and Industrial Mineral Tenure Regulation allows a permit holder to pay to the Minister an amount equivalent to the assessment that would be required to continue holding the permit, once during the permit's term. MAIM Permits must be a minimum area of 16 ha up to a maximum area of 9216 ha with lands that are contiguous.

The Alberta Mines and Minerals Act and the Alberta Metallic and Industrial Mineral Tenure Regulations provide for the accumulation of excess work in any term for filing toward subsequent terms, and also enable the reduction of permit areas during their currency. There are no statutory provisions for the renewal of permits beyond their 14 year term. The statutes also provide for conversion of Permits to Metallic Minerals Leases, after the initial two-year anniversary of the MAIM permit record date and once a mineral deposit has been identified. Leases are granted for a renewable term of 15 years, and require annual payments of $3.50/ha for rent to maintain them in good standing. There are no work requirements for the maintenance of leases and they confer rights to minerals. Alberta Regulation 145/2005 of the Alberta Mines and Minerals Act (http://www.energy.alberta.ca/minerals/548.asp) contains detailed information on permits, licenses and assessment requirements.

Under the Alberta Regulation 350/98 Metallic and Industrial Minerals Royalty Regulation, "quarriable minerals" such as Bentonite are subject to a royalty reserved to the Crown of a sum calculated free and clear of any and all deductions of $0.11 per tonne, which must be paid to the Minister on or before the last day of the month next following the quarter in which the quarriable mineral is obtained or produced.

Rights to metallic and industrial minerals, bitumen (oil sands), coal and/or oil/gas within Alberta are regulated under separate statutes, which collectively make it possible for several different "rights" to coexist and be held by different grantees over the same geographic location. Oil/gas leases, coal leases and MAIM permits coexist within the Swan Hills Property. In addition to subsurface rights, surface mining in Alberta is also regulated under a separate statute and a number of small Mineral Surface Leases (sand and gravel) also exist within the Property.

Figure 3.2 Permit location and status of Headwater Mineral Exploration and Development Ltd. Swan Hills Property.

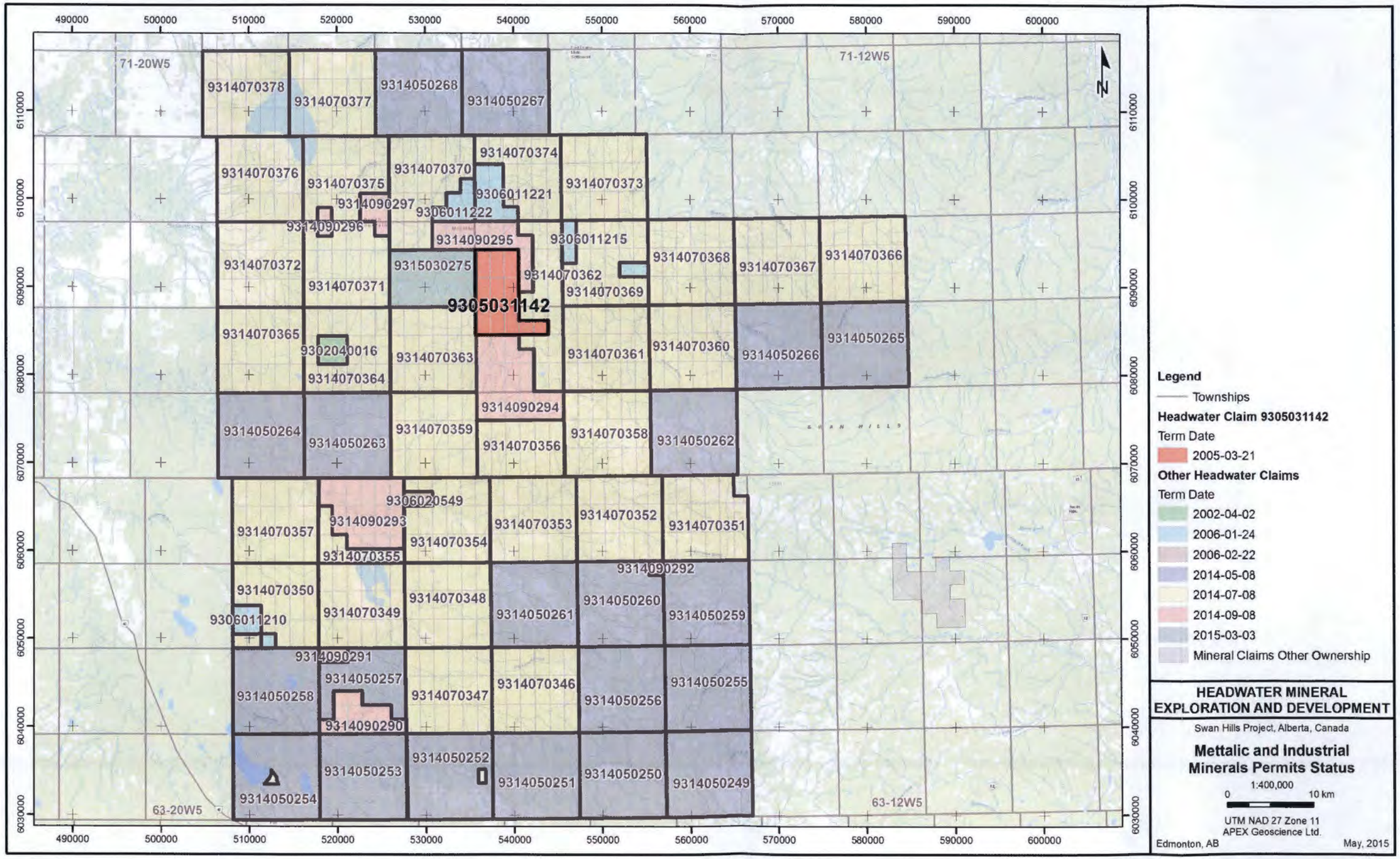


Table 3.1 Headwater Mineral Exploration and Development Ltd. Swan Hill Property Metallic and Industrial Mineral Permit descriptions.

Permit	Area (ha)	Term Date	Legal Land Description	Owner
9302040016	1024	2002-04-02	5-18-068: 16-17; 20-21	Headwater Mineral Exploration and Development
9305031142	**5120**	**2005-03-21**	**5-16-068: 26-33 5-16-069: 4-9; 16-21**	**Headwater Mineral Exploration and Development**
9306011210	1280	2006-01-24	5-19-065: 4; 7-8; 17-18	Headwater Mineral Exploration and Development
9306011215	1280	2006-01-24	5-15-069: 13-14; 19; 30-31	Headwater Mineral Exploration and Development
9306011221	2304	2006-01-24	5-16-070: 4-8; 17-20	Headwater Mineral Exploration and Development
9306011222	1536	2006-01-24	5-17-070: 1-3; 11-13	Headwater Mineral Exploration and Development
9306020549	512	2006-02-22	5-17-066: 29-30	620516 Alberta Ltd.
9314050249	9216	2014-05-08	5-14-063: 1-36	Headwater Mineral Exploration and Development
9314050250	9216	2014-05-08	5-15-063: 1-36	Headwater Mineral Exploration and Development
9314050251	9216	2014-05-08	5-16-063: 1-36	Headwater Mineral Exploration and Development
9314050252	9088	2014-05-08	5-17-063: 1-12; 13S,NE; 14-23; 24N,SE; 25-36	Headwater Mineral Exploration and Development
9314050253	9216	2014-05-08	5-18-063: 1-36	Headwater Mineral Exploration and Development
9314050254	9102	2014-05-08	5-19-063: 1-14; 15S,NWP,NE; 16S,NP; 17-20; 21N,W,SEP; 22-36 PORTION(S) LYING OUTSIDE IOSEGUN LAKE PROVINCIAL RECREATION AREA.	Headwater Mineral Exploration and Development
9314050255	9216	2014-05-08	5-14-064: 1-36	Headwater Mineral Exploration and Development
9314050256	9216	2014-05-08	5-15-064: 1-36	Headwater Mineral Exploration and Development
9314050257	5632	2014-05-08	5-18-064: 7; 12-15; 18-30; 33-36	Headwater Mineral Exploration and Development
9314050258	9216	2014-05-08	5-19-064: 1-36	Headwater Mineral Exploration and Development
9314050259	9216	2014-05-08	5-14-065: 1-36	Headwater Mineral Exploration and Development
9314050260	8960	2014-05-08	5-15-065: 1-35	Headwater Mineral Exploration and Development
9314050261	9216	2014-05-08	5-16-065: 1-36	Headwater Mineral Exploration and Development
9314050262	9216	2014-05-08	5-14-067: 1-36	Headwater Mineral Exploration and Development
9314050263	9216	2014-05-08	5-18-067: 1-36	Headwater Mineral Exploration and Development
9314050264	9216	2014-05-08	5-19-067: 1-36	Headwater Mineral Exploration and Development
9314050265	9216	2014-05-08	5-12-068: 1-36	Headwater Mineral Exploration and Development
9314050266	9216	2014-05-08	5-13-068: 1-36	Headwater Mineral Exploration and Development
9314050267	9216	2014-05-08	5-16-071: 1-36	Headwater Mineral Exploration and Development
9314050268	9216	2014-05-08	5-17-071: 1-36	Headwater Mineral Exploration and Development
9314070346	9216	2014-07-08	5-16-064: 1-36	Headwater Mineral Exploration and Development
9314070347	9216	2014-07-08	5-17-064: 1-36	Headwater Mineral Exploration and Development
9314070348	9216	2014-07-08	5-17-065: 1-36	Headwater Mineral Exploration and Development
9314070349	9216	2014-07-08	5-18-065: 1-36	Headwater Mineral Exploration and Development
9314070350	7936	2014-07-08	5-19-065: 1-3; 5-6; 9-16; 19-36	Headwater Mineral Exploration and Development
9314070351	8832	2014-07-08	5-14-066: 1-24; 25S; 26-35	Headwater Mineral Exploration and Development
9314070352	9216	2014-07-08	5-15-066: 1-36	Headwater Mineral Exploration and Development
9314070353	9216	2014-07-08	5-16-066: 1-36	Headwater Mineral Exploration and Development
9314070354	8704	2014-07-08	5-17-066: 1-28; 31-36	Headwater Mineral Exploration and Development
9314070355	2560	2014-07-08	5-18-066: 1-8; 18-19	Headwater Mineral Exploration and Development
9314070356	6144	2014-07-08	5-16-067: 1-24	Headwater Mineral Exploration and Development
9314070357	9216	2014-07-08	5-19-066: 1-36	Headwater Mineral Exploration and Development
9314070358	9216	2014-07-08	5-15-067: 1-36	Headwater Mineral Exploration and Development
9314070359	9216	2014-07-08	5-17-067: 1-36	Headwater Mineral Exploration and Development
9314070360	9216	2014-07-08	5-14-068: 1-36	Headwater Mineral Exploration and Development
9314070361	9216	2014-07-08	5-15-068: 1-36	Headwater Mineral Exploration and Development
9314070362	6912	2014-07-08	5-16-068: 1-2; 11-14; 22-25; 34-36 5-16-069: 1-3; 11-14; 23-26; 34-36	Headwater Mineral Exploration and Development

Permit	Area (ha)	Term Date	Legal Land Description	Owner
9314070363	9216	2014-07-08	5-17-068: 1-36	Headwater Mineral Exploration and Development
9314070364	8192	2014-07-08	5-18-068: 1-15; 18-19; 22-36	Headwater Mineral Exploration and Development
9314070365	9216	2014-07-08	5-19-068: 1-36	Headwater Mineral Exploration and Development
9314070366	9216	2014-07-08	5-12-069: 1-36	Headwater Mineral Exploration and Development
9314070367	9216	2014-07-08	5-13-069: 1-36	Headwater Mineral Exploration and Development
9314070368	9216	2014-07-08	5-14-069: 1-36	Headwater Mineral Exploration and Development
9314070369	7936	2014-07-08	5-15-069: 1-12; 15-18; 20-29; 32-36	Headwater Mineral Exploration and Development
9314070370	9216	2014-07-08	5-17-069: 28-33 5-17-070: 4-10; 14-36	Headwater Mineral Exploration and Development
9314070371	8704	2014-07-08	5-18-069: 1-31; 33-35	Headwater Mineral Exploration and Development
9314070372	9216	2014-07-08	5-19-069: 1-36	Headwater Mineral Exploration and Development
9314070373	9216	2014-07-08	5-15-070: 1-36	Headwater Mineral Exploration and Development
9314070374	6912	2014-07-08	5-16-070: 1-3; 9-16; 21-36	Headwater Mineral Exploration and Development
9314070375	7936	2014-07-08	5-18-070: 3-4; 6-10; 13-36	Headwater Mineral Exploration and Development
9314070376	9216	2014-07-08	5-19-070: 1-36	Headwater Mineral Exploration and Development
9314070377	9216	2014-07-08	5-18-071: 1-36	Headwater Mineral Exploration and Development
9314070378	9216	2014-07-08	5-19-071: 1-36	Headwater Mineral Exploration and Development
9314090290	3072	2014-09-08	5-18-064: 1-6; 8-11; 16-17	Headwater Mineral Exploration and Development
9314090291	512	2014-09-08	5-18-064: 31-32	Headwater Mineral Exploration and Development
9314090292	256	2014-09-08	5-15-065: 36	Headwater Mineral Exploration and Development
9314090293	6656	2014-09-08	5-18-066: 9-17; 20-36	Headwater Mineral Exploration and Development
9314090294	6912	2014-09-08	5-16-067: 25-36 5-16-068: 3-10; 15-21	Headwater Mineral Exploration and Development
9314090295	4096	2014-09-08	5-16-069: 10; 15; 22; 27-33 5-17-069: 25-27; 34-36	Headwater Mineral Exploration and Development
9314090296	512	2014-09-08	5-18-069: 32 5-18-070: 5	Headwater Mineral Exploration and Development
9314090297	1280	2014-09-08	5-18-069: 36 5-18-070: 1-2; 11-12	Headwater Mineral Exploration and Development
9315030275	6144	2015-01-12	5-17-069: 1-24	Headwater Mineral Exploration and Development
69 Permits	**506,254 ha**	**(1,250,980 acres)**		

The MIAM Permits grant Headwater a right to use of the surface for the purposes of conducting mineral exploration work, subject to obtaining the necessary land use permits (Exploration Approval) from the Land Administration Division of Alberta Sustainable Resource Development (SRD). Surface restrictions from the SRD can consist of minor activity restrictions, which are usually identified in the Exploration Approval granted.

Surface rights to the Swan Hills Property are held by the Crown, but grazing leases, farm development leases, forest management areas (FMA) and surface material leases exist within the Property. Exploration is permitted within the grazing leases and farm development leases as long as written permission is acquired by the licensee for the program of exploration. Portions of the Property overlap with special access zones, a grizzly bear zone and key wildlife and biodiversity zones. Exploration is permitted within the zones provided the AER "Integrated Standards and Guidelines Enhanced Approval Process" is followed. There are no other surface encumbrances in the area. Compensation may be required to be paid to compensate FMA holders for timber rights over portions of the area, in the event timber is cleared during construction of drill roads

and pads. In addition, compensation may be payable from time to time for access through trappers permit areas.

No other environmental liabilities within the Property are known to the authors. To date the Property has not been legally surveyed.

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Property is located in the northwest part of the Swan Hills of north-central Alberta, proximal to several towns. The Property is about 28 km south of High Prairie, 30 km north of Whitecourt, 25 km east of Valleyview, and 60 km southwest of the Town of Slave Lake, 30 km west of the town of Swan Hills and abutting the northern edge of the town of Fox Creek (Figure 1). The Property is centered at approximately 537700 m Easting/ 6074000 m Northing, NAD 27, Zone 11, and covers portions of Townships 63 to 71 - Ranges 12 to 19 west of the 5th Meridian (Figure 2). The local landscape contains rolling hills and undulating plains ranging in elevation from about 620 to 1,524 m above sea level, and is covered by boreal forest including swamps, marshes, and meadows. Major hydrographic features in the region include the Snipe, Meekwap, Losegun and Raspberry lakes, as well as the Goose, East Prairie, Wallace and Driftpile Rivers. Outcrop is sparse within the property (<3%).

Climate data for the region are available from the Climate Data and Information Archive of Environment Canada (http://climate.weatheroffice.gc.ca). Data from the Slave Lake Weather Station are shown in Table 2. July is both the wettest and warmest month; January is the coldest month, and February the driest month.

Table 4.1 Average climate data for 1971 - 2000*, Slave Lake Weather Station, Slave Lake, Alberta.

Average annual precipitation:	502.7 mm
Average February precipitation:	17.3 mm
Average July precipitation:	95.6 mm
Average annual daily temperature:	1.7 °C
Average January daily temperature:	-14.5 °C
Average January daily minimum temperature:	-19.6 °C
Average January daily maximum temperature:	-9.4 °C
Average July daily temperature:	15.6 °C
Average July daily minimum temperature:	10.0 °C
Average July daily maximum temperature:	21.2 °C

*http://climate.weatheroffice.gc.ca/climate_normals/results_e.html?stnID=2608&lang=e&dCode=4&StationName=slave_lake&SearchType=Contains&province=ALL&provBut=&dispBack=1&month1=0&month2=12.

Access to the property is by well-maintained paved and unpaved roads (including Provincial Highways 32, 33, 747, and 749) that allow year-round exploration. Extensive cut lines and seismic lines allow internal access using all-terrain vehicles and/or snowmobiles. The communities of Swan Hills, High Prairie, Fox Creek and Valleyview

have limited accommodation, banking, and supply facilities. High Prairie, Slave Lake and Whitecourt are able to provide nearly all needed sources of equipment and repair, operating supplies and materials, support services, and transportation. The metropolitan city of Edmonton, to the southwest, is about 250 km from the centre of the Property and 350 km from the northern edge of the Property by road.

The bentonite deposit, which occurs almost entirely on Permit 9315030275, is located approximately 24 km south of Alberta Highway 749, and is locally serviced by well-maintained gravel roads that currently allow year-round access to the site. A natural gas pipeline exists beside the year round gravel access road and passes through the main deposit area. The Canadian National Railway line passes through the town of High Prairie, about 50 km to the north of the site (Figure 1). The nearest electrical lines currently is about 17 km to the north of the main deposit.

5 Geological Setting and Mineralization

5.1 Regional Geology

The Swan Hills Property lies in the northwestern part of the Western Canada Sedimentary Basin within the tectonometamorphic southern extent of the Peace River Arch (PRA). Precambrian rocks are not exposed within the Property. The basement underlying the PRA includes the Buffalo Head Terrane (BHT) and the Chinchaga Low, both of which are thought to have been accreted to the western edge of North America between 1.8 and 2.4 billion years (Ga) ago and collectively form the Buffalo Head Craton (Ross et al., 1991, 1998).

Nonconformably overlying the basement in the Swan Hills region is a thick sequence of Phanerozoic sedimentary rocks comprised mainly of Devonian to Mississippian carbonate and evaporite and Cretaceous clastic rocks (Table 3 and Figure 3; also see Glass, 1990; Green et al., 1970; Tokarsky, 1977; Mossop and Shetson, 1994). In Alberta the Paleozoic units of the Western Canada Sedimentary Basin (WCSB) very broadly represent sedimentation along a tectonically inactive part of proto-North America's western continental margin, and within shallow epicontinental seaways that at times inundated much of western Canada in response to major changes in global sea level (Kent, 1994). Mesozoic strata within the Property consist of alternating units of marine and non-marine sandstone, shale, siltstone, and mudstone, with minor carbonate (Edwards et al, 1994) deposited mainly in fluvial to deltaic systems (Smith, 1994; Hayes et al., 1994). The Mesozoic was tectonically active with periods of erosion and volcanism (Hayes et al., 1994). The youngest bedrock unit in the Swan Hills region is Tertiary clastic sedimentary rocks (Hamblin, 2004), which are covered by glacial surficial deposits of variable thickness (Pawlowicz and Fenton, 1995a, b). For a more detail description of the Swan Hills regional geology please refer to Dufresne (2012).

Figure 5.1 Bedrock geology of west-Central Alberta.

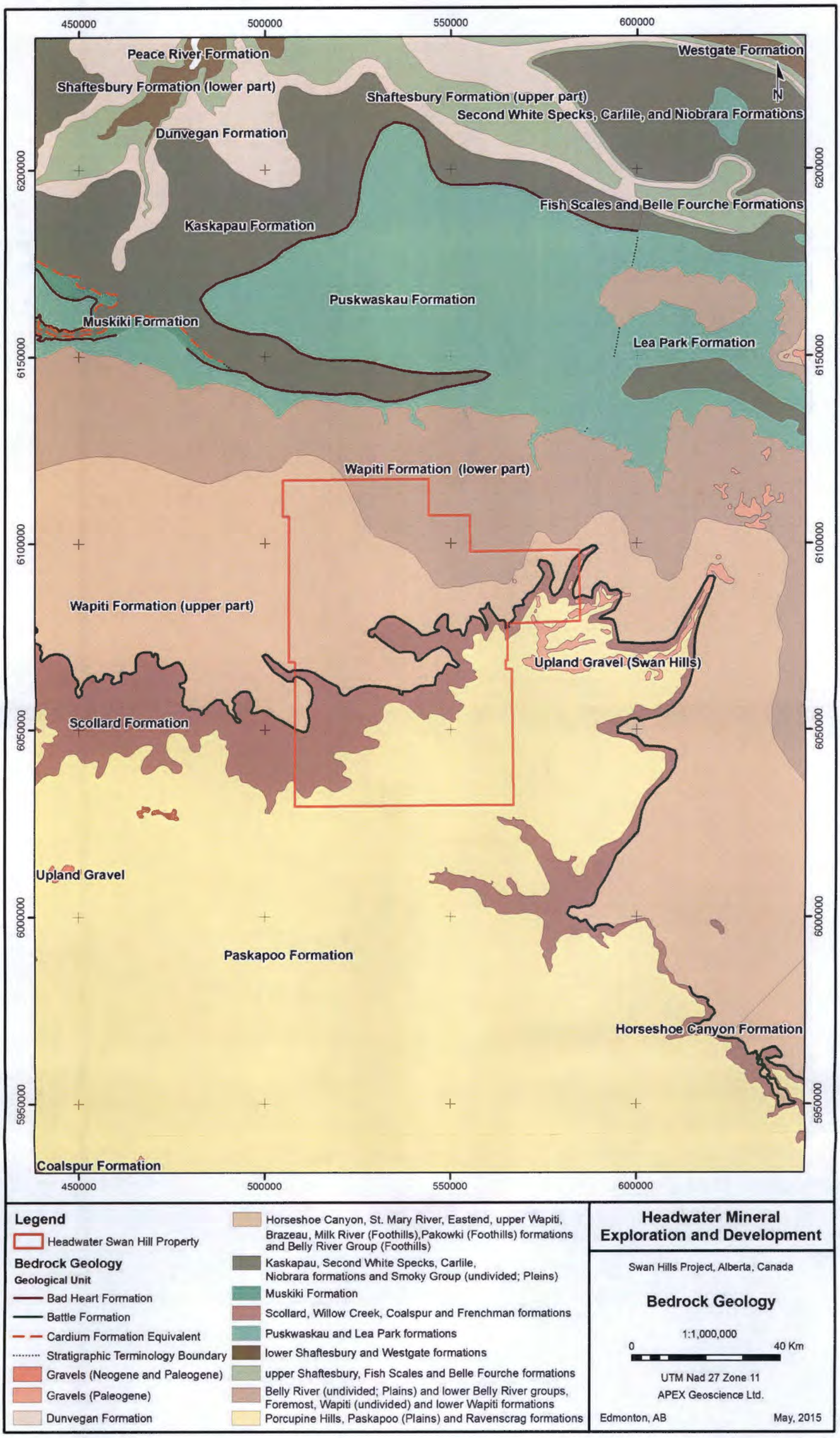
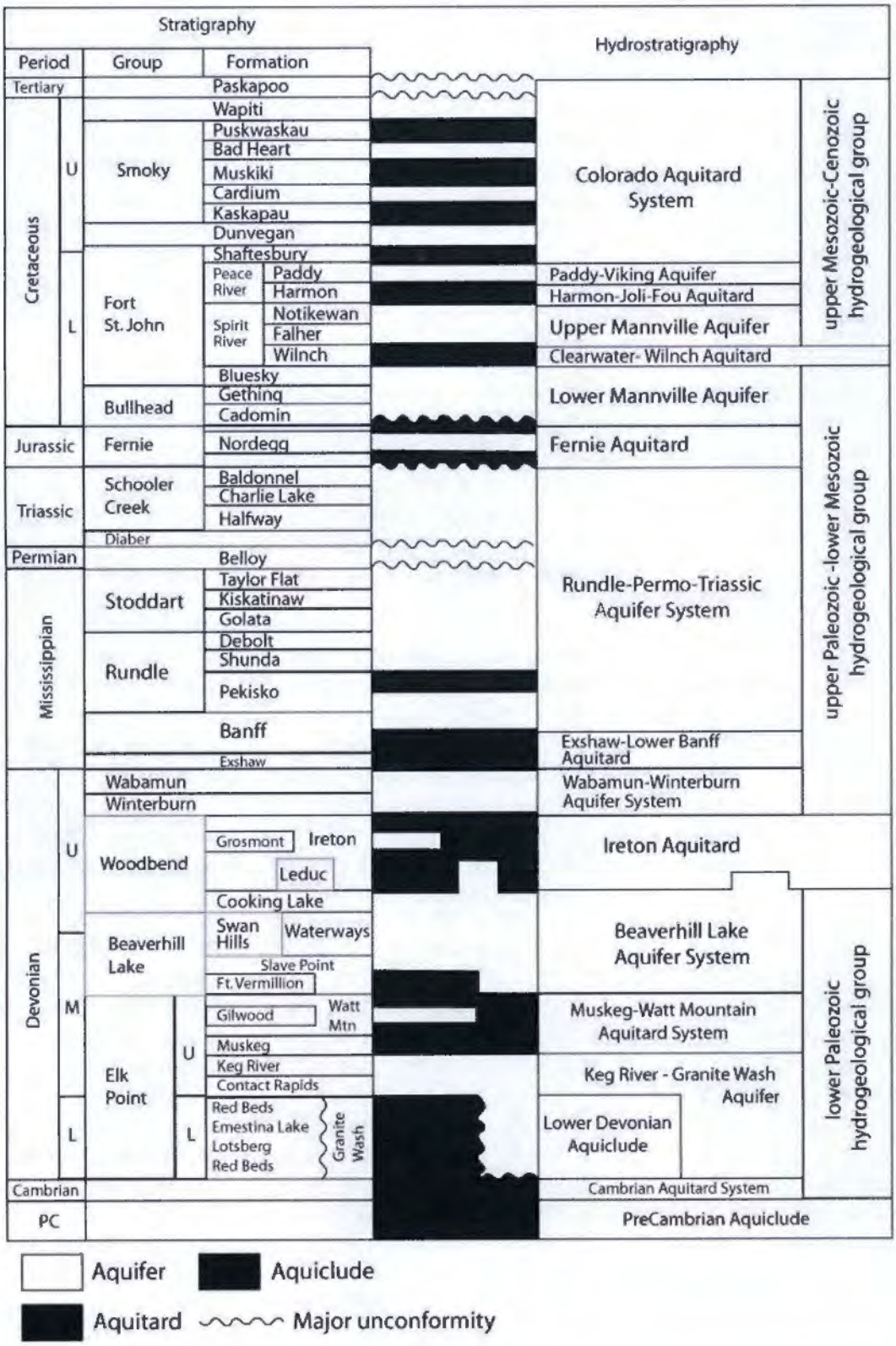


Table 5.1 Generalized bedrock stratigraphy of northwestern Alberta (after Hitchon et al., 1995).



5.2 Bentonite Mineralization

Extensive bentonite and bentonitic mudstone within the Property is composed essentially of the clay mineral montmorillonite (also known as smectite; a member of the smectite group) that has formed by alteration of volcanic ash. The ash source for the bentonite beds is not known, but it is presumed that much of the bentonite is derived from Upper Cretaceous volcanism in the Cordillera of British Columbia related to felsic volcanism during prolonged subduction and uplift. It is also possible that some of the ash and resulting bentonites have been generated more locally and are related to ultramafic intrusions (e.g., kimberlites and alkaline basalts) within northern Alberta, if not within the Property itself (Dufresne and Banas, 2010; Eccles et al., 2009). In some instances, the thickness of the bentonitic zones within the property may indicate significant reworking of the regional ashes derived from the Cordillera of British Columbia or perhaps more local sources.

Likely, more than half and potentially as much as three quarters of the Swan Hills Property is underlain by the Wapiti Formation (Figure 3). The Swan Hills Property bentonites and bentonitic mudstones that are host to the bentonite rich zones are likely part of the Upper Wapiti Formation and may be laterally or time equivalent to the Horseshoe Canyon Formation or Battle and Whitemud formations further south in the Edmonton region. The Horseshoe Canyon Formation was deposited in a variety of successive environments including floodplains, estuarine channels and coal swamps marginal to an inland sea.

In general, the Swan Hills bentonite and bentonitic mudstone is comprised primarily of calcium (Ca) smectite with lesser amounts of illite, kaolinite and chlorite. Smectite (or montmorillonite) is known as the swelling clay. In general, sodium (Na) smectite can swell to 10 or 15 times its original volume. Calcium smectite is swelling clay but in general will have poorer swelling capabilities in comparison to Na smectite. The Swan Hill smectite yield moderate cation-exchange capacity (CEC) values, which indicates they could be treated to transform them to Na-smectite and then used as a swelling clay product or they could be used as an excellent absorption product for deleterious elements and toxins where swelling is not desired.

The 2008 drilling consistently intersected what appears to be displaced and, in places, disturbed bedrock comprised of bentonites intercalated with bentonitic mudstone and siltstone along with some minor sandstone sitting above a distinct brown, well compacted clay-rich polymicton till. In some of the holes the overlying bedrock looked to be undisturbed and in a normal flat lying position. In other holes, the bedrock section was distinctly disturbed with a broken and jumbled appearance. The bedrock sitting over top of the compacted brown clay-rich till likely represents a glacially disturbed or potentially locally ice-thrusted massive block of Wapiti bedrock. The glacially disturbed and potentially ice-thrusted Wapiti bedrock was intersected in six out of the seven core holes drilled and ranges in thickness from 10 m to 32 m with an average thickness of 30.5 m in the 6 holes where it was intersected. More drilling or trenching will be required to map individual bentonite beds or bentonitic mudstone beds within the resource area. Beneath the glacially disturbed bedrock, all seven drill holes intersected a brown competent (basal?) clay-rich till ranging from 17 m to 55 m in

thickness and averaging 31.7 m in thickness. Both units are targets for their clay mineral content. The bentonites and bentonitic mudstones that underlie much of the Property are rich in smectite (montmorillonite) in the range of 60 to 70% with much less illite, kaolinite and very minor chlorite. The brown clay-rich till unit is typically smectite rich but contains a much larger proportion of illite versus the bentonites and bentonitic mudstones.

6 2012 - 2014 Exploration Methodologies and Results

6.1 Trench Sample Analytical Work

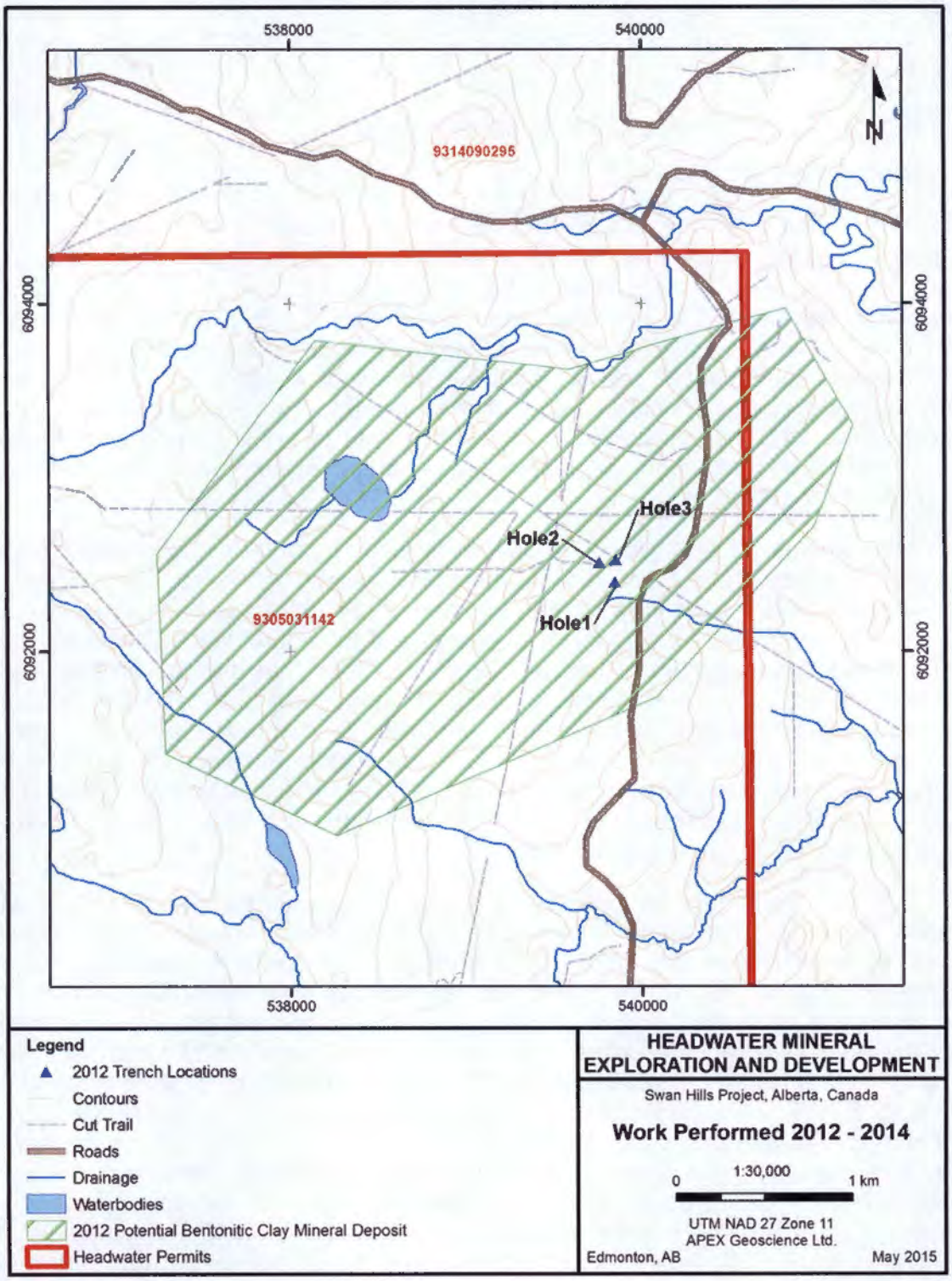
6.1.1 2012 Trench Sampling Methodology

During January 2012, three trenches were completed to obtain bulk samples for future bentonitic clay mineral test work (Figure 4; Holes 1, 2 and 3). The trench samples were collected by APEX personal and driven back to the APEX warehouse in Edmonton, Alberta by APEX staff for storage. The 2012 trench work and sample collection was conducted as part of Headwaters previous Assessment Expenditure, and is therefore, not part of the current expenditure allocation. However, in February 2014, a subset of the 2012 samples were collected and sent to the Saskatchewan Research Council (SRC) in Saskatoon, SK for analysis – and are therefore part of the current expenditure allocation.

The samples were analyzed for bulk mineralogy by non-oriented X-ray diffraction analysis and they were measured for their total weight of the <2 µm fraction (clay fraction). The bulk mineralogy by non-oriented X-ray diffraction technique is a poor technique to determine the clay mineral species and their abundances; however it does give a qualitative indication of the total amount of clay that may be present and an indication of the clay mineral species present. In general, the preferred method to determine the clay mineral species and abundances is to separate out the <2 µm size fraction and perform a series of oriented X-ray diffraction analysis. The samples were also analysed for deleterious elements using the X-ray diffraction analysis loose powder method. Powders are analyzed under helium conditions and require a 40 mm special cup with a thin Mylar window, 6 µm thick.

The SRC procedure for processing sediment samples for clay mineral analysis consists of sequestering approximately 8-10 g of powder into a plastic beaker into which 50 ml of deionized water and a few milligrams of sodium hexametaphosphate (dispersant) are added. The mixture is then agitated for 3 minutes using a sonic probe and allowed to settle for 2 minutes. The suspension is then decanted into a centrifuge vial. The process is repeated three more times to collect all of the fine particles. The <2 µm particle size fraction is separated from the coarser fraction by centrifugation at 1000 rpm for 2.5 min. The supernatant suspension of the four vials (containing particles < 2 µm) is decanted into four clean centrifuge vials. The settled material from the first four vials is re-dispersed and centrifuged to remove any remaining clay-size particles. The clay size fraction is then concentrated by centrifugation at 3000 rpm for approximately 5 minutes. The >2 µm size fraction is recovered and heated to 90°C until completely dry. The weight percent of the <2 µm is calculated as the difference between the original sample weight and the recovered >2 µm fraction.

Figure 6.1 Work performed on Headwater's Swan Hills Property between 2012 and 2014, including the location of trench samples and the outline of the 'Potential' mineral deposit area. Note: the Inferred Resource Estimate area is a subset of the 'Potential' area is shown in Figure 5.



A second fraction of the <2µm sample is carefully ground using an agate mortar and pestle and back-packed into 30 mm diameter Al rings for non-oriented XRD analysis. All samples were irradiated with Cu Kα radiation in a Rigaku Miniflex+ X-ray diffractometer. Data for randomly oriented bulk samples were collected over a 2θ range from 2 to 70° stepping 0.02° with a dwell time of 3 seconds, and none of the samples were rotated during analysis.

Oriented clay mounts were prepared by drawing an aliquot of the <2µm fraction through a vacuum Millipore® filtration system using a 47 mm diameter nitrocellulose filter with a nominal pore size of 0.45 µm. The clay layer was inverted and transferred from the filter to a glass slide for analysis. Each oriented clay sample was saturated with ethylene glycol (EG) vapours by placing them in a desiccating chamber into which EG was previously added. All samples were allowed to sit in the EG chamber from 4 to 24 hours to ensure complete saturation. All samples were irradiated with Cu Kα radiation in a Rigaku Miniflex+ X-ray diffractometer. The oriented clay samples were measured from 2 to 30° (2θ) with a 0.02° step size and a 3 second dwell time.

6.1.2 2014 Analytical Results

The SRC conducted column settling tests followed by prepared randomly oriented and oriented clay samples for X-ray diffraction to determine clay abundances and mineralogy. Analyses of the randomly oriented samples indicate that all the samples from Hole 1 and Hole 2 and sample Hole 3-a – Hole 3-c are comprised of 9.5 to 34 % montmorillonite (Table 4 and Appendix 2). Analyses of the oriented samples indicates that the clay fraction of the samples (grains <2 micrometres [2µm]) ranges from ~7-27%, aside from samples Hole 3-e and Hole 3-f, the majority of clay fraction is smectite or smectite-illite, with smectite being the most prominent clay species. Eight of the ten samples were more that 7% smectite with 4 samples over 12% smectite. Less common clay minerals include chlorite and kaolinite with <2.25% of clays in most samples (Table 5).

The SRC conducted X-ray diffraction analysis on loose powder to determine the deleterious element abundance. The calcium content in the samples is in general, relatively high, CaO varies between 0.28 – 3.32%. Whereas sodium content is relatively low, Na_2O varies between 0.005 – 1.10%. SiO_2 varies between 59.2 – 69.8% (Table 6). The generally poor sum weight percent (84 – 94 %) is probably due to the high calcium component. This data supports the convention that the Swan Hills Bentonite is Ca-Bentonite (Ca-Rich) and has low sodium content.

6.2 Swan Hills Inferred Mineral Resource Estimate

6.2.1 Swan Hills Inferred Mineral Resource: Methodology

In 2012, a 'potential' bentonitic clay mineral deposit area was identified within the vicinity of the 2008-2012 exploration work by APEX (Figure 5). The 'potential' mineral deposit was a preliminary estimate to give an idea of the potential size of a clay deposit. The potential mineral deposit area does not meet the requirements for an Inferred Mineral Resource as defined by the CIM Definition Standard on Mineral Resources and Ore Reserves dated November 27, 2010.

Table 6.1 Trench sample x-ray diffraction analysis; backpacked random mount.

Quartz wt.%	Muscovite/Illite wt.%	Albite wt.%	Montmorillonite wt.%	Anorthite wt.%	Chlorite wt.%	Kaolinite wt.%	Mica	Sum wt.%
41.5	9.8	1.9	19.3	16.5	3.9	-	7.1	100
44.8	6.2	19.1	9.9	5.6	10.3	-	4.2	100
42.4	16.9	7.5	9.4	6.4	17.4	-	-	100
48.8	17.5	-	11.1	9.4	7.5	-	5.7	100
35.7	7	3.9	19.4	-	16.4	-	17.5	100
48.2	11.9	2.5	13.4	11.2	4.4	-	8.4	100
55	15	2	10.7	10.1	1.5	-	5.6	100
37.6	9.8	1.5	34	-	8.5	-	8.5	100
40.5	9.9	1.7	33.1	-	8.7	-	6	100
35.6	29.5	-	-	-	3.7	31.2	-	100
48.3	30.8	-	-	-	2.2	18.7	-	100

Table 6.2 2012 trench sample x-ray diffraction analysis; oriented mount, clay in whole rock.

Sample	Smectites wt.%	Illite wt.%	Chlorite wt.%	Kaolinite wt.%	Total <2 µm wt.%
Hole 1-a	7.23	1.36	0.1	0.57	9.26
Hole 1-b	7.35	0.43	0.005	0.03	7.81
Hole 1-c	12.54	0.99	0.005	0.03	13.56
Hole 2-a	9.24	1.66	0.08	1.08	12.05
Hole 2-b	12.04	0.3	0.005	0.67	13.01
Hole 3-a	6	1.17	0.12	0.13	7.41
Hole 3-b	3.8	1.86	0.92	0.46	7.05
Hole 3-c	14.29	0.77	0.005	0.005	15.06
Hole 3-c Dup	14.02	0.11	0.005	0.005	14.14
Hole 3-e	0.005	24.6	0.005	2.25	26.85
Hole 3-f	0.005	12.95	0.56	5.17	18.68

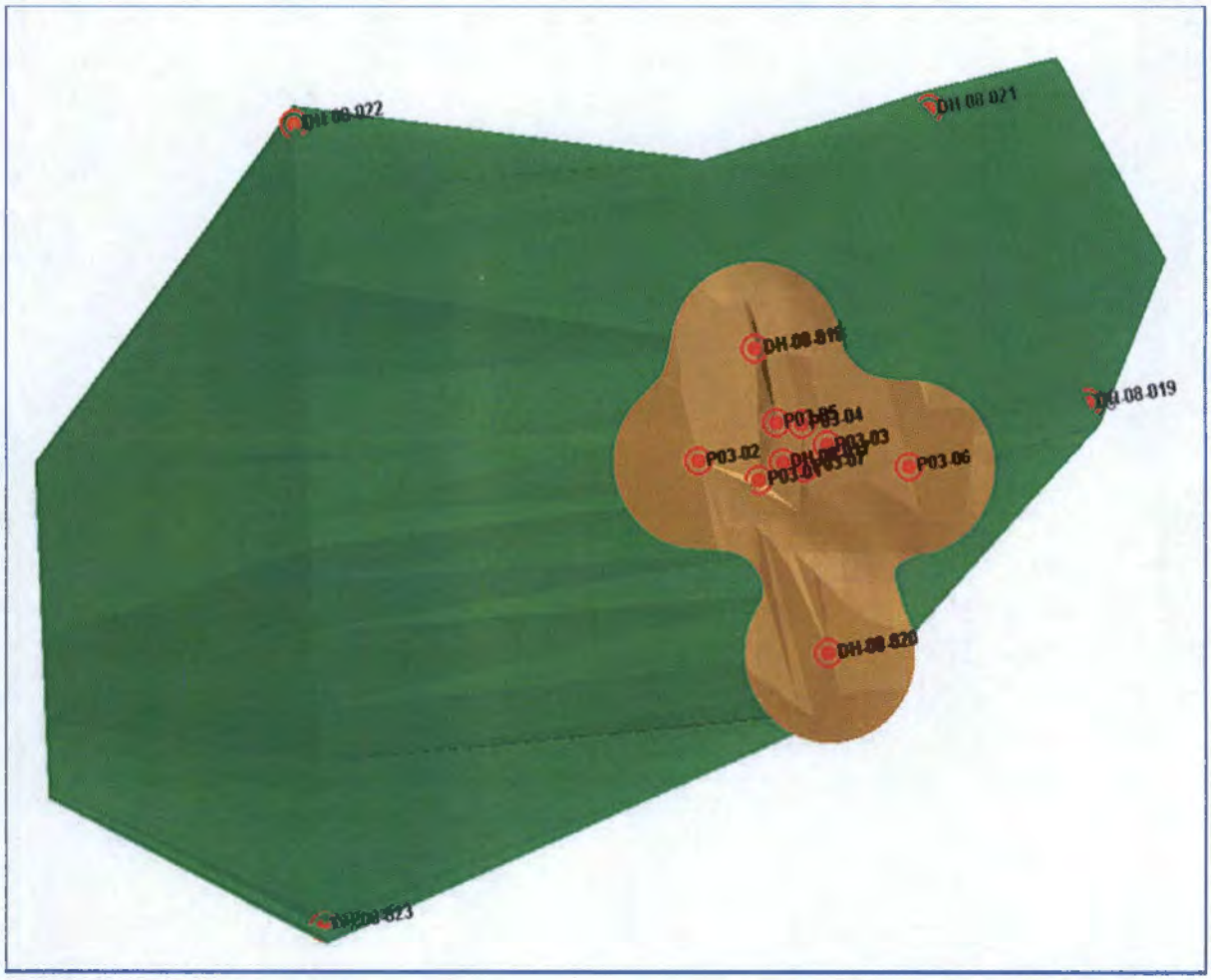
Table 6.3. 2012 trench sample x-ray diffraction analysis, 40 mm loose powder.

SampleNumber	Na_2O wt.%	MgO wt.%	Al_2O3 wt.%	SiO_2 wt.%	P_2O_5 wt.%	K_2O wt.%	CaO wt.%	TiO_2 wt.%	MnO wt.%	Fe_2O_3 wt.%	S wt.%	Sum wt.%
Hole 1a	0.119	1.47	13.5	63.5	0.16	2.2	3.32	0.644	0.044	4.52	0.047	89.6
Hole1b	1.10	1.07	13.7	69.3	0.07	2.97	1.53	0.434	0.058	3.76	0.005	94
Hole 1c	0.323	1.33	12.7	59.6	0.09	2.42	1.73	0.513	0.051	5.56	0.011	84.3
Hole 2a	0.194	1.38	14.7	61.9	0.1	2.24	1.4	0.795	0.095	6.07	0.013	88.9
Hole 2b	0.327	1.67	13.3	62.6	0.07	1.99	2	0.467	0.046	5.51	0.013	88
Hole 3a	0.218	1.5	14.4	61.3	0.13	2.08	2.26	0.675	0.062	5.75	0.019	88.4
Hole 3b	0.242	1.09	11.1	69.8	0.12	1.52	2.45	0.487	0.046	3.29	0.02	90.2
Hole 3c	0.354	1.52	12.8	60.4	0.09	1.69	2.15	0.474	0.05	6.96	0.005	86.5
Hole 3c Dup	0.206	1.47	12.3	59.2	0.1	1.66	2.16	0.463	0.05	6.96	0.005	84.6
Hole 3e	0.005	0.78	17	61	0.08	3.48	0.34	0.786	0.014	6.85	0.009	90.4
Hole 3f	0.005	0.83	18.1	65.5	0.04	3.29	0.28	0.781	0.011	3.26	0.01	92.1
Count	11	11	11	11	11	11	11	11	11	11	11	11
Minimum	0.005	0.78	11.1	59.2	0.04	1.52	0.28	0.434	0.011	3.26	0.005	84.3
Maximum	1.10	1.67	18.1	69.8	0.16	3.48	3.32	0.795	0.095	6.96	0.047	94
Average	0.281	1.28	13.96	63.10	0.10	2.32	1.78	0.593	0.048	5.32	0.014	88.8
Standard Deviation	0.296	0.30	2.04	3.65	0.03	0.66	0.89	0.146	0.023	1.41	0.012	3.0
% RSD	105.34	23.07	14.63	5.79	34.22	28.50	49.87	24.602	47.003	26.60	84.19	3.3

During 2014, a portion of the 'potential' bentonitic clay mineral deposit was three-dimensionally wire-framed and modeled to calculate an Inferred Mineral Resource compliant with National Instrument 43-101 by APEX Geoscience Ltd. Modelling, resource estimation and statistics for this mineral resource were performed by Mr. Nicholls, MAIG under the direct supervision of Mr. Dufresne, P. Geol. of APEX Geoscience Ltd., both of whom are Qualified Persons as defined by National Instrument 43-101.

The resource model utilized three drillholes (DH08-017, DH08-018, DH08-020) and seven trenches (P03-01 to P03-07; Figure 5). The thrusted bedrock and underlying clay-rich polymicton till were block modeled using a parent block size of 50 m x 50 m x 3 m with sub-blocking down to 5 m x 5 m x 1.5 m. The wireframe and block model were extended no further than 300 m outward from the nearest drillhole or trench location. Grade estimation for the block model was conducted using the Inverse Distance technique.

Figure 6.2 Location of the 2014 resource estimate area (brown polygon) within the 2012 potential mineral deposit area (green polygon).



Mineral resource modelling and estimation was carried out using a 3-dimensional block model based on geostatistical applications using commercial mine planning software MICROMINE (v14.0.2). The specifications for creating the 3D geological model, statistical analysis and the resource estimation are summarized as follows:

- Modeling was constrained by the formational boundaries of the glacially disturbed bedrock sheet and the brown compact clay-rich till sheet.

- The drilling database used is current as of February 25th, 2014. The database incorporates all available diamond drilling, pit sampling and analytical data.
- There were a total of 10 pits and 7 drillholes within the export that guided the geological interpretation and estimation of resource.
- Drillholes DH-08-17, DH-08-18 and DH-08-20, and trenches P03-01 to P03-07 were used in the calculation of the inferred resource estimation.
- A 3 m composite was chosen to obtain a representative grade as 83.7% of the samples were less than 3 m in size. A total of 62 composites were used in the estimation process.
- The resource estimate was calculated utilizing the Bulk Clay + Mica, Bulk Clay, and clay species based upon the clay species ratios for the <2 µm clay fraction which includes smectite, illite chlorite and kaolinite grades.
- All composite sample data within the two lodes were examined for capping.
- A nominal bulk density of 2.2 kg/m^3 was used for both the 'Thrusted/Disturbed Bedrock' and the 'Till' lodes.
- A lower cut-off grade of 30% Bulk Clay + Mica was used to govern the mineralization interpretation. A total of two different lodes were interpreted.
- Mineralized wireframes/solids have been constructed to separate the two distinct bands of mineralization. The first being the 'Thrusted/Disturbed Bedrock' which overlies the 'Till' horizon, and the second is the 'Till' horizon itself.

6.2.2 Swan Hills Inferred Mineral Resource: Results

The Swan Hills Inferred Mineral Resource uses a cut-off grade of 30% Bulk clay + Mica and includes 128.4 million tonnes of raw bentonite and clay-bearing material at an overall estimated grade of 44.6% Total Bulk Clay + Mica (Table 7). Tonnages and grade are also provided using a range of different cut-offs ranging from 25% to 70% Bulk Clay + Mica (Table 7). The tonnages of the near surface 'Thrusted/Disturbed Bedrock' domain remain largely intact until the 40% cut off level, at which point the tonnages proceed to drop off rapidly until a lower cut-off of about 60% where there is little or no material remaining that meets the minimum cut-off (Table 7 and Figure 6). The lower grade 'Till' domain which is located under the 'Thrusted Bedrock' horizon remains intact to 30% at which point the tonnage that meets the minimum "Bulk Clay + Mica" cut-off drops off dramatically with increased lower cut-offs to about 45% to 50% at which point there is little or no material remaining that meets the minimum cut-off (Table 7). A computerized three dimensional geological model was produced which incorporated the 2003 pit geological mapping, the 2008 drillhole geological logs and the 2012 pit mapping (Figure 6).

Table 6.4 The Swan Hills Inferred Mineral Resource reported at lower cut offs 25%, 30%, 40%, 50%, 60% and 70% bulk clay + mica. The recommended Inferred Mineral Resource is a cut off of 30%.

>25% Bulk_Clay+Mica

	Volume	Density	*Tonnes (million)	Bulk Clay %	Bulk Clay + Mica %	%Smectite <2µm	%Illite <2µm	%Chlorite <2µm	%Kaolinite <2µm
'Thrusted Bedrock'	24,770,400	2.2	54.49	44.6	50.2	59.3%	28.4%	2.5%	9.9%
'Till'	33,639,150	2.2	74.01	29.1	40.5	56.7%	33.1%	1.6%	8.7%
Total	58,409,550	2.2	128.5	35.7	44.6	57.5%	32.0%	1.7%	8.8%

>30% Bulk_Clay+Mica

	Volume	**Density**	**Tonnes (million)**	**Bulk Clay %**	***Bulk Clay + Mica %**	**%Smectite <2µm**	**%Illite <2µm**	**%Chlorite <2µm**	**%Kaolinite <2µm**
'Thrusted Bedrock'	**24,702,900**	**2.2**	**54.4**	**44.7%**	**50.3%**	**59.3%**	**28.4%**	**2.5%**	**9.9%**
'Till'	**33,639,150**	**2.2**	**74.0**	**29.1%**	**40.5%**	**56.7%**	**33.1%**	**1.6%**	**8.7%**
Total	**58,342,050**	**2.2**	**128.4**	**35.7%**	**44.6%**	**57.5%**	**32.0%**	**1.7%**	**8.8%**

>40% Bulk_Clay+Mica

	Volume	Density	Tonnes (million)	Bulk Clay %	*Bulk Clay + Mica %	%Smectite <2µm	%Illite <2µm	%Chlorite <2µm	%Kaolinite <2µm
'Thrusted Bedrock'	23,786,550	2.2	52.3	45.2	50.7	61.5%	26.9%	2.6%	9.0%
'Till'	18,430,800	2.2	40.6	33.4	44.8	61.5%	30.2%	1.1%	7.2%
Total	42,217,350	2.2	92.9	40.1	48.1	61.3%	29.4%	1.9%	7.5%

>50% Bulk_Clay+Mica

	Volume	Density	Tonnes (million)	Bulk Clay %	*Bulk Clay + Mica %	%Smectite <2µm	%Illite <2µm	%Chlorite <2µm	%Kaolinite <2µm
'Thrusted Bedrock'	13,202,550	2.2	29.1	50.5	55.2	63.2%	24.6%	1.8%	10.5%
'Till'	3,176,550	2.2	7.0	45.1	57.3	68.6%	26.4%	0.3%	4.8%
Total	16,379,100	2.2	36.0	49.5	55.6	66.7%	26.0%	0.8%	6.5%

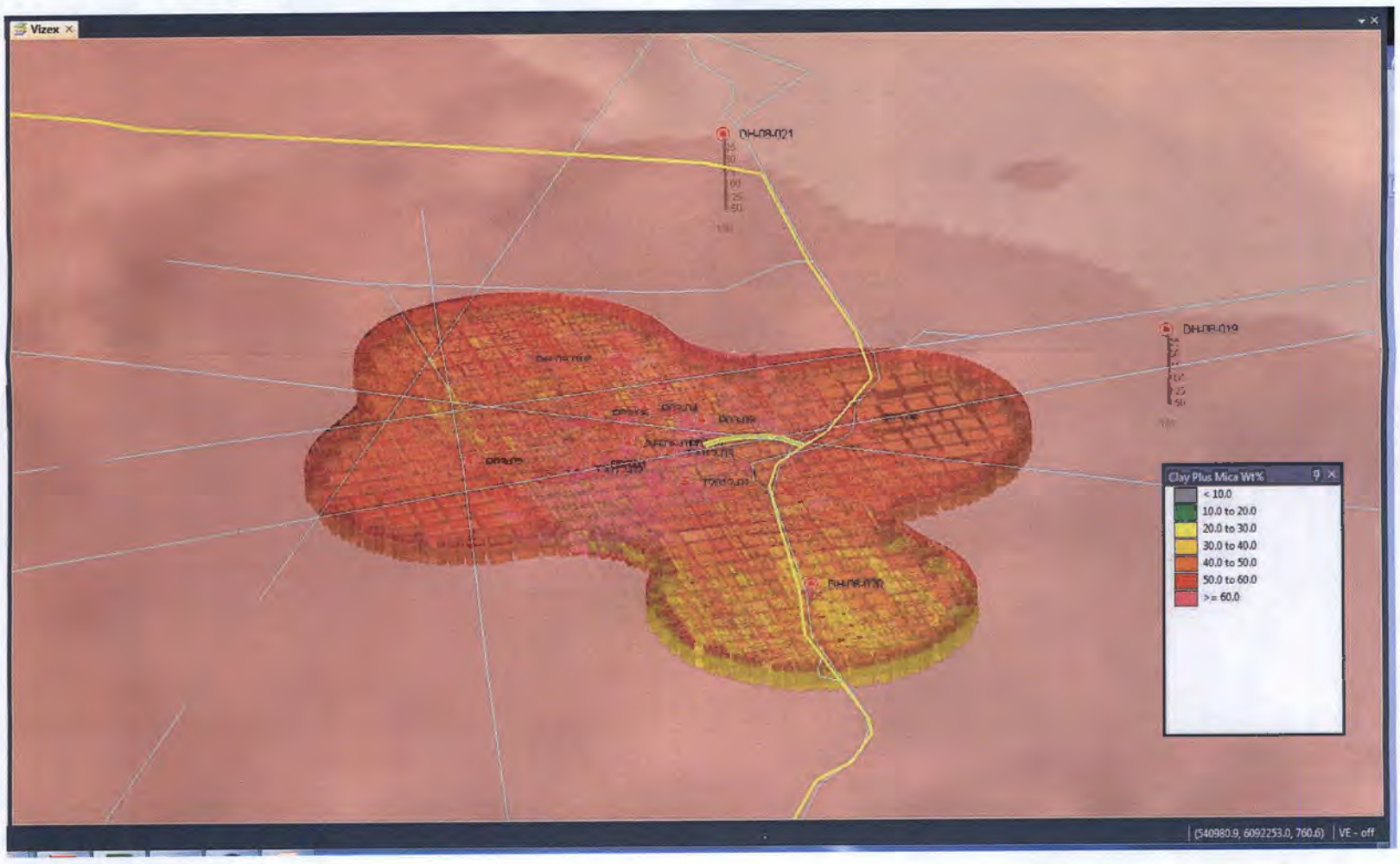
>60% Bulk_Clay+Mica

	Volume	Density	Tonnes (million)	Bulk Clay %	*Bulk Clay + Mica %	%Smectite <2µm	%Illite <2µm	%Chlorite <2µm	%Kaolinite <2µm
'Thrusted Bedrock'	1,623,000	2.2	3.6	62.2	66.4	81.4%	13.6%	0.0%	5.1%
'Till'	978,450	2.2	2.2	49.2	62.1	69.8%	25.9%	0.0%	4.3%
Total	2,601,450	2.2	5.7	57.3	64.8	71.9%	23.6%	0.0%	4.4%

>70% Bulk_Clay+Mica

	Volume	Density	Tonnes (million)	Bulk Clay %	*Bulk Clay + Mica %	%Smectite <2µm	%Illite <2µm	%Chlorite <2µm	%Kaolinite <2µm
'Thrusted Bedrock'	437,700	2.2	1.0	71.2	74.2	91.9%	8.1%	0.0%	0.0%
'Till'			-						
Total	437,700	2.2	1.0	71.2	74.2	91.9%	8.1%	0.0%	0.0%

Figure 6.3 Three dimensional view of the block model utilized in the Swan Hills resource estimation.



6.3 2014 Property Access Clearing (Failed Attempt to Conduct Fall/Winter Sampling)

Due to the damaging impacts of using large machinery on soft ground, sampling in the area of the bentonite deposit is best completed during frozen ground conditions. During the late fall/winter of 2014 Headwater attempted a sampling program at the Bentonite deposit and commissioned Williscroft Bros. Const. (2005) Ltd. to open the access. The activity included repairing damaged portions of the existing access and the addition of some new construction. As the access was opened, ruts were filled, erosion ditches removed, windfalls pushed back and creek crossings installed. The sampling program was ultimately cancelled due to large amounts of early season snowfall hindering the progress. Headwater is currently planning to complete the access construction and commence the sampling program.

7 Interpretation and Conclusions

In 2014 APEX sent samples from the trenches dug in 2012 to the SRC for clay analysis including column settling test work followed by randomly oriented and oriented clay X-ray diffraction analysis to determine clay abundances and mineralogy. Analyses of the randomly oriented samples indicate the composition of up to 34% montmorillonite. Analyses of the oriented samples indicate the majority of clay fraction is smectite or smectite-illite, with smectite being the most prominent clay species. Eight of the ten samples were more that than 7% smectite with 4 samples over 12% smectite. Less common clay minerals include chlorite and kaolinite with <2.25% of clays in most samples.

The calcium content in the samples is, in general, relatively high, CaO varies between 0.28 – 3.32%. Whereas sodium content is relatively low, Na_2O varies between 0.005 – 1.10%. SiO_2 varies between 59.2 – 69.8%. This data supports the convention that the Swan Hills Bentonite is Ca-Bentonite (Ca-Rich) and has low sodium content.

Previous exploration work results were used to model a near-surface 'potential' bentonitic clay mineral deposit on Headwater's all-season accessible Swan Hills Property over an area 2.7 km by 4.3 km comprising an area of roughly 8 km^2 with the potential to be much larger with further work.

In 2014, Headwater contracted APEX to calculate a National Instrument 43-101 compliant Inferred Mineral Resource. A portion of the historical and non- National Instrument 43-101 'potential' bentontic clay mineral deposit was block modeled using a parent block size of 50 m x 50 m x 3 m with sub-blocking down to 5 m x 5 m x 1.5 m (Figure 5).

The Swan Hills Inferred Mineral Resource is hosted in the glacially disturbed and thrusted Wapiti bedrock with an average thickness of 30.5 m that exists beneath soil and a thin veneer of clay-rich melt out till. The 3-dimenional wireframe of the thrusted bentonitic clay mineral zone yields a volume estimated at 24.7 million m^3 which would likely yield more than 54.4 million tonnes (with an assumed specific gravity of 2.2) at an average estimated grade of 50.3% total clay minerals (Bulk Clay + Mica), with close to 60% of the clay minerals species being smectite (Table 7). An additional Inferred Mineral Resource was estimated for the underlying polymicton clay-rich till below the

thrusted bedrock. The till resource was estimated at 33.6 million m^3 or 74 million tonnes (at an assumed specific gravity of 2.2) with an average estimated grade of 40.5% total clay minerals (Bulk Clay + Mica), with 56% of the clay mineral species being smectite (Table 7). The remaining clay species are comprised of predominantly muscovite/illite, kaolinite and chlorite.

8 Recommendations

To date, only parts of the seven core holes drilled on the Swan Hills Property have had a complete bulk and clay mineral analysis. Bulk and clay mineral analysis should be completed on the remaining unanalyzed samples and CEC analyses should be conducted on all the samples. In order to bring Headwater's Inferred Mineral Resource to greater level of confidence either or both of further auger drilling and a few judiciously placed deep trenches (pits) will be required to be completed in the main target area with full bulk and clay mineral analysis work for each drill hole and/or trench. This work should be done prior to commencing a Preliminary Economic Assessment (PEA also known as a Scoping Study). The estimated cost to complete the Stage 1a work is $CAD1,500,000 not including GST.

Additional studies should include metallurgical work, further market studies, potential material process design studies, environmental baseline work and certain site engineering studies as part of a progression towards a PEA. In concert with advancing the project through a PEA, Headwater's market studies need to be continued through additional bulk sampling. For industrial minerals such as bentonite it is often more important to complete bulk sample studies and market studies to see if a saleable product can be created from the deposit that meets the specification of the target market then to continue to advance the project to larger resources. The bentonitic clay minerals have a wide variety of market applications and can be used by industry for various products including drilling muds, industrial and animal absorbent applications, animal food binders and clay liners etc. A materials or clay engineering specialist should be engaged to fully evaluate the clay related materials along with other potential by-product materials and their potential end uses based on the available information. An assessment of the clay mineral usage and extraction processes should be included in the study. The estimated cost to complete the Stage 1b work is $CAD750,000.

9 References

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10 Certificate of Author

I, Michael B. Dufresne, M.Sc., P.Geol., do hereby certify that:

1. I am President of: APEX Geoscience Ltd.
   Suite 100, 9797 – 45th Avenue
   Edmonton, Alberta T6E 5V8

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

3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 1989.

4. I have worked as a geologist for more than 25 years since my graduation from university and have been involved in all aspects of mineral exploration and mineral resource estimations for precious and base metals and a number of industrial minerals in Canada, Australia and the United States.

5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

6. I am responsible for and have supervised the preparation of the Assessment Report titled *"Assessment Report for 2012-2014 Exploration on the Swan Hills Bentonitic Clay Property, West-Central Alberta, Alberta Metallic Mineral Permit 9305031142"*, and dated May 21th, 2015 (the "Assessment Report").

7. I have had extensive prior involvement with the Property that is the subject of the Assessment Report. I last visited the Property January, 2011.

8. To the best of my knowledge, information and belief, the Assessment Report contains all relevant scientific and technical information that is required to be disclosed, to make the Assessment Report not misleading.

9. I consent to the filing of the Assessment Report with the regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Dated this May 21th, 2015
Edmonton, Alberta, Canada

Mr. Michael B. Dufresne, M.Sc., P.Geol.

Appendix 1: 2012 – 2014 Expenditures

CATEGORY	DESCRIPTION	COST ($)	SUBTOTAL ($)
Subcontracting Services			$59,779.25
	Salary and Wages - Office	$43,159.25	
	Rentals including D6E Crawler and crew truck, Travel expenses	$11,895.00	
	Analysis	$4,725.00	
		TOTAL 2012 - 2014 EXPLORATION COSTS	$59,779.25
Office Charges, Administrative, General			$5,977.93
	Administration Costs at 10%	$5,977.93	
		TOTAL 2012 - 2014 EXPLORATION COSTS AND ALLOWABLE ADMINISTRATION	**$65,757.18**

Appendix 2: 2014 Sample Analysis (Laboratory Certificates)

Client: Apex Geoscience Ltd.
Contact: Aurelie Dufresne
Samples: 10

SRC Advanced Microanalysis Centre
125 - 15 Innovation Blvd, Saskatoon, SK, S7N 2X8
Tel: 306.933.7893 Fax: 306.933.5656 Email: microlab@src.sk.ca

Group No: AMC2014-023
Date of Report: February 24, 2014

XRD Analysis

Backpacked Random Mount

Sample	Quartz wt%	Muscovite/Illite wt%	Albite wt%	Montmorillonite wt%	Anorthite wt%	Chlorite wt%	Kaolinite wt%	Mica	Sum wt%
Hole 1-a	41.5	9.80	1.90	19.3	16.5	3.90	-	7.10	100
Hole 1-b	44.8	6.20	19.1	9.90	5.60	10.3	-	4.20	100
Hole 1-c	42.4	16.9	7.50	9.40	6.40	17.4	-	-	100
Hole 2-a	48.8	17.5	-	11.1	9.40	7.50	-	5.70	100
Hole 2-b	35.7	7.00	3.90	19.4	-	16.4	-	17.5	100
Hole 3-a	38.2	11.9	2.50	13.4	21.2	4.40	-	8.40	100
Hole 3-b	55.0	15.0	2.00	10.7	10.1	1.50	-	5.60	100
Hole 3-c	37.6	9.80	1.50	34.0	-	8.50	-	8.50	100
Hole 3-c Dup	40.5	9.90	1.70	33.1		8.70		6.00	100
Hole 3-e	35.6	29.5	-	-	-	3.70	31.2	-	100
Hole 3-f	48.3	30.8	-	-	-	2.20	18.7	-	100

Bruker AXS D4 Endeavor, Cu Kα radiation; 40 kV, 40 mA; 5-70° 2θ; rotated

Client: APEX
Contact: Amelie Duffresne
Samples: 10

SRC Advanced Microanalysis Centre
125 - 15 Innovation Blvd, Saskatoon, SK, S7N 2X8
Tel: 306.933.7893 Fax: 306.933.5656 Email: microlab@src.sk.ca

Group No: AMC2014-023
Date of Report: 24-Feb-14

XRD Analysis

Oriented Mount -- Clay in Whole Rock

Sample	Smectites wt%	Illite wt%	Chlorites wt%	Kaolinite wt%	Total <2 µm wt%
Hole 1-a	7.23	1.36	0.10	0.57	9.26
Hole 1-b	7.35	0.43	<0.01	0.03	7.81
Hole 1-c	12.54	0.99	<0.01	0.03	13.56
Hole 2-a	9.24	1.66	0.08	1.08	12.05
Hole 2-b	12.04	0.30	<0.01	0.67	13.01
Hole 3-a	6.00	1.17	0.12	0.13	7.41
Hole 3-b	3.80	1.86	0.92	0.46	7.05
Hole 3-c	14.29	0.77	<0.01	<0.01	15.06
Hole 3-c Dup	13.02	0.11	<0.01	<0.01	14.14
Hole 3-e	<0.01	24.60	<0.01	2.25	26.85
Hole 3-f	<0.01	12.95	0.56	5.17	18.68

Bruker AXS D4 Endeavor, Cu Kα radiation; 40 kV, 40 mA; 3.5-40° 2θ

Client: APEX Geoscience Ltd.
Contact: Emelie Dufresne
Samples: 10

SRC Advanced Microanalysis Centre
125 - 15 Innovation Blvd, Saskatoon, SK, S7N 2X8
Tel 306.933.7893 Fax. 306.933.5656 Email. microlab@src.sk.ca

Report No AMC2014-023

Date of Report: Feb 21-14

XRF Analysis
40 mm Loose Powder

Samples	Na_2O Wt%	MgO Wt%	Al_2O_3 Wt%	SiO_2 Wt%	P_2O_5 Wt%	K_2O Wt%	CaO Wt%	TiO_2 Wt%	MnO Wt%	Fe_2O_3 Wt%	S Wt%	Sum Wt%
Hole 1a	0.179	1.47	13.5	63.5	0.160	2.20	3.32	0.644	0.044	4.52	0.047	89.6
Hole1b	1.10	1.07	13.7	69.3	0.070	2.97	1.53	0.434	0.058	3.76	<0.01	94.0
Hole 1c	0.373	1.33	12.7	59.6	0.090	2.42	1.73	0.513	0.051	5.56	0.011	84.3
Hole 2a	0.194	1.38	14.7	61.9	0.100	2.24	1.40	0.795	0.095	6.07	0.013	88.9
Hole 2b	0.327	1.67	13.3	62.6	0.070	1.99	2.00	0.467	0.046	5.51	0.013	88.0
Hole 3a	0.218	1.50	14.4	61.3	0.130	2.08	2.26	0.675	0.062	5.75	0.019	88.4
Hole 3b	0.242	1.09	11.1	69.8	0.120	1.52	2.45	0.487	0.046	3.29	0.020	90.2
Hole 3c	0.354	1.52	12.8	60.4	0.090	1.69	2.15	0.474	0.050	6.96	<0.01	86.5
Hole 3c Dup	0.206	1.47	12.3	59.2	0.100	1.66	2.16	0.463	0.050	5.96	<0.01	84.6
Hole 3e	<0.01	0.780	17.0	61.0	0.080	3.48	0.340	0.786	0.014	6.85	0.009	90.4
Hole 3f	<0.01	0.830	18.1	65.5	0.040	3.29	0.280	0.781	0.011	3.26	0.010	92.1
GSP2 Std	2.30	0.880	14.7	67.8	0.240	5.48	2.03	0.642	0.043	4.58	0.026	98.8
LLD	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	