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ASSESSMENT REPORT FOR THE CALL OF THE WILD PROPERTY, NORTHERN ALBERTA: METALLIC MINERAL PERMITS 9305121377, 9305121381, 9305121383 TO 9305121387, 9306061041 TO 9306061043, 9306061045 TO 9306061050, 9306061052, 9306061053, 9306061055, 9306061061, 9306061063 AND 9306080795 TO 9306080797

Part B

Approximate Property Location
Latitude: 55° 25' N
Longitude: 113° 55' W
25 km Northeast of Slave Lake, North Central Alberta (NTS 83P)

Completed By:
APEX Geoscience Ltd.
Suite 200, 9797 – 45th Avenue
Edmonton, Alberta, Canada
T6E 5V8

55°41' 55.68
114° 46' 114.76

Completed For:
Grizzly Diamonds Ltd.
Suite 220, 9797-45 Avenue
Edmonton, Alberta, Canada
T6E 5V8

and

Completed For:
Stornoway Diamond Corp.
Suite 800, 625 Howe Street
Vancouver, B.C, Canada V6C 2T6

55°5' 55.08
113°23' 113.38

Michael B. Dufresne, M.Sc., P.Geol.
Edmonton, Alberta, Canada

November 20, 2008

ASSESSMENT REPORT FOR THE CALL OF THE WILD PROPERTY, NORTHERN ALBERTA: METALLIC MINERAL PERMITS 9305121377, 9305121381, 9305121383 TO 9305121387, 9306061041 TO 9306061043, 9306061045 TO 9306061050, 9306061052, 9306061053, 9306061055, 9306061061, 9306061063 AND 9306080795 TO 9306080797

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

ASSESSMENT REPORT FOR THE CALL OF THE WILD PROPERTY, NORTHERN ALBERTA: METALLIC MINERAL PERMITS 9305121377, 9305121381, 9305121383 TO 9305121387, 9306061041 TO 9306061043, 9306061045 TO 9306061050, 9306061052, 9306061053, 9306061055, 9306061061, 9306061063 AND 9306080795 TO 9306080797

SUMMARY

APEX Geoscience Ltd. (APEX) was retained during February of 2008 as consultants by Stornoway Diamonds Corporation (Stornoway) to conduct a ground geophysics program at their Call of the Wild joint venture property in the Pelican and Marten mountains area of north central Alberta. The Call of the Wild property consisted of 35 mineral permits held by Grizzly Diamonds Ltd. (Grizzly) and covered 265,254 hectares. Although diamond exploration at the Call of the Wild property is still in the early stages, the potential for discovery of diamondiferous kimberlites is considered to be moderate to high due to the regional geological setting, along with the positive results from previous exploration on the Call of the Wild permits and in the immediate area of Calling Lake and the Pelican Mountains by other companies.

In 2007, Stornoway earned a 51% interest in the Call of the Wild property from Grizzly by conducting a 25,000 line-km aeromagnetic survey over the property and conducting a first pass diamond indicator mineral sampling program. Stornoway is currently the operator of the project and with its' continued involvement can earn up to a 70% interest in the Call of the Wild permits.

The results of diamond indicator mineral sampling by Stornoway in 2006 on and in the vicinity of the Call of the Wild permits has been found to be encouraging and potentially indicative of local kimberlites based on the number of indicators recovered, their spatial distribution and chemistry. Beach sands along the southwest and south shore of Calling Lake have yielded greater than 500 diamond indicator minerals at four separate sites. The favourable chemistry and morphology of the indicator minerals is strong evidence for the presence of one or more local diamondiferous kimberlites in the region. Indicator minerals recovered in the area adjacent, and down ice from the Call of the Wild permits include 66 Gurney G10 pyrope garnets and other pyropic garnets such as G1, G2, G7, G9, and G11, high-chrome diopsides, high-chrome picroilmenites and high titanium kimberlitic chromites. The presence of these highly anomalous beach sands indicates that some of the magnetic anomalies beneath or adjacent to Calling Lake are of high interest for kimberlite exploration. The potential for discovery of diamondiferous kimberlites on the Call of the Wild property is further supported by the discovery of a gem quality macro diamond along with olivine in a basal till sample in the Calling River collected by Buffalo Diamonds Ltd. personnel during the summer of 1998.

A thorough review of the 2006 high resolution airborne magnetic (HRAM) fixed-wing airborne survey identified several magnetic anomalies of varying quality that could potentially be attributed to near surface magnetic bodies such as kimberlite pipes. Two main clusters of geophysical anomalies were recognised – one within the northwest portion of the claim block and one in the southwest portion of the claim block (south and

east of Fawcett Lake). These anomalies were ground checked by APEX to determine whether they were caused by cultural interference. The targets where "culture" was deemed not the cause of the anomaly were prioritized on the basis of topography, the presence of any vegetation anomalies and their overall location. On this basis, the anomalies were priority ranked for follow-up ground geophysical surveys. In 2007, a total of 20 ground geophysical grids were completed with an additional 6 grids planned for early 2008. From the 2007 grids, a total of 4 of the 20 targets have yielded what are considered low to moderate priority targets for follow-up exploration including further diamond indicator mineral surveys and, possibly, drill testing.

The magnetic targets in Fawcett Lake area were deemed winter access only. They were categorized as priority 2 due to the potential that they may be caused by magnetite in overburden (outwash) related sand in the lake, but ground geophysical surveys were still warranted. The 2008 ground geophysics program focused on the anomalies which could not be completed in the summer, such as those on Fawcett Lake. In total 6 ground grids were completed and yielded three targets which will require follow-up exploration, possibly including drill testing.

It is strongly recommended that the single decent beach at Fawcett Lake be inspected and sampled for diamond indicator minerals. That follow-up diamond indicator mineral sampling of creeks is conducted in some of the well drained target areas. That the couple of large gravel pits hosted in preglacial gravel on the northwest slope of the Marten Mountains in the northwest portion of the claim block be sampled for diamond indicator minerals. There also appears to be a couple of esker complexes in the eastern portion of the permit block and these should be inspected and sampled for diamond indicator minerals. In addition, all eskers within the permit area should be visited and prospected for possible kimberlite float.

In total, a program of about 30 to 40 diamond indicator mineral samples focused on the areas of the unexplained priority anomalies should suffice. A large portion of the sampling and ground geophysical surveys could be performed either in the summer or in the fall (until middle to late November).

In conclusion, the potential for the discovery of diamondiferous kimberlites on, or in the vicinity of, the Call of the Wild permits is high based upon (a) the number and quality of diamond indicator minerals found on the property and in the immediate vicinity down ice, (b) the favorable basement and tectonic setting, and (c) the presence of several good quality magnetic anomalies on the property.

The cost to conduct the 2008 geophysical program on the Call of the Wild Property was $40,527.10 (not including GST or 10% allowable administration costs).

INTRODUCTION AND TERMS OF REFERENCE

APEX Geoscience Ltd. (APEX) was retained as consultants by Stornoway Diamonds Corporation (Stornoway) during February of 2008 to conduct a field program consisting of six follow-up ground geophysical surveys on their Call of the Wild joint venture property in the Pelican and Marten Mountains area of north central Alberta.

In 2006 Grizzly Diamonds Ltd. (Grizzly) entered into an option agreement with Stornoway, where upon completion of a 25,000 line-km high resolution airborne magnetic (HRAM) survey and conducting a first pass diamond indicator mineral sampling program, Stornoway would gain a 51% interest in the property. These initial terms of the earn in agreement were satisfied in 2007. Stornoway can earn up to a 70% undivided interest in the property by spending an additional $5 million within five years, and by completing a bankable feasibility study on the property.

Evaluation of the 2006 magnetic survey data in 2007 resulted in the identification of 74 priority magnetic anomalies of interest. A field program in 2007 consisted of ground checking of the priority airborne anomalies and ground geophysics of 20 of the anomalies in two separate field programs. A further six ground geophysical grids, which were not completed in the initial 2007 program, were completed in February of 2008. The 2008 geophysical program was managed by Mr. Michael B. Dufresne, M.Sc., P.Geol, a principal of APEX and a Qualified Person (QP) as defined in National Instrument 43-101. The 2008 ground geophysics program utilized a 5 man APEX crew between February 1st and 6th.

The cost to conduct the 2008 geophysical program on the Call of the Wild Property was $40,527.10 (not including GST or 10% allowable administration costs). A breakdown of the expenditures and APEX personnel that participated in both office and fieldwork are listed in Appendix 1.

DISCLAIMER

The author, in writing this report, used sources of information as listed in the references. The report, written by Mr. Dufresne, M.Sc., P.Geol., is a compilation of proprietary and publicly available information as well as information obtained during a number of property visits. The government reports were prepared by a person or persons holding post secondary geology, or related university degree(s), prior to the implementation of the standards relating to National Instrument 43-101. The information in those reports is therefore assumed to be accurate. Those reports written by other geologists are also assumed to be accurate based on the property visits and data review conducted by the author, however are not the basis for this report. Stornoway and Grizzly's Call of the Wild property is considered an early stage exploration property and does not contain any diamond or kimberlite discoveries to date.

PROPERTY LOCATION AND DESCRIPTION

The Call of the Wild property consisted of 35 metallic mineral permits (Table 1, Appendix 2), comprising an area of 265,254 hectares (655,454 acres) at the time the work, described in this report, was completed. The permits are located in the Marten and Pelican mountains area of north central Alberta, within portions of National Topographic System (NTS) 1:250,000 map sheets 83O (Lesser Slave Lake) and 83P (Pelican River). The town of Slave Lake lies approximately 10 kilometres (km) to the southwest of the permit area. Fawcett Lake lies within the property area and Calling Lake is immediately adjacent to the southeast corner of the property (Figures 1 and 2).

Topographic relief within the property ranges from low to high. In general, the till cover ranges from 30 to 70 metres (m) thick (often with two layers) where there is little topographic relief, to less than 30 m thick to commonly exposed bedrock, in areas of significant topographic relief (such as in the Marten and the Pelican Mountains). Locally, over pre-existing pre-glacial channels and later outwash channels overburden can be 100 m thick or greater and consists of till intercalated with a number of complex glacial outwash deposits.

In 2006, Grizzly entered into an option agreement with Stornoway, whereby Stornoway could earn up to an undivided 70% interest in the Call of the Wild property by satisfying the following conditions

(1) Completing an HRAM survey over the entire property, and collecting 25 diamond indicator mineral samples, within 1 year of signing the option agreement. Upon completion of these terms Stornoway earned an undivided 51% interest in the property.
(2) By providing written notice to Grizzly within 30 days' of completion of the work described in paragraph 1 above, and by incurring $5 million in expenditures on the property within five years of the date of the notice, Stornoway will earn an additional undivided 9% interest;
(3) After earning an undivided 60% interest, Stornoway can earn an additional undivided 10% interest by providing Grizzly with a bankable feasibility study.

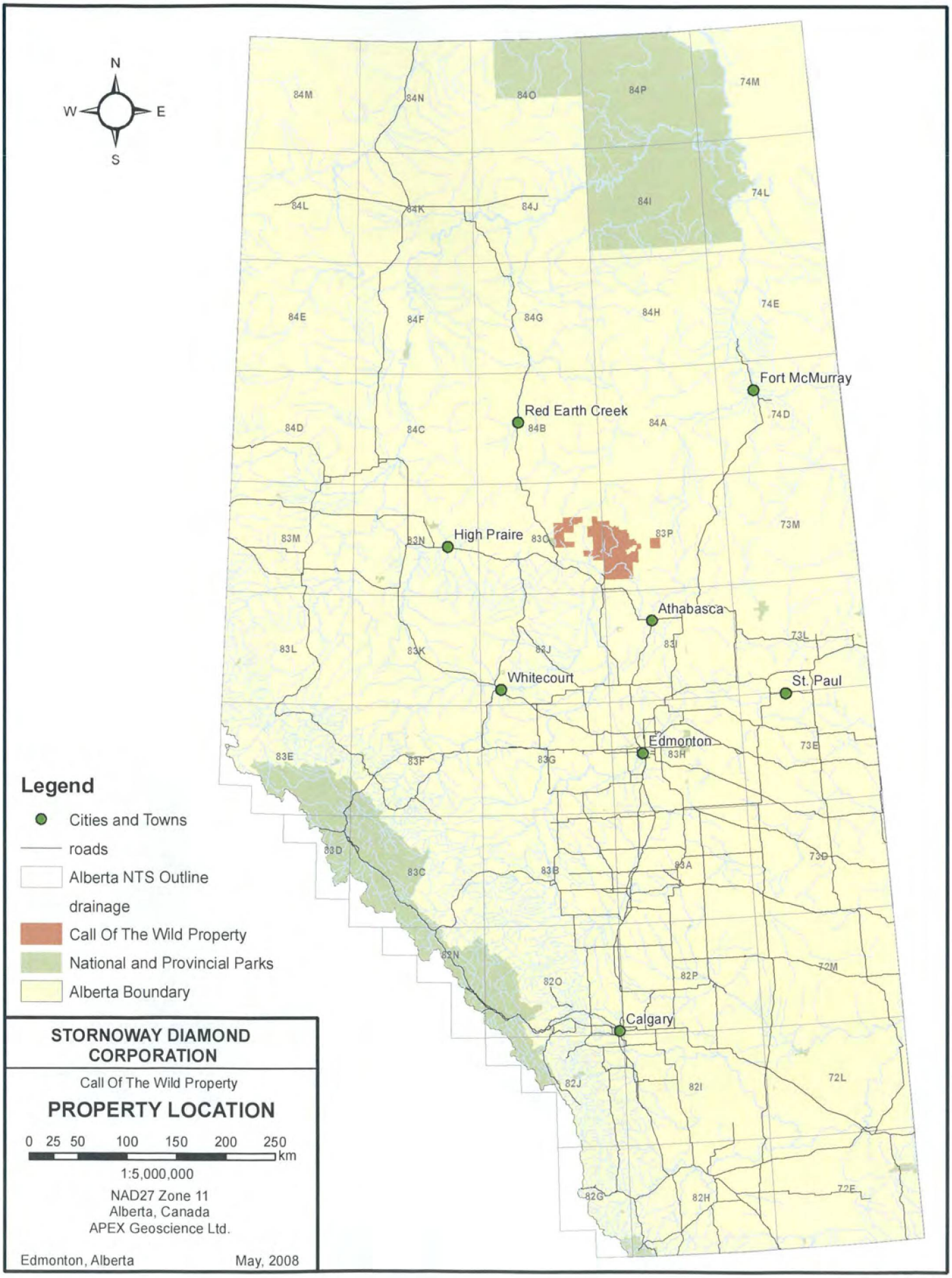
Alberta Mining regulations grant metallic mineral permits to the permittee for ten (10) year terms, during which at any time after the initial two year term, the mineral permit may be converted into a lease. Leases are granted in 15 year terms and may be renewed. A metallic mineral permit gives the holder the exclusive right to explore for and develop economic deposits of minerals, including diamonds, within the boundaries of the permit.

The exclusive right to explore is subject to ALBERTA REGULATION 66/93 of the Alberta Mines and Minerals Act and the contained Metallic and Industrial Minerals Regulations within the act. The Standard Terms and Conditions for the permits are described in detail on Alberta Energy's website at http//www.energy.gov.ab.ca.

Table 1. Legal Permit Descriptions – Call of the Wild Permits

No	Metallic Mineral Permit No	Township and Range	Sections	Owner	Area (ha)	Staking Date
1	9305121377	**5-04-074**	19-36	Grizzly Diamonds	9216	12/22/2005
		5-05-074	19-36	Grizzly Diamonds		
2	9305121381	**5-05-075**	01-05;06E;07E;08-17;18N,SE;19-36	Grizzly Diamonds	8896	12/22/2005
3	9305121383	**5-03-076**	31-33	Grizzly Diamonds	9216	12/22/2005
4	9305121384	**5-04-076**	01-25;26E,L3,L4,L5S,L6,L11,L12N,L13,L14;27-36	Grizzly Diamonds	9200	12/22/2005
5	9305121385	**5-05-076**	1-36	Grizzly Diamonds	9216	12/22/2005
6	9305121386	**5-01-077**	04-09; 16-18	Grizzly Diamonds	2304	12/22/2005
7	9305121387	**5-03-077**	1-18	Grizzly Diamonds	9216	12/22/2005
		5-04-077	1-18	Grizzly Diamonds		
1	9306061041	**4-24-071**	1-36	Grizzly Diamonds	9216	6/29/2006
2	9306061042	**4-25-071**	1-36	Grizzly Diamonds	9216	6/29/2006
3	9306061043	**4-26-071**	01-05;06E,WF;07E,WF;08-17;18E,WF;19E,WF;20-29;30E,WF;31E,WF;32-36	Grizzly Diamonds	8952	6/29/2006
4	9306061044*	**4-23-072**	22N;27-34	Grizzly Diamonds	2176	6/29/2006
5	9306061045	**4-24-072**	1-36	Grizzly Diamonds	9216	6/29/2006
6	9306061046	**4-25-072**	1-36	Grizzly Diamonds	9216	6/29/2006
7	9306061047	**4-26-072**	01-05;06E,WF;07E,WF;08-17;18E,WF;19E,WF;20-29;30E,WF;31E,WF;32-36	Grizzly Diamonds	8952	6/29/2006
8	9306061048	**4-24-073**	01-13;14S,NE,L11,L12;15S;16-20;21W,L2,L7,L10,L15;23L1;24S; 28L1W,L2-L4,L5S,L6S,L7,L8W;29S,NW,L10,L15;30-32; 33L4W,L5W,L12W,L13W	Grizzly Diamonds	6416	6/29/2006
9	9306061049	**4-25-073**	01-06; 07W,L1,L2,L7,L8S,L8NW,L9N,L9SW,L10,L15, L16;08E,L3, L4,L5S,L5NE,L6,L11,L12N,L12SE,L13,L14;09-36	Grizzly Diamonds	9200	6/29/2006
10	9306061050	**4-26-073**	01-05;06E,WF;07E,WF;08-17;18E,WF;19E,WF;20-29;30E,WF;31E,WF;32-36	Grizzly Diamonds	8944	6/29/2006
11	9306061051*	**5-01-073**	01;02;03W,L1,L2,L7S,L7NW,L7NEP	Grizzly Diamonds	9098	6/29/2006
		5-01-073	03L8S,L8NWP;03L8NE,L9E,L10EP;03L10W,L15S,L15NP	Grizzly Diamonds		
		5-01-073	03L16S,L16NE;04-09;10W,L1N,L1SE,L2SP	Grizzly Diamonds		
		5-01-073	10L2N,L7P,L8P;10L9,L10P,L15P	Grizzly Diamonds		
		5-01-073	10L16;11-14;15SW,NE,L1P,L2P	Grizzly Diamonds		
		5-01-073	15L7,L8,L11,L12E,L13,L14;16S,NW,L10W,L15,L16; 17-36	Grizzly Diamonds		
12	9306061052	**4-21-074**	1-36	Grizzly Diamonds	9216	6/29/2006
13	9306061053	**4-24-074**	02NW,L5,L6,L10,L15;03;04N,L4,L5,L6W,L8;05-10;11W,L15,L16; 12NE,L13,L14;13-36	Grizzly Diamonds	8504	6/29/2006
14	9306061054*	**4-25-074**	1-36	Grizzly Diamonds	9216	6/29/2006
15	9306061055	**4-26-074**	01-05;06E,WF;07E,WF;08-17;18E,WF;19E,WF;20-29;30E,WF;31E,WF;32-36	Grizzly Diamonds	8934	6/29/2006
16	9306061056*	**5-01-074**	1-36	Grizzly Diamonds	9216	6/29/2006
17	9306061057*	**4-25-075**	1-15	Grizzly Diamonds	3840	6/29/2006
18	9306061058*	**4-26-075**	01-04;05EF;08EF;09-16;17EF;20EF;21-24;26-28;29EF	Grizzly Diamonds	5414	6/29/2006
19	9306061059*	**5-01-075**	1-36	Grizzly Diamonds	9216	6/29/2006
20	9306061060*	**5-01-076**	01-09;16-21;28-33	Grizzly Diamonds	5376	6/29/2006
21	9306061061	**4-23-073**	03-10;15-22;27;28E,L3,L4,L6,L11;29L1-L4;30SW,L1,L2;33L1,L2S,L8,L9;34	Grizzly Diamonds	5016	6/29/2006
22	9306061062*	**5-02-073**	19-36	Grizzly Diamonds	4608	6/29/2006
23	9306061063	**4-23-074**	01;02;03E,L3;07L12-L14;10E;11-14;15N,SE,L6;16L13-L16; 17NW,L15,L16;18N,SW,L7,L8;19-21;28-32	Grizzly Diamonds	4496	6/29/2006
24	9306061064*	**5-02-075**	22-27;34S,NE,L11,L12,L14;35;36	Grizzly Diamonds	4512	6/29/2006
		5-02-076	01;02;03N,L1,L2,L5,L6;10-12;13S,NW,L9,L10,L15;14;15	Grizzly Diamonds		
1	9306080794*	**4-24-075**	01-24;26-35	Grizzly Diamonds	8704	8/22/2006
2	9306080795	**4-25-075**	16-36	Grizzly Diamonds	8960	8/22/2006
		4-25-076	01-12;15;18	Grizzly Diamonds		
3	9306080796	**4-26-075**	25;32E;33-36	Grizzly Diamonds	8320	8/22/2006
		4-26-076	01-04;05E;08E;09-16;17E;20E;21-28;29E;32E;33-36	Grizzly Diamonds		
4	9306080797	**5-01-076**	10-15;22-27;34-36	Grizzly Diamonds	3840	8/22/2006
				TOTAL	265,254	Hectares

*These permits (or portions there of) have been relinquished in the previous assessment report (AR20080007) however at the time the work was completed these permits were all in good standing and contiguous with the permits filed on in this report.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Fort McMurray
Red Earth Creek
84B
84D
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84A
74D
83M
83N
High Praire
83O
83P
73M
Athabasca
83L
83K
83J
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73L
Whitecourt
St. Paul
Edmonton
83H
83E
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83G
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83D
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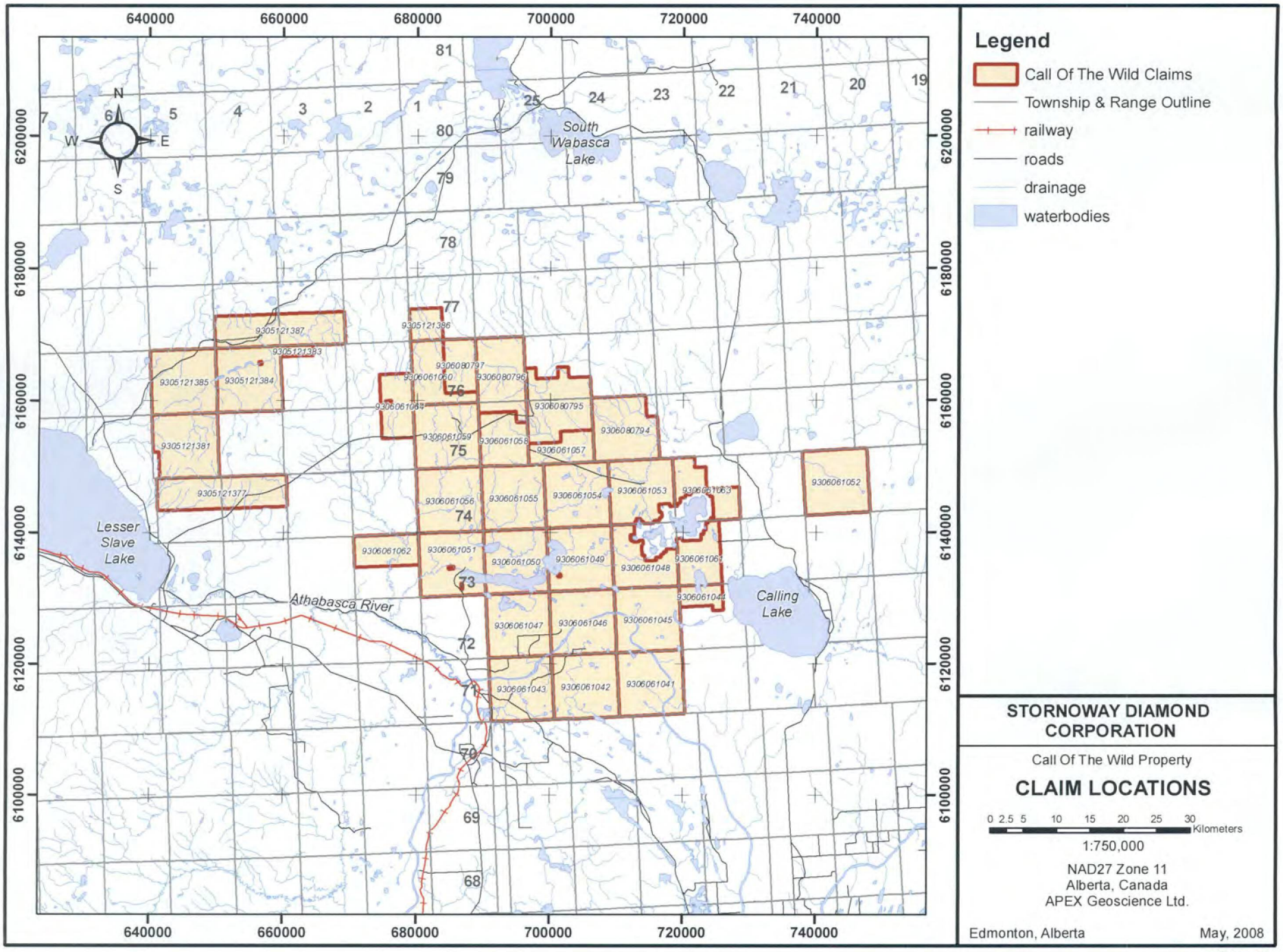
83B
83A
73D
82N
82O
82P
72M
Calgary
82J
82I
72L
82G
82H
72E
Legend
Cities and Towns
roads
Alberta NTS Outline
drainage
Call Of The Wild Property
National and Provincial Parks
Alberta Boundary
STORNOWAY DIAMOND CORPORATION
Call Of The Wild Property
PROPERTY LOCATION
0 25 50 100 150 200 250
km
1:5,000,000
NAD27 Zone 11
Alberta, Canada
APEX Geoscience Ltd.
Edmonton, Alberta
May, 2008

FIGURE 1



Legend

- Call Of The Wild Claims
- Township & Range Outline
- railway
- roads
- drainage
- waterbodies

STORNOWAY DIAMOND CORPORATION

Call Of The Wild Property

CLAIM LOCATIONS

0 2.5 5 10 15 20 25 30 Kilometers

1:750,000

NAD27 Zone 11
Alberta, Canada
APEX Geoscience Ltd.

Edmonton, Alberta May, 2008

FIGURE 2

A permit holder shall spend or cause to be spent with respect to the location of his metallic mineral permit on assessment work an amount equal to $5 for each hectare in the location during the first two year period; an amount equal to $10 per hectare for each of the second and third two year periods; and an amount equal to $15 per hectare for each of the fourth and fifth two year periods. Mineral permits may be grouped and excess expenditures may be carried into the next two year period.

In addition to the financial commitment, a metallic mineral permit holder is required to file an assessment report that documents all of the work conducted as well as the results of the work to Alberta Energy. A statement of Intent to file must be filed on or before the anniversary date at the end of each two year term. The assessment report must be filed within 60 days after the record date after each two year period. If a report is not filed a 30 day notice is issued indicating that if the report is not filed that he permits will be forfeited.

ACCESSIBILITY, CLIMATE AND LOCAL RESOURCES

The Call of the Wild Property can be accessed using cut-lines and trails off of Alberta Highways 2, 88, 754 and 813 by truck or all terrain vehicles (ATV's). Daily access for the 2007 and 2008 field program was via a Remote Helicopters Ltd. AS350BA A-star helicopter, truck, and ATV out of the town of Slave Lake. All accommodation, food, as well as a wide variety of supplies and services can be obtained from Slave Lake. Remote helicopters is based out of the town of Slave Lake.

The Call of the Wild Property is situated within the Eastern Alberta Plains along the Marten Mountain and Pelican Mountain Upland. Relief generally comprises rolling hills and undulating plains. Elevation in the region varies from 450 m to 825 m (1,475 feet (ft) to 2,700 ft) above sea level (asl). Major topographic features in the region include Slave, Fawcett and Calling lakes, as well as the Slave River. In addition to the numerous small lakes and ponds, much of the properties are covered by swamps, marshes and fens. A boreal forest containing mainly spruce and jack pine covers the property. Annual temperatures range from -40°C in January to 25°C in July.

DEPOSITS MODELS: DIAMONDIFEROUS KIMBELRITES

Kimberlite is best described as a hybrid igneous rock (Mitchell, 1986, 1989, 1991; Skinner, 1989; Scott Smith, 1995). Kimberlites are igneous in nature since they have crystallised from a molten liquid (kimberlitic magma) originating from the earth's upper mantle. Kimberlite magma contains volatile gases and is relatively buoyant with respect to the upper mantle. As a result, pockets of kimberlitic magma will begin to ascend upward through the upper mantle and along a path of least resistance to the earth's surface. As the kimberlitic magma ascends, the volatile gases within the magma expand, fracturing the overlying rock, continually creating and expanding its own conduit to the earth's surface. As a kimberlitic magma begins to ascend to the earth's surface it

rips up and incorporates chunks or xenoliths of the various rock types the magma passes through on its way to surface. As the magma breaks down and incorporates these xenoliths, the chemistry and mineralogy of the original magma becomes altered or hybridised. The amount and type of foreign rock types a kimberlite may assimilate during its ascent will determine what types of minerals are present in the kimberlite when it erupts at surface.

When kimberlitic magma reaches or erupts at the earth's surface, the resulting volcanic event is typically violent, creating a broad shallow crater surrounded by a ring of kimberlitic volcanic ash and debris ("tuffaceous kimberlite"). The geological feature created by the eruption of a kimberlite is referred to as a diatreme or kimberlite pipe (Mitchell, 1986, 1989; 1991). In a simplified cross section, a kimberlite diatreme appears as a near vertical, roughly "carrot shaped" body of solidified kimberlite capped by a broad shallow crater on surface that is both ringed and filled with tuffaceous kimberlite and fragments of the different rock types the kimberlite may have erupted through on route to surface (Mitchell, 1986, 1989, 1991).

Diamond Indicator Minerals

To understand the significance of diamond indicator minerals (DIMs), it is important to understand the type of igneous rocks from which primary diamond deposits are mined. The most common rock type from which diamonds are mined are kimberlites and, to a lesser extent, lamproites and orangeites. Diamond indicator minerals (DIMs) describe minerals that are common constituents of these three rock types, some of which are phenocrysts and others that are xenocrysts. For the purposes of this discussion, DIMs refer to minerals that are both characteristic and diagnostic of kimberlites.

Diamonds do not crystallise from a kimberlitic magma: they crystallise within a variety of diamond bearing igneous rocks in the mantle called peridotites and eclogites. Peridotites and eclogites are each made up of a diagnostic assemblage of minerals that crystallise under specific pressure and temperature conditions similar to those conditions necessary to form and preserve diamonds ("diamond stability field"). Diamond bearing peridotite can be further broken down into three varieties which are, in order of greatest diamond bearing significance, garnet harzburgite, chromite harzburgite, and, to a lesser extent, garnet lherzolite. For a kimberlite to be diamond bearing, the primary kimberlitic magma must disaggregate and incorporate some amount of diamond bearing peridotite or eclogite during its ascent to the earth's surface. The type and amount of diamond bearing peridotite or eclogite the kimberlitic magma incorporates during its ascent will determine the diamond content or grade of that specific kimberlite as well as the size and quality of diamonds. Diamond bearing peridotite and eclogite occur as discontinuous pods and horizons in the upper mantle, typically underlying the thickest, most stable regions of Archean continental crust or cratons (Helmstaedt, 1993). As a result, almost all of the economic diamond bearing kimberlites worldwide occur in the middle of stable Precambrian (typically Archean) cratons. The Buffalo Head Hills craton in conjunction with the Wabamun and Thorsby

basement terranes, which underlie the Call of the Wild property, are likely an example of such stable craton

Diamond indicator minerals (DIMs) include minerals that have crystallised directly from a kimberlitic magma, or minerals derived from upper mantle rocks (xenocrysts) that have been incorporated into the kimberlitic magma as it ascends to the earth's surface. Examples of kimberlite derived DIMs are picroilmenite, titanium and magnesium rich chromite and magnesium rich olivine. Examples of mantle derived DIMs include high chromium picroilmenite, high chromium chromite, high chromium diopside, high magnesium othopyroxene, high magnesium olivine, pyrope garnets [varieties which include Dawson and Stephens' (1975, 1976) G1, G2, G7, G8, G9, G10, G11, G12 and Gurney's (1984) G9 and G10 garnets] and eclogitic garnets [varieties which include Dawson and Stephens' (1975, 1976) G3, G4, G5, and G6 garnets]. From this paragraph on, reference to G1, G2, G3, G4, G5, G6, G7, G8, G11 and G12 pyrope garnets refers to Dawson and Stephens' (1975) classification, and G9 and G10 pyrope garnets refers to Gurney's (1984) G9 and G10 pyrope garnets. The use of DIMs in the search for kimberlites is an integral aspect of any diamond exploration program and is well explained in Mitchell (1986, 1989 and 1991), Skinner (1989), Fipke *et al.* (1989, 1995) and Gurney and Moore (1993).

Diamond indicator minerals are used not only to assess the presence of kimberlites in regional exploration programs but also to assess whether the kimberlites have the potential to contain diamonds. There are a limited variety of DIMs that indicate high potential for diamonds when found in an exploration program. These DIMs with specific chemistry that indicate that they could have been derived from diamond bearing peridotite or eclogite in the upper mantle are well described by Gurney (1984), McCandless and Gurney (1989), Fipke *et al.* (1989, 1995), Griffin *et al.* (1991, 1992), Fipke (1993), Griffin and Ryan (1993, 1995), and Gurney and Moore (1993). The most common examples of these would include sub-calcic, chromium rich Gurney G10 pyrope garnets (diagnostic of garnet harzburgite), in some instances high chromium G9 pyrope garnets (diagnostic of garnet lherzolite), chromium and magnesium rich chromite (referred to as diamond inclusion field quality or "DIF" chromite and diagnostic of chromite or spinel harzburgite), diamond inclusion quality "DIF" eclogitic garnets and chemically distinct omphacitic clinopyroxene (diagnostic of diamond bearing eclogites).

Other indicator minerals that have crystallised from a kimberlitic magma can provide information as to how well the diamonds in a given kimberlite have been preserved during their ascent to surface. For instance, the presence of low iron and high magnesium picroilmenites in a kimberlite is a positive indication that the oxidising conditions of a kimberlitic magma were low and were therefore favourable for the preservation of diamonds during their ascent to surface in the kimberlitic magma.

Exploration

Due to the unique geometry of a kimberlite pipe and the manner in which the kimberlite has intruded a pre-existing different host rock, there are often differences in

the physical characteristics of a kimberlite and the host rock. Sometimes these contrasting physical characteristics are significant enough to be detected by airborne or ground geophysical surveys. Two of the most commonly used geophysical techniques employed in the exploration for kimberlites are airborne or ground magnetic surveys and electromagnetic (EM) surveys. A magnetic survey measures the local magnetic susceptibility of the rocks by measuring the earth's magnetic field, whereas EM surveys measure the resistivity and/or conductivity of the local rocks at or near the earth's surface by measuring changes in a transmitted electromagnetic wave. When magnetic or resistivity measurements are collected at regular spaced intervals along parallel lines, the data can be gridded and plotted on a map allowing individual values to be compared. If a geophysical survey is conducted over an area where the bedrock and overburden geology is constant and there are no prominent structures or faults, there will be little variation in magnetic or resistivity data. However, when a kimberlite intrudes a homogenous geologic unit and erupts on surface, there is often a change in the geophysical signature or magnetic or resistivity response over the kimberlite diatreme. When the data is contoured the anomalous results often yield a circular or oval anomaly outlining the surface or near surface expression of the diatreme.

The effectiveness of geophysical methods in kimberlite exploration is dependent on the assumption that the difference between the geophysical signature of the hosting rock unit and a potential kimberlite is significant enough to be recognised by the geophysical techniques available. There are many examples of economic kimberlites that produce very subtle, unrecognisable geophysical responses as well as non kimberlite geologic features and man made structures (referred to as "cultural interference") such as oil wells, fences, bridges, buildings which can produce kimberlite like anomalies. For these reasons, it is extremely important that other information such as DIM surveys be used in tandem with geophysical evidence to confirm whether there is other information to support the presence of a kimberlite pipe.

GEOLOGICAL SETTING

Precambrian

The Call of the Wild permits lie in the Western Canadian Sedimentary Basin along the southern flank of the Peace River Arch (PRA). However, Precambrian rocks are not exposed within the Calling Lake area (NTS 83P). The basement underlying the PRA is comprised of several terranes including the Buffalo Head and the Chinchaga, both of which collectively form the Buffalo Head Craton (Ross *et al.*, 1991, 1998). The Buffalo Head Craton was accreted to the western edge of the Churchill Structural Province (Rae Subprovince) approximately 1.8 to 2.4 billion years ago (Ga). Due to their relatively stable history since accretion, the Buffalo Head and Chinchaga terranes are currently the focus of extensive diamond exploration in northern Alberta.

The basement underlying the Call of the Wild permits borders the Buffalo Head Terrane (BHT), the Talston Magmatic Zone (TMZ) and an unnamed domain. Basement

underlying the northeast portion of the Call of the Wild Permits is part of the Talston Magmatic Zone (TMZ), a 2.0 to 1.8 Ga aged terrane that represents a magmatic arc related to collisional orogeny during the Proterozoic. The TMZ is characterised by a highly corrugated internal fabric comprised of extremely high relief, north-trending sinuous magnetic anomalies. The northwestern portion of the Call of the Wild permits is underlain by basement of the BHT, an area of high positive magnetic relief with a north to northeasterly fabric (Villeneuve *et al.,* 1993). The area of Ashton Mining of Canada Inc.'s (Ashton) Buffalo Head Hills kimberlite discovery is underlain by basement of the BHT.

The bulk of the basement underlying the Call of the Wild permits is part of an unnamed domain. The gravity and magnetic signatures of the unnamed domain are very similar to those of the BHT and Wabamun Terrane and, therefore, may in fact be an extension of either one of these terranes. The Wabamun Terrane is geologically and magnetically similar to the BHT and was likely accreted to the western edge of the Churchill Structural Province between 2.4 to 1.8 Ga. The BHT and the Wabamun Terrane are thought to represent either Archean crust that has been thermally reworked during the Hudsonian (Proterozoic) Orogeny (Burwash *et al.*, 1962; Burwash and Culbert, 1976; Burwash *et al.*, 1994) or accreted Proterozoic terranes that may or may not have an Archean component (Ross and Stephenson, 1989; Ross *et al.*, 1991; Villeneuve *et al.*, 1993). Precambrian rocks which have been intersected in drill core from the BHT and the Wabamun Terrane comprise felsic to intermediate metaplutonic rocks, felsic metavolcanic rocks and high-grade gneisses (Villeneuve *et al.*, 1993). The presence of a large number of eclogitic garnets and eclogitic pyroxenes in association with kimberlites or related intrusions in northern Alberta may indicate the presence of a significant volume of subducted basaltic and sedimentary protolith in the upper mantle and lower crust beneath the Buffalo Head Craton. The Call of the Wild permits lie within an area with an intermediate to high residual gravity signature. Seismic refraction and reflection studies indicate that the crust in the Calling Lake region is likely around 35 to 40 km thick, a trait favourable for the formation and preservation of diamonds in the upper mantle (Dufresne *et al.,* 1996). In addition, studies by Lithoprobe have indicated that a deep mantle root, as illustrated by Figure 25 in Helmstaedt (1993), exists proximal to the area (Haimila, 1997).

Directly south of the Call of the Wild permits, the basement is part of the Proterozoic Thorsby Magnetic Low (2.4 – 2.0 Ga), which merges into the Snowbird Tectonic Zone to the northeast. The Thorsby Low is a narrow northeasterly trending, curvilinear aeromagnetic low that is similar in character to the Chinchaga Low. It is collinear with a gravity gradient between the adjacent domains and contains numerous basement faults that extend into the overlying Paleozoic and Mesozoic succession (Edwards and Brown, 1994). The Snowbird Tectonic Zone (STZ) is a major northeast-trending crustal lineament that is a prominent lineament on both the aeromagnetic and the gravity maps of Canada (Geological Survey of Canada, 1990a, b). The STZ separates the Churchill Structural Province into two distinct basement domains, the Rae and Hearne Subprovinces, and extends to the northeast as far as Baker Lake, Nunavut (Ross *et al.*, 1991).

Phanerozoic

Overlying the basement in the Calling Lake region is a thick sequence of Phanerozoic rocks comprised mainly of Cretaceous sandstones and shales near surface and Mississippian to Devonian carbonates and salts at depth (Glass, 1990). Bedrock exposure within the permit blocks is limited primarily to river and stream cuts and topographic highs. Table 2 shows the upper units found in the region. Further information pertaining to the distribution and character of these and older units can be obtained from well log data in government databases and various geological and hydrogeological reports (Carrigy, 1971; Green *et al.*, 1970; Glass, 1990).

Table 2. Generalized Stratigraphy - Call of the Wild Permit Area

SYSTEM	GROUP	FORMATION	AGE* (MA)	DOMINANT LITHOLOGY
PLEISTOCENE			Recent	Glacial till and associated sediments
TERTIARY			6.5 to Recent	Preglacial sand and gravels
UPPER CRETACEOUS		Wapiti	70 to 80	Sandstone, minor coal seams and conglomerate lenses
	Smoky	Puskwaskau	75 to 86	Shale, silty-shale and ironstone, First White Specks
		Bad Heart	86 to 88	Sandstone
		Kaskapau	88 to 92	Shale, silty-shale and ironstone, Second White Specks
		Dunvegan	92 to 95	Sandstone and siltstone
	Fort St. John	Shaftesbury	95 to 98	Shale, bentonites, Fish-Scale Fm.
LOWER CRETACEOUS	Colorado	Pelican	98 to 100	Glauconitic sands, siltstone, mudstone and conglomerate
		Joli Fou	100 to 103	Shale, glauconitic sandstone and bentonite

*Ages approximated from Green *et al.* (1970), Glass (1990), Dufresne *et al.* (1996) and Leckie *et al.* (1997).

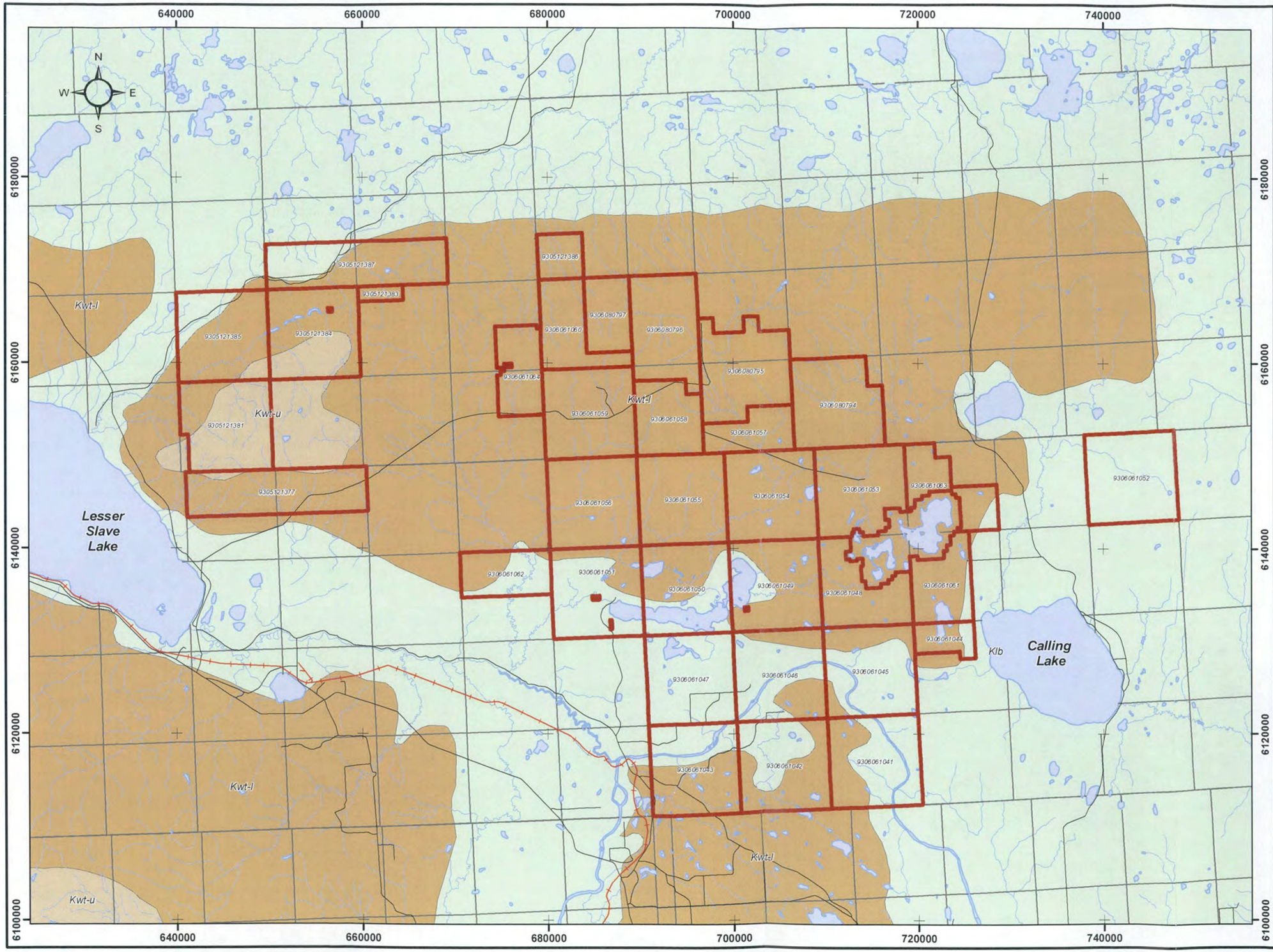
Underlying the near surface Cretaceous units in the Calling Lake area is a thick succession of Devonian to Mississippian carbonates, calcareous shales and salt horizons (Mossop and Shetson, 1994). Several of the Devonian carbonate units are part of the Grosmont Reef Complex, a large structure that extends in a northwesterly direction from the Calling Lake area to the N.W.T. (Bloy and Hadley, 1989). The Grosmont Reef Complex is likely the result of tectonic uplift during the Devonian along this trend. This structure in conjunction with the PRA could have played a significant

role in the localization of faults and other structures that could have provided favourable pathways for kimberlite volcanism.

In general, the Cretaceous strata underlying the Call of the Wild permits is composed of alternating units of marine and nonmarine sandstones, shales, siltstones, mudstones and bentonites. The oldest documented units exposed in the permit area belong to the Smoky Group, a sequence of Upper Cretaceous calcareous and noncalcareous shales (Table 2 and Figure 3). However, older units from the base of the Fort St. John and/or the top of the Colorado groups may be exposed in river and stream cuts.

The Colorado Group is Lower Cretaceous in age and contains numerous formations, including the Joli Fou and the Pelican formations, which are correlative with the Peace River Formation of the Fort St. John Group further west (Dufresne *et al.*, 1996). The Joli Fou Formation is comprised of shale with interbedded, bioturbated to glauconitic sandstones and minor amounts of bentonite, pelecypod coquinas, nodular phosphorite and concretionary layers of calcite, siderite and pyrite (Glass, 1990). The Pelican Formation disconformably overlies the Joli Fou Formation and is gradational with the overlying Shaftesbury Formation (shales of the Colorado Group) and is correlative with the Cadotte and Paddy Sands of the Peace River area (Fort St. John Group). The Pelican Formation is comprised of glauconitic sands, interbedded siltstone and mudstone with minor amounts of conglomerate. Coalified plant fragments and bioturbated sandstones are locally abundant.

The La Biche Formation is a frequently incorrectly used term correlative to units of the Shaftesbury Formation and other formations within the Smoky and Colorado groups (Glass, 1990). In the Call of the Wild permit area, the term Shaftesbury Formation (Fort St. John Group) is more commonly used. This unit is correlative with the shales overlying and underlying the Fish Scale unit in the Colorado Group. The Shaftesbury Formation is lower Upper Cretaceous in age and is comprised of marine shales with fish- scale bearing silts, thin bentonitic streaks and ironstones. The upper contact is conformable and transitional with the Dunvegan Formation, however, the Dunvegan Formation may be absent in the Calling Lake region. The Shaftesbury Formation may be exposed along deep river and stream cuts. Evidence of extensive volcanism during deposition of the Kaskapau and the Shaftesbury formations exists in the form of bentonites of variable thickness, distribution and composition. Numerous bentonitic horizons exist throughout the Shaftesbury Formation, especially within and near the Fish Scales horizon across much of Alberta (Leckie *et al.*, 1992; Bloch *et al.*, 1993). The time span of deposition of the Shaftesbury Formation is also chronologically correlative with the deposition of the Crowsnest Formation volcanics of southwest Alberta (Olson *et al.*, 1994; Dufresne *et al.*, 1995) and with kimberlitic volcanism near Fort à la Corne in Saskatchewan (Lehnert–Thiel *et al.*, 1992; Scott Smith *et al.*, 1994). In addition, there is documented igneous activity associated with the Steen River Anomaly, a possible impact structure, which formed in northwestern Alberta about this time (Carrigy, 1968; Dufresne *et al.*, 1995).



Legend

Bedrock Geology

symbol, formation

- Klb, Labiche Fm
- Kwt-u,Upper Wapiti Group
- Kwt-l, Lower Wapiti Group
- Call Of The Wild Claims
- railway
- roads
- Township & Range
- drainage
- waterbodies

STORNOWAY DIAMOND CORPORATION

Call Of The Wild Property

BEDROCK GEOLOGY

0 2.5 5 10 15 20 km

1:400,000

NAD27 Zone 11
Alberta, Canada
APEX Geoscience Ltd.

Edmonton, Alberta May, 2008

FIGURE 3

The Smoky Group is Upper Cretaceous in age and is comprised of thinly bedded, marine, silty shale with occasional ironstone and claystone nodules and thin bentonite streaks. The group is divided into three formations (a) a lower shale unit, Kaskapau, which includes the Second White Specks marker unit; (b) a middle sandstone, named the Bad Heart; and, (c) an upper shale, Puskwaskau, which contains the First White Specks marker unit. The Smoky Group is conformably and transitionally overlain by the Wapiti Formation. Ammonite fossils and concretions are present in both the Puskwaskau and the Kaskapau formations. In addition, foraminifera are present in the lower arenaceous units (Glass, 1990). The upper formations of the Smoky Group are correlative with the Lea Park Formation. The lower portions of the Smoky Group are correlative with the middle to upper units of the Colorado Group, including the First and Second White Speckled Shale marker units (Glass, 1990). Bedrock exposures in the Call of the Wild permits are likely comprised of the Kaskapau Formation, in particular, the Second White Specks unit or lower, since most of the upper portions of the Smoky Group have been eroded away by glacial and/or post-depositional processes. However, areas, where the Smoky Group is overlain by the Wapiti Formation, may still have most of the Bad Heart and/or Puskwaskau formations still intact with minimal erosion. In general, exposures of the Smoky Group are limited to river and stream cuts, topographic highs, and regions with thin drift veneer. There is strong evidence of volcanism associated within the depositional time span of the Smoky Group in the vicinity of the PRA (Auston, 1998; Carlson *et al.*, 1998). Ashton's recently discovered Buffalo Head Hills kimberlites intrude Kaskapau shale and yield emplacement ages of 86 to 88 Ma (Auston, 1998; Carlson *et al.*, 1998).

The youngest bedrock unit in the Pelican Mountain to Calling Lake area is the Wapiti Formation (Figure 3) of Upper Cretaceous age, comprised of non-marine, thinly bedded to massive sandstone with minor coal seams and thin conglomerate lenses. The upper surface of the Wapiti Formation is generally erosional. Thickness of the unit may exceed 100 m (Glass, 1990). The Wapiti Formation is exposed on the Call of the Wild permits west of Calling Lake. In addition, smaller outliers or remnants of the Wapiti Formation are known to be present south and east of the permits (Green *et al.*, 1970). The Mountain Lake Kimberlite near Grande Prairie intrudes the Wapiti Formation sediments and yields an emplacement age of 75 Ma (Leckie *et al.*, 1997).

Quaternary

Data and information about the surficial geology in central to northern Alberta is sparse and regional in nature. Prior to continental glaciation during the Pleistocene, most of Alberta, including the Calling Lake region, had reached a mature stage of erosion. Large, broad paleochannels and their tributaries drained much of the region, flowing in an east to northeasterly direction (Dufresne *et al.*, 1996). In addition, Late Tertiary to Quaternary fluvial sand and gravel was deposited preglacially over much of the region.

During the Pleistocene, multiple southwesterly and southerly glacial advances of the Laurentide Ice Sheet across the region resulted in the deposition of ground moraine

and associated sediments (Figure 5 in Dufresne *et al.,* 1996). In addition, the advance of glacial ice resulted in the erosion and glaciotectonism of the underlying bedrock. Ice thrusted bedrock has been documented just south of the Athabasca River (Klassen, 1989) and smaller occurrences of glaciotectonism within the Call of the Wild permits are possible. Remnants of preglacial sands and gravel have been documented on topographic highs, including the Pelican Mountains in the northwest part of the Call of the Wild permits (Dufresne *et al.*, 1996). Glacial sediments infilled low-lying and depressional areas, draped topographic highs and covered much of the Pelican Mountain to Calling Lake area as veneers and/or blankets of till and diamict. Localised pockets of deposits from glacial meltwater and proglacial lakes infill the numerous spillway channels present near the area.

Glacial ice is believed to have receded from the area about 15,000 years ago. After the final glacial retreat, lacustrine clays and silts were deposited in low-lying regions along with organic sediments. Rivers previously re-routed due to glaciation, re-established easterly to northeasterly drainage regimes similar to that of the pre-Pleistocene. Extensive colluvial and alluvial sediments accompanied post-glacial river and stream incision.

The majority of area within the Call of the Wild permits is underlain by drift of variable thickness, ranging from less than 2 m to likely over 45 m (Pawlowicz and Fenton, 1995a,b). Drift thickness decreases considerably outside of infilled depressions and meltwater channels and in areas of high topographic relief, in particular near and in the Pelican Mountains. However, local drift thicknesses can not be confirmed without detailed compilation of available drillhole data. Information regarding bedrock topography and drift thickness in northwest Alberta is available from the logs of holes drilled for petroleum, coal or groundwater exploration and from regional government compilations (Pawlowicz and Fenton, 1995a,b; Dufresne *et al.*, 1996).

Structural Geology

In north-central Alberta, the PRA is a region where the younger Phanerozoic rocks which overlie the Precambrian basement, have undergone periodic vertical and, possibly, compressive deformation from the Proterozoic into Tertiary time (Cant, 1988; O'Connell *et al.*, 1990; Dufresne *et al.*, 1995, 1996). This pattern of long-lived, periodic uplift and subsidence has imposed a structural control on the deposition patterns of the Phanerozoic strata in northern Alberta. In addition, this periodic movement has resulted in a rectilinear pattern of faults that not only is responsible for structurally controlled oil and gas pools, but may have provided potential pathways for later deep-seated intrusive kimberlitic magmas.

During the mid-Cretaceous and Early Tertiary, compressive deformation occurred as a result of the orogenic event that eventually led to the formation of the Rocky Mountains. The PRA was emergent during this period resulting in the reactivation of many prominent basement faults. The Phanerozoic rocks beneath the Calling Lake permits lie within the southeastern edge of the PRA and are underlain by

and proximal to basement faults related to the STZ and the underlying Grosmont Reef Complex, which was formed over the Grosmont High (Bloy and Hadley, 1990; Dufresne *et al.*, 1996). Basement faults may have controlled the emplacement of the Mountain Lake Kimberlite and the Buffalo Head Hills kimberlites northwest of the Calling Lake permits (Dufresne *et al.*, 1996; Leckie *et al.*, 1997). Therefore, structures in the Calling Lake area resulting from tectonic activity associated with movement along the PRA, the Grosmont High, the STZ, or even along contacts between different basement terranes could be pathways for kimberlitic volcanism.

HISTORY PREVIOUS EXPLORATION

Historic exploration in the Pelican Mountain to Calling Lake area has focussed primarily on the search for hydrocarbon and aggregate deposits and the determination of hydrogeological and geothermal regimes (Hackbarth and Nastasa, 1979; Scafe *et al.*, 1987; Edwards *et al.*, 1991; Bachu *et al.*, 1993). Only since the mid to late 1990's has diamond exploration become a focus in the area (Dufresne *et al.*, 1996; Haimila, 1997, Dufresne and Blazer, 1998, Dufresne and Copeland, 2000). Previous exploration programs have been carried out in the Calling Lake area and have returned high quality diamond indicator minerals (DIM's) that have yet to be explained (Dufresne and Copeland, 2000). These results have been largely obtained from a limited area along the southwest shore of Calling Lake from beach sands and the Calling River, which drains out of Calling Lake down to the Athabasca River. Beach sands along the southwest and south shore of Calling Lake have yielded greater than 500 to a 1000 DIMs (including a number of good quality high Cr G10 garnets) at multiple sites. The favourable chemistry and morphology of the indicator minerals is strong evidence for the presence of local diamondiferous kimberlites based on the recovery of more than 60 Gurney G10 pyrope garnets along with G1, G2, G7, G9, and G11 pyropic garnets, high-chrome diopsides, high-chrome picroilmenites, high titanium kimberlitic chromites and high-chrome xenocrystic chromites. Although the Calling Lake area has returned some promising results, little or no DIM sampling has been conducted in the Pelican Mountains or creeks draining the Pelican Mountains. Diamond exploration conducted within and near the Calling Lake area, up to and including 1999, is summarized by Dufresne and Copeland (2000).

Airborne Geophysical Surveys

During 1952, the GSC conducted an aeromagnetic survey of the Pelican River NTS map sheet as part of a regional study (GSC, 1983). The survey was flown at an altitude of 300m with flight lines spaced every one mile and cross-lines every 15 miles. Data from the magnetic survey was compiled into a series of maps (GSC, 1983). Closer examination of the Pelican River 1:250,000 scale aeromagnetic map indicates the presence of a large linear magnetic high centered in the southwestern portion of Calling Lake. Unfortunately, the flight lines from this 1952 survey are too widely spaced to be useful for locating possible kimberlites.

During 1997, SPECTRA Exploration Geoscience Corp. (SPECTRA) flew a high-resolution aeromagnetic (HRAM) survey over a small portion of the Calling Lake permits (Dufresne and Balzer, 1998) on behalf of 656405 Alberta Ltd. (SPECTRA, 1998). The survey consisted of approximately 666 line-km and was flown at an altitude of 100 m, with flight lines spaced every 200 m and tie-lines every 1 km (SPECTRA, 1998; Campbell, 1999). The data were processed and compiled by ELS Consulting Inc., Controlled Geophysics Inc. and SPECTRA (1998). The HRAM survey was successful in identifying near-surface magnetic targets that could be indicative of kimberlites. A detailed review of the SPECTRA survey data by Dufresne and Balzer (1998) yielded a total of 9 medium to high priority magnetic anomalies.

During 1998 and 1999 two airborne geophysical surveys were conducted in the Calling Lake area on behalf of Buffalo Diamonds Ltd. (Buffalo) over their Calling Lake property (Dufresne and Copeland, 2000) that partially overlapped the Call of the Wild property. In the spring of 1998, Geoterrex-Dighem (Dighem) flew an airborne helicopter EM and magnetic survey using a towed-bird system. A total of 4,764 line-km were flown at an altitude of about 30 m above ground or canopy with a line spacing of 200 m with in-fill grids flown at a line spacing of 100 m. A detailed review and interpretation of the data was conducted by APEX and by Intrepid Geophysics Ltd. (Intrepid) during early 1999 (Campbell, 1999). Approximately 29 magnetic and/or resistivity anomalies were identified that could be indicative of a pipe like response from a kimberlite diatreme. During the spring and summer of 1999, Terraquest Ltd. (Terraquest) flew a high-resolution fixed-wing aeromagnetic survey over Buffalo's Calling Lake and Varlaam properties. A total of 11,507 km were flown at an altitude of about 75 m above ground or canopy at a line spacing of 200 m along east-west trending flight lines and 1 km along north-south trending tie lines. In addition, Terraquest also conducted a later infill survey consisting of 978 line-km of east-west trending infill lines resulting in an effective line spacing of 100 m in the vicinity of Calling Lake. The 1999 Terraquest survey entirely overlapped the 1998 SPECTRA survey and significant portions of the Dighem survey. Interpretation of the Terraquest magnetic data by Intrepid resulted in the identification of 82 magnetic anomalies (Campbell, 1999).

In 2006, Stornoway commissioned a fixed wing HRAM survey over the Call of the Wild property. The survey was flown using a magnetically clean Beechcraft King Air 65A90, a single engine aircraft with full avionics, including real time differential GPS navigation. The King Air 65A90 was equipped with a rigid tail boom, and two wing tip pods, specially designed for geophysical surveys, three high sensitivity magnetometers, real time data acquisition and recording computers, and related equipment. A full logistics report is included in Appendix 1 of Dufresne, 2008. A total of 32 survey flights were flown, totaling 25,064 line-km of acceptable data. The survey was flown using parallel traverse lines at 267.5 degrees. The survey lines were spaced at 150 m, with data sample stations spaced every 7.0 m along those lines. The survey was flown at a nominal drape altitude of 60 m above terrain. Evaluation of the magnetic survey data by Stornoway personnel resulted in the identification of 94 priority magnetic anomalies of interest (Appendix 3 in Dufresne, 2008). A total of 72 anomalies were identified as unexplained and a further 9 anomalies were identified as only partially explained.

These anomalies were ranked for follow-up field inspection followed by ground geophysical surveys. A total of 45 of the Stornoway unexplained or partially explained anomalies (prefaced with CL) were designated for follow-up ground truthing. APEX personnel picked another 93 anomalies (prefaced with A) for ground inspection if and when there was opportunity. The follow-up field inspections were carried out by helicopter during May 2007. Comments from the field inspection are provided in Appendix 3 in Dufresne, 2008.

Reconnaissance Prospecting and Sampling

Reconnaissance prospecting and sampling (rock grab, sand and till samples) was conducted within and proximal to the Call of the Wild property between 1991 and 1996 (Haimila, 1997; Dufresne *et al.,* 1996; Dufresne and Balzer, 1998; Pawlowicz *et al.,* 1998). During 1991 and 1992, the GSC collected several 30 kg till samples south of the Calling Lake area within NTS map sheet 73I as part of a regional study on DIM trends (Dufresne *et al.,* 1996). Several of these samples yielded DIMs, including kimberlitic and eclogitic garnets, chrome diopsides, picroilmenites and chromites. Although the samples collected by the GSC were not within the Call of the Wild permits, the samples were collected down-ice of the permits. The AGS collected 25 kg till and sand samples northwest and northeast of the Calling Lake region between 1992 and 1995 as part of an ongoing study on DIMs in till in Northern Alberta (Dufresne *et al.,* 1996; Pawlowicz *et al.,* 1998). A total of ten 25 kg surface samples, consisting of nine till and one sand sample, were collected within the Pelican River NTS map area 73P for DIM identification and analysis. One till sample, which yielded G2, G7 and G11 pyropic garnets, was collected from within the southeastern boundary of Buffalo's Calling Lake permits (Dufresne and Balzer, 1998).

Reconnaissance prospecting for visual occurrences of garnets in sand, boulders and till was conducted by Dr. N. Haimila within 656405 Alberta Ltd.'s Calling Lake property during 1994 to 1996 (Haimila, 1997). Sites containing visible garnets were labeled on a figure in an assessment report; however, few samples were collected for further analysis (Haimila, 1997). Reconnaissance sampling (sand and rock) was conducted on behalf of the property owners, Mr. R. Haimila and 656405 Alberta Ltd., within the Calling Lake permits by Dr. N. Haimila between 1994 and 1997 (Dufresne and Balzer, 1998). A total of seven 30 kg sand samples were collected within the Calling Lake area and analyzed for DIMs by Loring Laboratories Ltd. (Loring) and Ashton (Haimila, 1997). Approximately 50 mineral grains were picked from the heavy mineral concentrates and microprobed. Several of the DIMs were identified as G1 and G9 pyropic garnets and chrome diopsides (Dufresne and Balzer, 1998). In addition, a subsample from one sand sample was analyzed for gold and other geochemical elements using Induced Neutron Activation (INA) and Inductively Coupled Plasma (ICP) analyses by Loring (Haimila, 1997). An undocumented number of rock grab samples were collected from within the Calling Lake property (Haimila, 1997). Forty-four thin sections were prepared from the rock grab samples and examined for diamond indicator minerals.

In addition, the report by Haimila (1997) contains microprobe results from seven grains sent to Loring by 656405 Alberta Ltd. and 21 grains sent to C.F. Mineral Research Ltd. by Mr. R. Haimila in 1997 (Dufresne and Balzer, 1998). Several of the grains were identified as chrome diopsides and G9 pyropic garnets. Unfortunately, Haimila's 1997 report does not clearly state where or from which samples the mineral grains were selected.

Exploration conducted by APEX on behalf of Buffalo during 1998 and 1999 consisted of several extensive diamond indicator sampling campaigns at the Calling Lake property, to follow up and prioritize airborne geophysical anomalies identified during the initial helicopter magnetic and EM surveys completed on Buffalo's 100% owned permits. In addition, a few orientation ground magnetic surveys in conjunction with an extensive overburden sampling program utilizing hollow stem auger, vibrating sonic and rotary drilling techniques was conducted at Calling Lake. This was followed up by a fixed wing magnetic survey in order to cover both the Calling Lake and Varlaam permits which made up Buffalo's Calling Lake Property.

Systematic diamond indicator mineral sampling was completed in various phases between September 1998 to July 1999. A total of 584 till, stream, beach sand and lake sediment samples were collected by APEX personnel and were processed and analysed for diamond indicator minerals. Another 30 samples of stream sediment, beach sediment or till were collected by employees of Buffalo. Surface sampling consisted of manually collecting 25 to 30 kg samples of glacial till or beach sediment, or about 8 to 10 kg samples of stream sediments utilizing available access routes at the Calling Lake and Varlaam properties

The results of diamond indicator mineral sampling on and in the vicinity of Buffalo's Calling Lake and Varlaam permits were highly encouraging based on the number of indicators recovered, their spatial distribution and chemistry (Dufresne and Copeland, 2000). Beach sands along the southwest and south shore of Calling Lake yielded greater than 500 DIMs at four separate sites. The favourable chemistry and morphology of the indicator minerals is strong evidence for the presence of one or more local diamondiferous kimberlites based on the recovery of 66 Gurney G10 pyrope garnets and other indicator minerals such as G1, G2, G7, G9, and G11 pyropic garnets, high-chrome diopsides, high-chrome picroilmenites and high titanium kimberlitic chromites. These highly anomalous beach sands indicated that some of the magnetic anomalies delineated by Buffalo beneath or adjacent to Calling Lake were of high interest for kimberlite exploration. The 66 Gurney G10 pyrope garnets, which are commonly used to evaluate diamond potential, represent the greatest concentration of G10 pyropes known in Alberta to date. The potential for discovery of diamondiferous kimberlites in the Pelican Mountain to Calling Lake area is further supported by the discovery of a gem quality macro diamond along with olivine in a basal till sample collected by Buffalo personnel during the summer of 1998 (Dufresne and Copeland, 2000).

Follow-up drilling by Buffalo of a number of the high interest magnetic anomalies beneath or adjacent to Calling Lake during 2000 yielded no kimberlites. Based upon this result and the results of the prior work by Buffalo, APEX strongly recommended follow-up exploration with a focus on the Marten Mountains and Pelican Mountains to the west and northwest of Calling Lake as a potential source area for the favourable DIMs obtained to date (Dufresne and Copeland, 2000).

During the summer of 2006, a total of 25 till and stream samples were collected on and near the Call of the Wild property by Stornoway personnel (Figures 4 to 6 in Dufresne, 2008). The collected till and stream samples were approximately 20kg in size. All samples collected were processed using heavy liquids to separate any diamond indicator minerals from the rest of the sediment to produce a heavy mineral concentrate, which was then visually analysed (or "picked") for diamond indicator minerals. Confirmation of indicator minerals was carried out by microprobe analyses. The samples were processed by Microlithics in Thunderbay, ON. The heavy mineral concentrates were then sent to I & M Morrison Geological Services in Delta, BC to be picked for diamond indicator minerals (Appendix 2a in Dufresne, 2008). The picked DIM grains were then sent to R. L. Barnett Geological Services for electron microprobe analysis. A total of 14 of the 25 samples yielded microprobed confirmed indicator minerals, including pyrope garnets, chrome diopsides, chromites and picroilmenites. A total of 4 samples yielded three or more microprobe confirmed indicator minerals with sample 46502 yielding a total of 10 microprobe confirmed diamond indicator minerals (Appendix 2; Figures 5 and 6 in Dufresne, 2008).

Drilling and Subsurface Sampling

Buffalo completed a total of 71 overburden drillholes at 59 separate sites (Dufresne and Copeland, 2000). The majority of the holes (62) were completed in the Calling River East target area up ice from the discovery site of the gem quality macro diamond and indicator minerals such as olivine that were recovered from basal till along the Calling River. The purpose of the overburden drilling program in the Calling River East target area was to establish whether the macro diamond and anomalous quantities of DIM's in the Calling River were part of a dispersion train which could be traced to a weathered kimberlite source in an up ice direction (to the north) from the Calling River. A total of 377 samples were collected and analysed by the SRC for DIM processing and analysis. Multiple samples were collected from each hole with a single sample collected for each distinctive overburden unit. The results, including picked diamond indicator minerals, of the overburden drilling program are presented in Dufresne and Copeland (2000). In general, the DIM results obtained from the overburden drilling program never yielded anywhere near the volumes of DIMs obtained from the Calling Lake beach sands. To this date, the DIMs obtained in the Calling Lake beach sands remain unexplained and are not thought to be explained by reworking of the local tills.

Ground Geophysical Surveys

A small reconnaissance ground magnetic geophysical survey totaling one line-kilometre was conducted along and south of Calling Lake just to the southeast of the Call of the Wild property in 1995 (Haimila, 1997). Much of the reconnaissance ground geophysical surveys were conducted without the use of a base station magnetometer in order to correct for diurnal variations. This limits the usefulness of the data. Further information concerning the Calling Lake magnetic survey is poorly documented (Dufresne and Balzer, 1998).

Three airborne magnetic anomalies in the Calling River East target area, which were identified from the preliminary SPECTRA and/or Dighem airborne geophysical surveys, were selected for more detailed examination by ground geophysics during February 1999 (Dufresne and Copeland, 2000). A two-man APEX crew conducted ground magnetic surveys over airborne magnetic anomalies A41 and A91. Two 400 m by 400 m grids were centered over the approximate geographic centre of the airborne magnetic anomalies. Cross lines were spaced at 100 m along the baseline with a station spacing of 25 m. The geophysical data for anomaly CL-25M was collected and processed by a two-man crew from Frontier Geosciences Inc. of Vancouver, B.C. A 400 m by 350 m grid was placed over the geographic centre of the airborne magnetic anomaly. Lines were spaced at 100 m along the baseline with a station spacing of 10 m. All magnetic data was corrected for diurnal variation. The data and appropriate contoured magnetic grid maps are presented in Dufresne and Copeland (2000). None of the three targets produced what would be considered a high priority drill target for kimberlite exploration. However, there remain a large number of airborne magnetic anomalies identified by the prior airborne surveys that require ground geophysical surveys in order to identify targets for follow-up exploration.

Komex International Ltd. (Komex) performed electrical resistivity tomography (ERT), magnetometer and very low frequency (VLF) electromagnetic (EM) surveys on three transects in the Calling River East and Calling Lake Southwest target areas between October 2 and 4, 1998 (Bauman and Hinnell, 1998). The objective of the surveys was to determine if there was any indication of a vertical structure that could be attributed to a buried kimberlite pipe. Two of the transects (ERT CL01, and ERT CL03) were centered on the Calling River near till section T3, which yielded a macro diamond and several grains of olivine. The third transect (ERT CL02) was conducted approximately 3 km southwest of the southwest shore of Calling Lake in the vicinity of a possible seismic disturbance. Electrical resistivity tomography (ERT) is a technique used for mapping the distribution of subsurface electrical resistivity in a cross-sectional format. Further logistical and technical information on this survey is presented by Bauman and Hinnell (1998). The geophysical survey lines completed by Komex in October of 1998, were successful in indicating the presence of one potential vertical structure along line CL03 (Bauman and Hinnell, 1998). This structure has ERT and VLF characteristics similar to fault structures. Dufresne and Copeland (2000) indicate that the results of the ERT survey remain largely inconclusive.

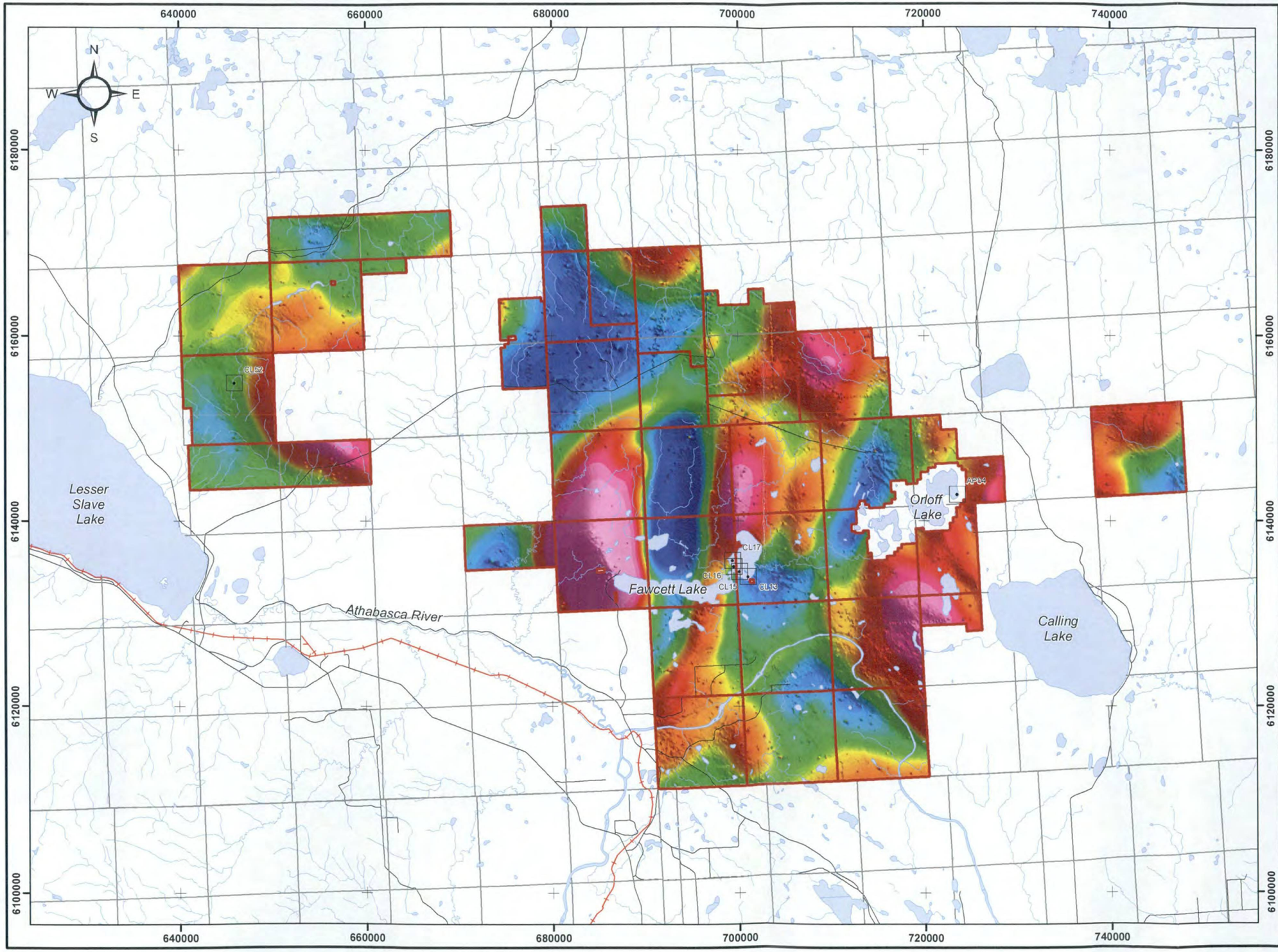
In 2007, a total of 45 of the 94 airborne geophysical targets picked by Stornoway from the 2006 airborne survey were ground truthed by APEX. A total of 19 additional targets picked by APEX personnel were also ground truthed during the same field visit. Airborne magnetic anomalies that were determined to be caused by man-made culture, such as bridges, culverts and drill collars used in oil and gas exploration were identified and will not be investigated further. Anomalies that could not be explained by ground checking were priority ranked for follow-up exploration including ground geophysical surveys and/or drill testing for kimberlite. All 45 priority airborne magnetic targets provided to APEX by Stornoway were visited by helicopter and given a preliminary evaluation. Anomalies of higher interest were given a priority of 1. Anomalies of lower interest on the basis of the quality of the magnetic target, the look of the ground situation (i.e. steep side of a hill or in an oxbow or drainage), the possibility that it might be related to overburden sand but which still might rate a ground geophysics grid or a DIM sample were given a priority of 2. Low priority anomalies classified based on their geographic situation or possible association with drainage, were given a priority of 3. Anomalies explained by man-made culture were given a ranking of 4 (Appendix 3 in Dufresne, 2008). Two main clusters of geophysical anomalies were identified warranting ground geophysics – one within the northwest portion of the claim block and one in the southeast portion of the claim block (south and east of Fawcett Lake). Additionally, a few anomalies were identified scattered across the central portion of the block (Dufresne, 2008).

In late autumn 2007, a total of 20 high priority geophysical targets were selected to be surveyed in detail using ground magnetic surveys (Appendix 4 and Figures 7 to 12 in Dufresne, 2008). Between November 4 and December 15, 2007, APEX personnel completed the ground magnetic surveys. The ground geophysical grids were approximately 400 m by 500 m, with lines spaced 50 m apart along the baseline, and magnetic measurements every two seconds along each line using the walking magnetometer. Four grids yielded magnetic anomalies that may warrant follow-up exploration including DIM sampling and/or drill testing for kimberlite. Airborne magnetic targets CL-39, CL-81 and CL-94 yielded ground magnetics anomalies that are ranked as low to moderate, while anomaly CL-09 yielded a ground magnetics anomaly ranked as low priority for follow-up exploration. No further exploration is warranted for the remaining 16 airborne anomalies (Dufresne, 2008).

Additionally, ground geophysical surveys were warranted (but not completed) for a number of anomalies that are beneath Fawcett and other lakes within the permit area. The targets were given a priority ranking of 2 and are winter access only. The surveys over these targets were completed during the 2008 program (Dufresne, 2008).

2008 EXPLORATION

In early 2008, APEX personnel conducted a ground geophysical survey program, which consisted of the completion of an additional six geophysical grids over anomalies identified from the 2006 HRAM survey (Figure 4; Appendix 3). Between February 4th



Legend

- 2008 Ground Geophysics Grids
- Call Of The Wild Claims
- Township & Range Outline
- railway
- roads
- drainage
- waterbodies

336.8
212.6
167.8
144.6
127.3
112.6
97.1
83.7
71.5
59.4
49.0
39.1
30.0
21.7
13.8
6.3
-1.4
-9.2
-16.5
-23.8
-31.3
-38.4
-45.5
-52.4
-59.4
-66.5
-73.5
-80.8
-87.9
-95.5
-103.5
-111.9
-120.4
-129.3
-139.2
-149.9
-162.5
-184.6

Total Field
nT above background

STORNOWAY DIAMOND CORPORATION

Call Of The Wild Property

2008 GROUND GEOPHYSICS GRIDS

0 2.5 5 10 15 Kilometers

1:400,000
NAD27 Zone 11
Alberta, Canada
APEX Geoscience Ltd.

Edmonton, Alberta May, 2008

FIGURE 4

and 6th, 2008 APEX personnel conducted the ground magnetic surveys using GEM System Overhauser GSM19 walking (GPS) magnetometers (Appendix 3). APEX personnel involved in the field collection and processing of data are listed in Appendix 1.

In addition to the surveys completed in 2007, further ground geophysical surveys were warranted for a number of anomalies that are beneath Fawcett and other lakes within the permit area. The targets are winter access only and were ranked as priority 2 due to the potential of being caused by magnetite in overburden (outwash) related sand in the lake. A total of four grids (CL- 13, 15, 16 and 17) were completed over anomalies on the edge of Fawcett Lake. An additional two grids were completed: one on the edge of Orloff Lake (AP-04) and one in the drainage of a small unnamed lake (CL-52).

The ground geophysical grids were approximately 500 m by 500 m, with lines spaced 50 m apart along the baseline, and magnetic measurements every two seconds along each line using the walking magnetometer. The resulting raw and diurnal corrected ground magnetic data and contoured grid maps are presented in Appendix 3. All of the ground magnetic data was collected using WGS84 in zone 12 with the exception of grid CL-52, which was in zone 11, due to the boundary between the two zones dividing the property.

One of the Fawcett Lake targets (CL-13) and both additional targets (CL-52 and AP-04) resulted in ground geophysical anomalies that require further investigation by DIM sampling and/or drill testing. No further exploration is warranted for the three other Fawcett Lake airborne targets (Appendix 3).

EXPLORATION EXPENDITURES

The cost to conduct the 2008 ground geophysics program on the Call of the Wild Property was $40,527.10 (not including GST or the 10% allowable administration costs). A breakdown of expenditures and APEX office and field personnel is presented in Appendix 1.

CONCLUSIONS AND DISCUSSION

The regional setting for Stornoway and Grizzly's Call of the Wild property is considered favourable for the presence of diamondiferous kimberlites as the permits are underlain by Early Proterozoic basement of the Buffalo Head Terrane near its southeastern most limits. The Buffalo Head Terrane, which in conjunction with the Chinchaga Low may represent a 2.0 to 2.4 Ga craton that was accreted to North America about 1.8 Ga, is the underlying basement to the Buffalo Head Hills area where multiple diamondiferous kimberlites have been discovered by Ashton. The Call of the Wild property is located along the south flank of the Peace River Arch and is centered over the western edge of the Grosmont high in an area where seismic refraction

indicates crust thickness ranges from 35 to 40 km. In addition, the permit area is in close proximity to the northeast trending Snowbird Tectonic Zone, a major crustal lineament. This regional structural setting is considered complex but favourable for the formation and preservation of diamonds in the upper mantle and their transport to surface in kimberlitic magmas during periodic tectonic activity associated with movement along the Peace River Arch, the Grosmont High, or the Snowbird Tectonic Zone.

Only a limited number of DIM samples have been collected thus far by Stornoway on the Call of the Wild property. However previous sampling in the area, mostly down ice of the Call of the Wild permits by past explorers yielded strong indications of the presence of local kimberlites in the Pelican Mountain to Calling Lake region with the detection of abundant diamond indicator minerals particularly in and around Calling Lake but also north and east of Calling Lake. Indicator minerals recovered to date include abundant pyropic garnets including a few G1 or G2 pyrope garnets, 66 Gurney G10 pyrope garnets and a prominent population of subcalcic high chrome pyropes (>9 wt% Cr_2O_3), high magnesium olivines, low iron and high chrome diopsides, high chrome picroilmenites and high titanium, high chrome kimberlitic chromites. Strong diamond potential is indicated at the Calling Lake beach target area on the basis of the recovery of at least 66 Gurney G10 pyrope garnets in conjunction with a population of more than 40 high chrome pyrope garnets and several diamond inclusion quality eclogitic garnets. The potential for discovery of diamondiferous kimberlites on the Call of the Wild property is further supported by the discovery of a gem quality macro diamond along with olivine in a basal till sample in the Calling River collected by Buffalo Diamonds Ltd. personnel during the summer of 1998.

The Pelican Mountain to Calling Lake area is underlain by Upper Cretaceous Smoky Group shales and Wapiti sandstones and siltstones, which are roughly age equivalent or slightly younger than the sediments that host the diamondiferous kimberlites discovered in the Buffalo Head Hills area and the Birch Mountains. Drift thickness in the Pelican Mountain to Calling Lake area is considered to be moderate to thin, therefore, the diamond indicator results to date are considered favourable and potentially indicative of the presence of local diamondiferous kimberlites on or in the vicinity of Stornoway and Grizzly's Call of the Wild property.

A thorough review of the 2006 high resolution airborne magnetic (HRAM) fixed-wing airborne survey identified several magnetic anomalies of varying quality that could potentially be attributed to near surface magnetic bodies such as kimberlite pipes. In 2007 these anomalies were ground checked by APEX to determine whether there was any culture present. If not then they were prioritized on the basis of topography, the presence of any vegetation anomalies and their overall location. In 2007, a total 20 ground geophysical grids were completed. Four of the 20 ground geophysical targets yielded what are considered low to moderate priority targets for follow-up exploration including further diamond indicator minerals surveys and, possibly, drill testing.

At the completion of the 2007 program, further ground geophysical surveys were warranted for a number of anomalies beneath Fawcett and other lakes within the permit area. A total of four grids were completed over anomalies on the edge of Fawcett Lake. Additionally two grids were completed: one on the edge of Orloff Lake and one in the drainage of a small unknown lake. One of the Fawcett lake targets and the two additional targets resulted in anomalies that should be investigated further by DIM sampling and/or drill testing.

RECOMMENDATIONS

Although historically there has been extensive oil exploration in the area, with respect to diamond potential, the Call of the Wild property is still in the early stages of exploration. Previous exploration programs conducted by past explorers have resulted in the recovery of large numbers of highly favourable diamond indicator minerals and a macrodiamond in the region. In addition, the results of current exploration completed by Stornoway have shown that the Call of the Wild Property contains a number of high priority geophysical targets that warrant further investigation. This illustrates the significant potential of the Calling Lake/Pelican Mountains area and properties such as the Call of the Wild to host kimberlites.

The recent HRAM fixed-wing magnetic survey yielded a number of medium to high quality magnetic targets. Two main clusters of geophysical anomalies were recognised – one within the northwest portion of the claim block and one in the southeast portion of the claim block (south and east of Fawcett Lake). From the 2007 ground geophysical surveys over 20 of the magnetic anomalies yielded at least 4 anomalies that warrant follow-up exploration, including DIM sampling and/or drill testing for kimberlite.

From the 2008 ground geophysical surveys performed on Fawcett and other lakes within the permit area, at least three anomalies warrant follow-up exploration which may include DIM surveys and/or drill testing. It is strongly recommended that the single decent beach at Fawcett Lake be inspected and sampled for DIM's. Additionally, follow-up DIM sampling of creeks should be conducted in some of the well drained target areas and the couple of large gravel pits hosted in preglacial gravel on the northwest slope of the Marten Mountains in the northwest portion of the claim block should be sampled for DIM's to confirm their low potential to provide DIM's. A couple of esker complexes exist in the eastern portion of the permit block and these should be inspected and sampled for DIM's to see if they are a potential source for the Calling Lake DIM's. In addition, eskers in the Buffalo Head Hills commonly yield significant amounts of kimberlite float in close proximity the kimberlites, therefore all eskers within the permit area should be visited and prospected.

In total, a program of about 30 to 40 DIM samples focused on the areas of the unexplained priority anomalies should suffice. A large portion of the sampling and

ground geophysical surveys could be performed either in the summer or in the fall (until middle to late November). Further ground geophysical surveys are recommended over the priority two anomalies that are yet to be surveyed.

PERMIT TO PRACTICE
APEX Geoscience Ltd.
Signature
Date November 20, 2008
PERMIT NUMBER: P-5824
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

APEX Geoscience Ltd.

PROFESSIONAL GEOLOGIST MICHAEL B. DUFRESNE ALBERTA

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

November 20 2008
Edmonton, Alberta, Canada

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CERTIFICATE OF QUALIFICATION

I, Michael B. Dufresne, M.Sc., P.Geol., do hereby certify that I am President and Principal of:
APEX Geoscience Ltd.
Suite 200, 9797 – 45th Avenue,
Edmonton, Alberta, Canada T6E 5V8

1. 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.
2. I am a Registered Geologist with the Association of Professional Engineers, Geologists and Geophysicist of Alberta.
3. I have worked as a consulting geologist for a total of 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 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 and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I am responsible for the preparation of the assessment report titled "Assessment Report For The Call Of The Wild Property, Northern Alberta: Metallic Mineral Permits 9305121377, 9305121381, 9305121383 TO 9305121387, 9306061041 TO 9306061043, 9306061045 TO 9306061050, 9306061052, 9306061053, 9306061055, 9306061061, 9306061063 AND 9306080795 TO 9306080797" and dated 20th November, 2008. I have visited the Property on a number of occasions and as recently as May 9th and 10th, 2007.
6. 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 technical report misleading.
7. I am independent of the issuer applying all of the tests in section 1.4 of National Instrument 43-101.
8. I have read National Instrument 43-101 and Form 43-101F1, and the technical report has been prepared in compliance with that instrument and form.
9. I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the technical report.

Dated 20 November, 2008

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

Signature of Qualified Person — Name of Qualified Person

APPENDIX 1

Expenditures

Appendix 1
2008 Call of the Wild Expenditures

CATEGORY	DESCRIPTION	COST CDN$
APEX Geoscience Ltd. Salary and Wages		
Office		
	Geologist-Principal-Michael Dufresne	[redacted]
	Geologist-Principal-Dean Besserer	
	Geologist-Junior-Sean Milliken	
	Geologist-Junior-Tara Gunson	
	Geologist-Junior-Daniel Cormier	
	Geologist-Student-Mark Hanki	
	Geotechnician-Peter Whyte	
	Non-Technical Labour	
Field		
	Geotechnician-Senior-Fred Welke	
	Geologist-Student-Cory Gunson	
	Geotechnician-Kaveh Bajgiran	
	Geotechnician-Greg Denys	
	Geotechnician-Kim Smorong	
	Total Salary and Wages - NET	**$24,264.50**
APEX Geoscience Ltd. Field Costs		
	Accommodation	$1,774.64
	Communication	$21.80
	Food	$939.28
	Fuel	$1,510.20
	Freight	$32.81
	Field Supplies	$41.59
	Travel	$8,338.28
	Total Field Costs - NET	**$12,658.60**
APEX Geoscience Ltd. Rentals, Repairs and Operating - Equipment		
	Communicatons Equipment (Sat phones, Walkie talkies, CB Radios, etc.)	$0.00
	Field Equipment (GPS units, Computers, Mag Susept, chain saw, etc.)	$0.00
	Ground Magnetometers (6 days x 450/day)	$2,700.00
	Vehicles (Truck and Quad Rentals, mileage, etc.)	$514.80
	APEX Operating overhead, Miscellaneous Rentals and Management Fees	$389.20
	Total Rentals, Repairs and Operating - NET	**$3,604.00**
	TOTAL 2008 EXPLORATION - Call Of The Wild	**$40,527.10**
	* Period from January 1 to June 29, 2008	
	ALLOWABLE 10% ADMINISTRATION	**$4,052.71**
	TOTAL 2008 EXPLORATION COSTS	**$44,579.81**

APPENDIX 2

Mineral Permits

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:42:05 PM

Agreement Number: 093 9306080797

Status: ACTIVE
Agreement Area: 3840
Term Date: 2006-08-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-01-076: 10-15;22-27;34-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:31:23 PM

Agreement Number: 093 9306080796

Status: ACTIVE
Agreement Area: 8180
Term Date: 2006-08-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-26-075: 25;32EF;33-36
4-26-076: 01-04;05EF;08EF;09-16;17EF;20EF;21-28;29EF;32EF;33-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:43:39 PM

Agreement Number: 093 9306080795

Status: ACTIVE
Agreement Area: 8960
Term Date: 2006-08-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-25-075: 16-36
4-25-076: 01-12;15;18

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:00:09 PM

Agreement Number: 093 9306080794

Status: ACTIVE
Agreement Area: 8704
Term Date: 2006-08-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-24-075: 01-24;26-35

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:38:14 PM

Agreement Number: 093 9306061064

Status: ACTIVE
Agreement Area: 4512
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-02-075: 22-27;34S,NE,L11,L12,L14;35;36
5-02-076: 01;02;03N,L1,L2,L5,L6;10-12;13S,NW,L9,L10,L15;14;15

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:01:52 PM

Agreement Number: 093 9306061063

Status: ACTIVE
Agreement Area: 4496
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-23-074: 01;02;03E,L3;07L12-L14;10E;11-14;15N,SE,L6;16L13-L16;17NW,L15,L16;18N,SW,L7,L8; 19-21;28-32

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:37:36 PM

Agreement Number: 093 9306061062

Status: ACTIVE
Agreement Area: 4608
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-02-073: 19-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:49:01 PM

Agreement Number: 093 9306061061

Status: ACTIVE
Agreement Area: 5016
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-23-073: 03-10;15-22;27;28E,L3,L4,L6,L11;29L1-L4;30SW,L1,L2;33L1,L2S,L8,L9;34

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:41:37 PM

Agreement Number: 093 9306061060

Status: ACTIVE
Agreement Area: 5376
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-01-076: 01-09;16-21;28-33

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:41:12 PM

Agreement Number: 093 9306061059

Status: ACTIVE
Agreement Area: 9216
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-01-075: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:44:21 PM

Agreement Number: 093 9306061058

Status: ACTIVE
Agreement Area: 5414

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-26-075: 01-04;05EF;08EF;09-16;17EF;20EF;21-24;26-28;29EF

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:59:33 PM

Agreement Number: 093 9306061057

Status: ACTIVE
Agreement Area: 3840
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-25-075: 01-15

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:39:10 PM

Agreement Number: 093 9306061056

Status: ACTIVE
Agreement Area: 9216

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-01-074: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:30:38 PM

Agreement Number: 093 9306061055

Status: ACTIVE
Agreement Area: 8934

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-26-074: 01-05;06E,WF;07E,WF;08-17;18E,WF;19E,WF;20-29;30E,WF;31E,WF;32-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:45:54 PM

Agreement Number: 093 9306061054

Status: ACTIVE
Agreement Area: 9216
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-25-074: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:01:20 PM

Agreement Number: 093 9306061053

Status: ACTIVE
Agreement Area: 8504

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-24-074: 02NW,L5,L6,L10,L15;03;04N,L4,L5,L6W,L8;05-10;11W,L15,L16;12NE,L13,L14;13-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:47:59 PM

Agreement Number: 093 9306061052

Status: ACTIVE
Agreement Area: 9216
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-21-074: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:38:43 PM

Agreement Number: 093 9306061051

Status: ACTIVE
Agreement Area: 9098

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-01-073: 01;02;03W,L1,L2,L7S,L7NW,L7NEP
PORTION(S) LYING OUTSIDE FOREST RESEARCH PLOT.

5-01-073: 03L8S,L8NWP
PORTION(S) LYING OUTSIDE FOREST RESEARCH PLOT.

5-01-073: 03L8NE,L9E,L10EP

5-01-073: 03L10W,L15S,L15NP

5-01-073: 03L16S,L16NE;04-09;10W,L1N,L1SE,L2SP

5-01-073: 10L2N,L7P,L8P
PORTION(S) LYING OUTSIDE FAWCETT LAKE PROVINCIAL RECREATION AREA.

5-01-073: 10L9,L10P,L15P
PORTION(S) LYING OUTSIDE FAWCETT LAKE PROVINCIAL RECREATION AREA.

5-01-073: 10L16;11-14;15SW,NE,L1P,L2P
PORTION(S) LYING OUTSIDE FAWCETT LAKE PROVINCIAL RECREATION AREA.

5-01-073: 15L7,L8,L11,L12E,L13,L14;16S,NW,L10W,L15,L16;17-36
METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:30:07 PM

Agreement Number: 093 9306061050

Status: ACTIVE
Agreement Area: 8944

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-26-073: 01-05;06E,WF;07E,WF;08-17;18E,WF;19E,WF;20-29;30E,WF;31E,WF;32-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:45:31 PM

Agreement Number: 093 9306061049

Status: ACTIVE
Agreement Area: 9200
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-25-073: 01-06;07W,L1,L2,L7,L8S,L8NW,L9N,L9SW,L10,L15,L16;
08E,L3,L4,L5S,L5NE,L6,L11,L12N,L12SE,L13,L14;09-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:46:42 PM

Agreement Number: 093 9306061048

Status: ACTIVE
Agreement Area: 6416
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-24-073: 01-13;14S,NE,L11,L12;15S;16-20;21W,L2,L7,L10,L15;23L1;24S;28L1W,L2-L4,L5S,L6S,L7,L8W;29S,NW,L10,L15;30-32;33L4W,L5W,L12W,L13W

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:29:27 PM

Agreement Number: 093 9306061047

Status: ACTIVE
Agreement Area: 8952

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-26-072: 01-05;06E,WF;07E,WF;08-17;18E,WF;19E,WF;20-29;30E,WF;31E,WF;32-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:45:02 PM

Agreement Number: 093 9306061046

Status: ACTIVE
Agreement Area: 9216

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-25-072: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:00:49 PM

Agreement Number: 093 9306061045

Status: ACTIVE
Agreement Area: 9216
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-24-072: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:45:42 PM

Agreement Number: 093 9306061044

Status: ACTIVE
Agreement Area: 2176
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-23-072: 22N;27-34

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:28:40 PM

Agreement Number: 093 9306061043

Status: ACTIVE
Agreement Area: 8952

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-26-071: 01-05;06E,WF;07E,WF;08-17;18E,WF;19E,WF;20-29;30E,WF;31E,WF;32-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:32:08 PM

Agreement Number: 093 9306061042

Status: ACTIVE
Agreement Area: 9216

Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-25-071: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:44:36 PM

Agreement Number: 093 9306061041

Status: ACTIVE
Agreement Area: 9216
Term Date: 2006-06-29
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

4-24-071: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:36:18 PM

Agreement Number: 093 9305121387

Status: ACTIVE
Agreement Area: 9216
Term Date: 2005-12-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-03-077: 01-18
5-04-077: 01-18

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:42:36 PM

Agreement Number: 093 9305121386

Status: ACTIVE
Agreement Area: 2304

Term Date: 2005-12-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-01-077: 04-09;16-18

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:16:56 PM

Agreement Number: 093 9305121385

Status: ACTIVE
Agreement Area: 9216

Term Date: 2005-12-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-05-076: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:27:01 PM

Agreement Number: 093 9305121384

Status: ACTIVE
Agreement Area: 9200

Term Date: 2005-12-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-04-076: 01-25;26E,L3,L4,L5S,L6,L11,L12N,L13,L14;27-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:37:07 PM

Agreement Number: 093 9305121383

Status: ACTIVE
Agreement Area: 768
Term Date: 2005-12-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-03-076: 31-33

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 1:20:39 PM

Agreement Number: 093 9305121381

Status: ACTIVE
Agreement Area: 8896

Term Date: 2005-12-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-05-075: 01-05;06E;07E;08-17;18N,SE;19-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 22, 2008 2:02:35 PM

Agreement Number: 093 9305121377

Status: ACTIVE
Agreement Area: 9216
Term Date: 2005-12-22
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8078830
Client Name: GRIZZLY DIAMONDS LTD.
Address: 9797 45 AVE NW SUITE 220
EDMONTON, AB
CANADA T6E 5V8

LAND / ZONE DESCRIPTION

5-04-074: 19-36
5-05-074: 19-36

METALLIC AND INDUSTRIAL MINERALS

APPENDIX 3

Ground Geophysical Data and Contoured Grid Maps

APPENDIX 3a

Airborne Geophysical Anomalies

APPENDIX 3a
Airborne Geophysical Anomalies
Call Of The Wild Property, Alberta

Anomaly	Priority	East_N8	North_N83	Zone	Comments and Observations
AP86	1	639822	6157188	11	Anomaly in well vegetated poplar stand above Marten Creek - high and dry
CL09	1	703552	6139011.4	11	Anomaly near intersection of 4 narrow cutlines in big trees area Topo high beside creek - priority anomaly for ground geophysics;
CL10	1	703618	6134866.1	11	Anomaly represented by interesting stunted growth fir in circular feature that is considered a vegetation anomaly - fir stand surrounded by poplar beside creek priority anomaly for geophysics - should be good access
CL30	1	694586	6139547.4	11	Anomaly coincident with small poplar stand in middle of large swamp spruce area Aluminum boat at waterline at end of trail
CL36	1	666369	6148550.9	11	Interesting associated vegetation anomaly - bank of creek no culture - visible bedrock in creek
CL39	1	667685	6170224.3	11	Interesting anomaly in treed area edge of cutblock and edge of swamp
CL41	1	658872	6168521	11	
CL44	1	656856	6159947.4	11	Anomaly in treed area side of hill w/ swamp and creek nearby - No culture
CL45	1	657838	6160010.6	11	Anomaly in swamp beside road and creek
CL48	1	657456	6151778.7	11	Beaverdam swamp - no culture - beauty gravel in creek Note Beach sand that should be sampled at Poplar Bend Development - Fawcett Lake
CL52	1	645877	6155121.6	11	Small Lake - anomaly at east edge of - more in the swamp and drainage
CL55	1	641916	6163410.5	11	Fresh logging cutblock - no visible culture now - ground geophysics no culture - should consider for ground geophysics
CL57	1	643602	6164815.7	11	Anomaly side of knobby hill or partly in downcut N-S creek
CL58	1	644322	6164848.2	11	Anomaly in elevated treed area forming corner to bend in wide swampy creek valley
CL71	1	720858	6135915.9	11	Interesting anomaly in partly logged area - knobby terrain - good access
CL74	1	720225	6130149.4	11	Area of swamp spruce beside creek and cutblock - no culture Good gravel in creek, little or no drift
CL77	1	718297	6138681.4	11	Mag low? Near NW corner of pond - mostly in treed area to shoreline - no culture no culture - ground geophysics

APPENDIX 3a
Airborne Geophysical Anomalies
Call Of The Wild Property, Alberta

Anomaly	Priority	East_N8	North_N83	Zone	Comments and Observations
CL80	1	715996	6126021	11	Above river valley on plateau - swamp/slew - some swamp spruce trees at center Treed swampy area - weak vegetation anomaly near T junction of 2 cutlines Not culture - conduct ground geophysics for sure
CL81	1	715143	6126284.9	11	Above river valley on plateau - interesting circular poplar stand beside cutline
CL90	1	694452	6134443.8	11	Anomaly partially under poplar stand and partially under old cutblock Excellent area for sampling creeks - should be little heavies in Preglacial gravel Preglacial gravel pit
CL94	1	693888	6128460.7	11	Anomaly in poplar stand at near shoreline - no culture Ground geophysics
CL05	2	712785	6144166	11	Poorly treed point edge of lake and edge of cutblock - no visible culture Ground geophysics
CL12	2	701304	6134547.8	11	In Fawcett Lake
CL13	2	700963	6134184.6	11	In Fawcett Lake
CL14	2	700764	6135123.5	11	In Fawcett Lake Ground geophysics
CL15	2	700021	6134726.6	11	In Fawcett Lake
CL16	2	699424	6135258	11	In Fawcett Lake
CL17	2	699304	6135899.9	11	In Fawcett Lake
CL26	2	697564	6162310.1	11	Swampy creek at meander - no culture, good creek bed with gravel Interesting depending upon exact location - ground geophysics
CL32	2	685103	6164833.2	11	Confluence 2 cutlines, swamp and drainage - treed w/ no visible culture Ground geophysics
CL33	2	684729	6165182.8	11	Swamp edge of cutblock - no culture
CL40	2	660461	6170152.6	11	Creek near cutline and lease - no culture Fe-Stained area
CL50	2	651924	6146899.3	11	No Culture - Treed with Creek
CL60	2	644859	6166881.8	11	Anomaly in swampy drainage north of gravel pit and road - note odd Fe stained area priority anomaly for geophysics - should be good access Panoramic showing knobby terrain in area of CL71 and AP01 and 02
CL79	2	716294	6132076.6	11	Interesting anomaly in old logging cut just SW of pond - no visible culture

APPENDIX 3a
Airborne Geophysical Anomalies
Call Of The Wild Property, Alberta

Anomaly	Priority	East_N8	North_N83	Zone	Comments and Observations
					should consider ground geophysics
CL85	2	711258	6118584.5	11	Wet slew and treed area beside cutline - no visible culture should consider ground geophysics
CL87	2	708249	6116072.6	11	Open slew - partially treed - no culture
CL93	2	693730	6129519.5	11	Anomaly under swampy point - no culture - doesn't look like much of an anomaly? no culture - likely warrants ground geophysics
CL11	3	702254	6135081	11	Oxbow like feature? drainage at mouth of creek intersection with Fawcett Lake priority anomaly for geophysics - should be good access
CL63	3	646588	6166493.9	11	Anomaly in nasty beaver dam swamp beside road
AP69	4	687892	6170879	11	Lease in cutblock - likely drill casing Note no culture around to explain nearby targets AP26-
AP72	4	669766	6171285	11	Bridge
AP87	4	641119	6148277	11	Anomaly likely casing on oil lease Dosen't look like well site - no visible culture - consider
AP88	4	645955	6149371	11	Anomaly likely casing on oil lease
AP89	4	639955	6149440	11	Microwave Tower should consider ground geophysics
AP90	4	653713	6146212	11	Cutblock beside well and pipeline - likely culture
AP93	4	667631	6153888	11	Bridge
CL34	4	676061	6135293.5	11	Bridge
CL43	4	655133	6163333.6	11	Operating gravel Pit - Preglacial gravel sitting on bedrock - thin drift No culture and interesting knobby terrain - could be due to elevation change
CL54	4	640023	6163082.1	11	Possible culture - swampy area beside road with small culvert and powerline
CL56	4	641415	6164330	11	Possible culture - swampy area beside road with small culvert and powerline
CL59	4	644761	6166373.1	11	Large Culvert under paved road
CL82	4	713012	6125438.7	11	House and barn by Athabasca River
AP01		340807	6133496	12	Slough beside knobby area that is underlain and near CL71
AP02		340758	6132411	12	Check profile - potential anomaly in pond Not big enough for drill lease - unsure whether culture - check profile
AP04		343389	6140182	12	Northeast bay of seahorse? shaped lake - check profiles - could be of interest
AP30		330168	6122083	12	Interesting mag anomaly slide bank at break in hill above Athabasca

APPENDIX 3a
Airborne Geophysical Anomalies
Call Of The Wild Property, Alberta

Anomaly	Priority	East_N8	North_N83	Zone	Comments and Observations
AP70		670030	6170407	11	Flooded Swamp No evidence of culture - check profile if real conduct ground geophysics Note good running creek - lots of gravel - DIM sample
AP73		672103	6171913	11	Anomaly in the swamp - no culture
AP74		671817	6172615	11	Anomaly near cutline but mainly in the swamp
AP79		643439	6160655	11	Small cutblock side of cutline - sump or logging staging area? Height of land on topo
AP80		639767	6161438	11	Elevated bank of creek - fresh logging cut - no visible culture
AP82		644122	6160289	11	Anomaly edge of creek valley and cutblock - interesting check profile May not have been right location - looking at tracks - check
AP92		661369	6151318	11	Not much sign of old oil lease - sort of an old small cutout beside cutline - treed

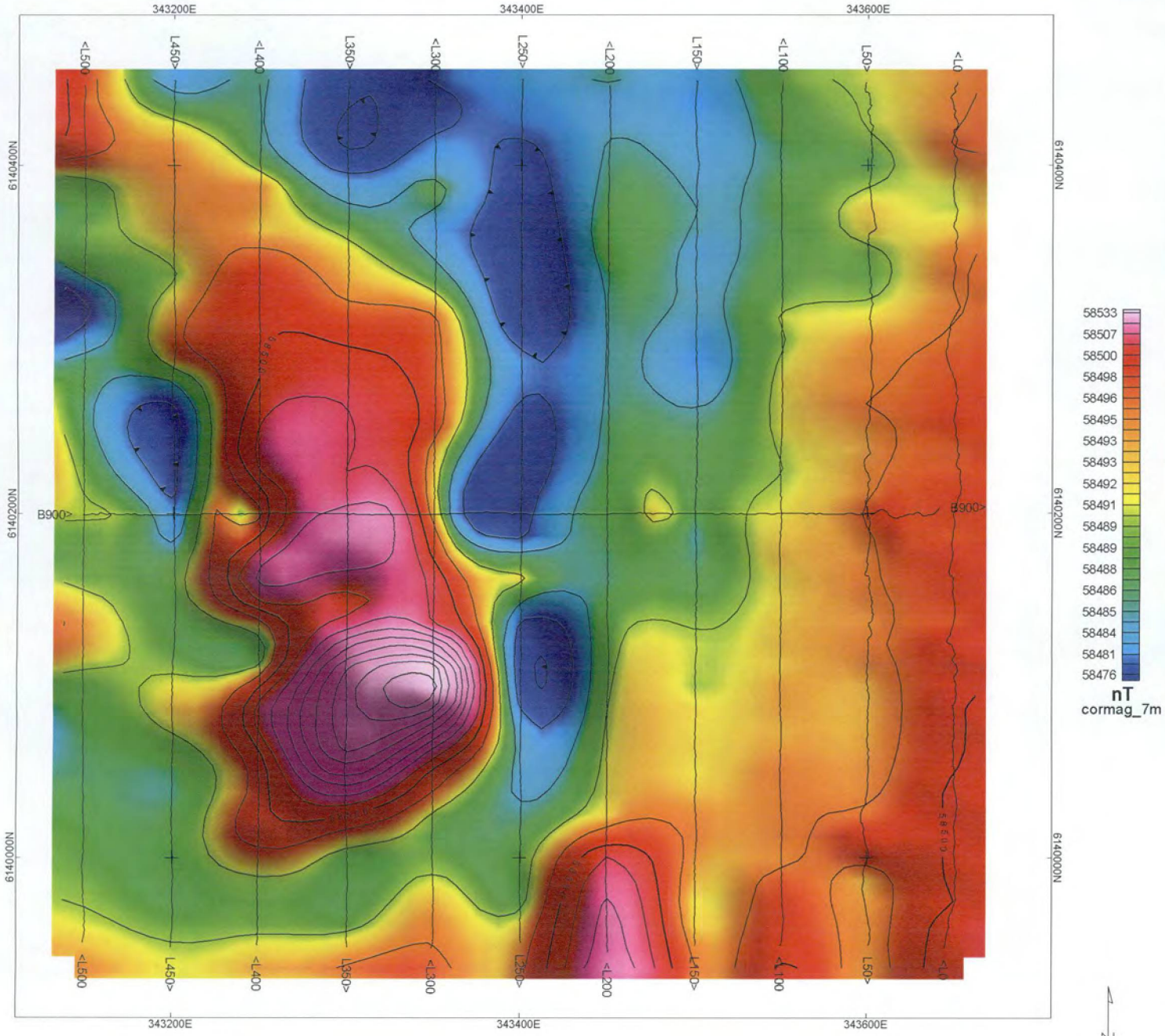
APPENDIX 3b

Raw and Corrected Ground Geophysical Data

See attached CD

APPENDIX 3c

Call of the Wild Contoured Grid Maps



Contour Interval 5 / 50nT

25 0 25 50 75

(meters)

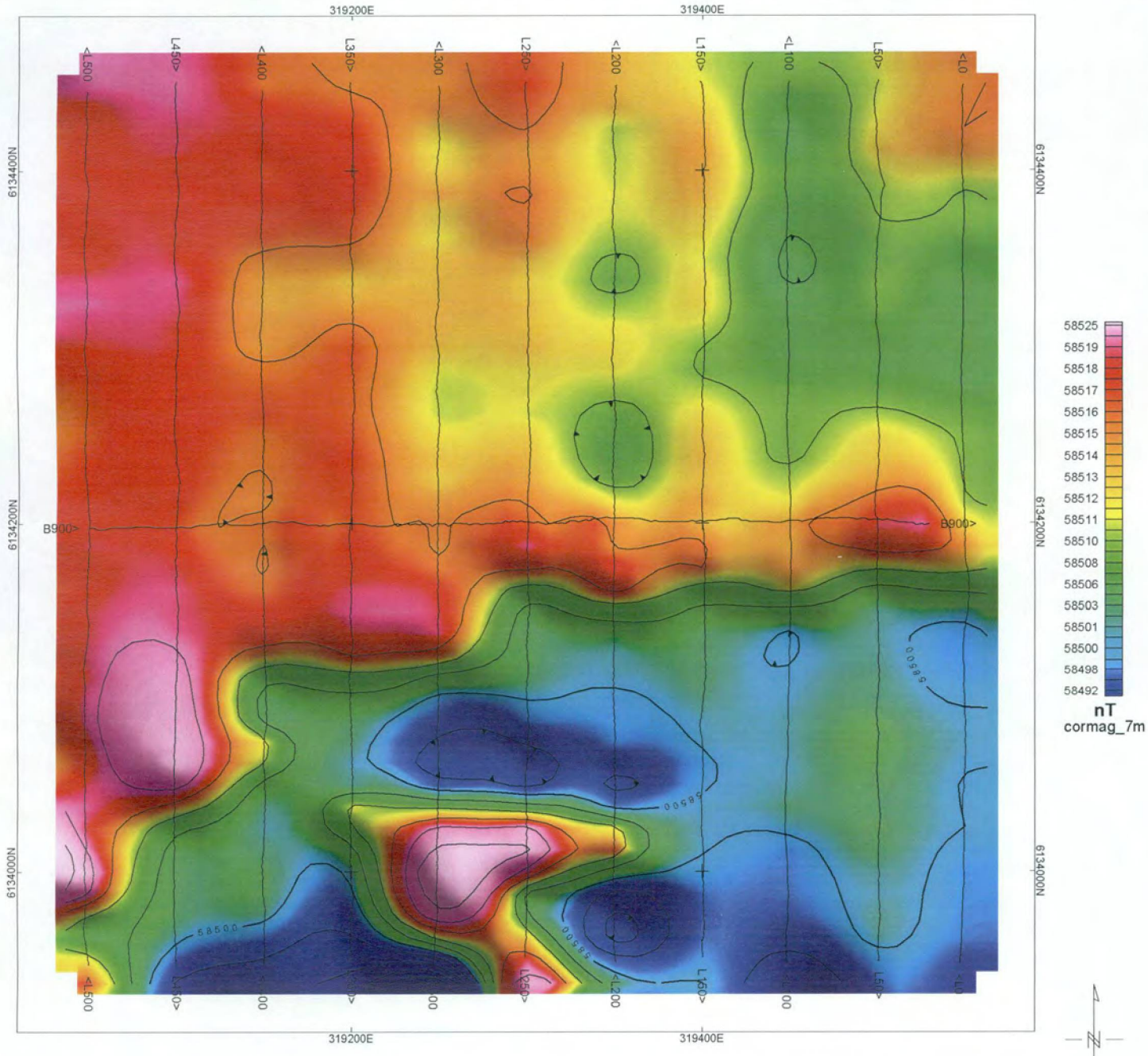
WGS 84 / UTM zone 12N

Apex Geoscience Ltd

Call of the Wild, AB

AP-04 Ground Magnetic Survey

February 5, 2008

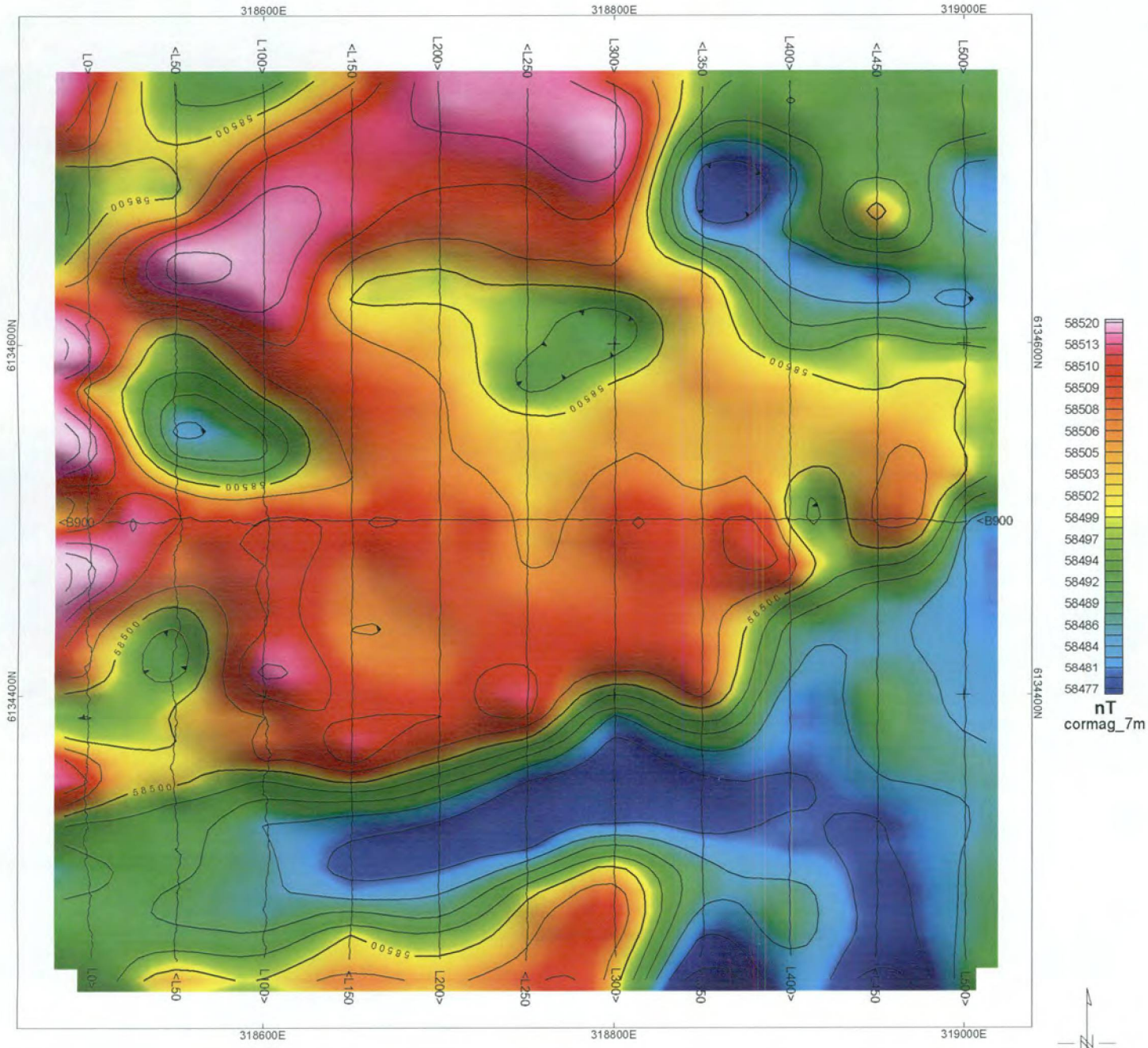


Contour Interval 5 / 50nT

25 0 25 50 75
(meters)
WGS 84 / UTM zone 12N

Apex Geoscience Ltd
Call of the Wild, AB
CL-15 Ground Magnetic Survey

February 2, 2008

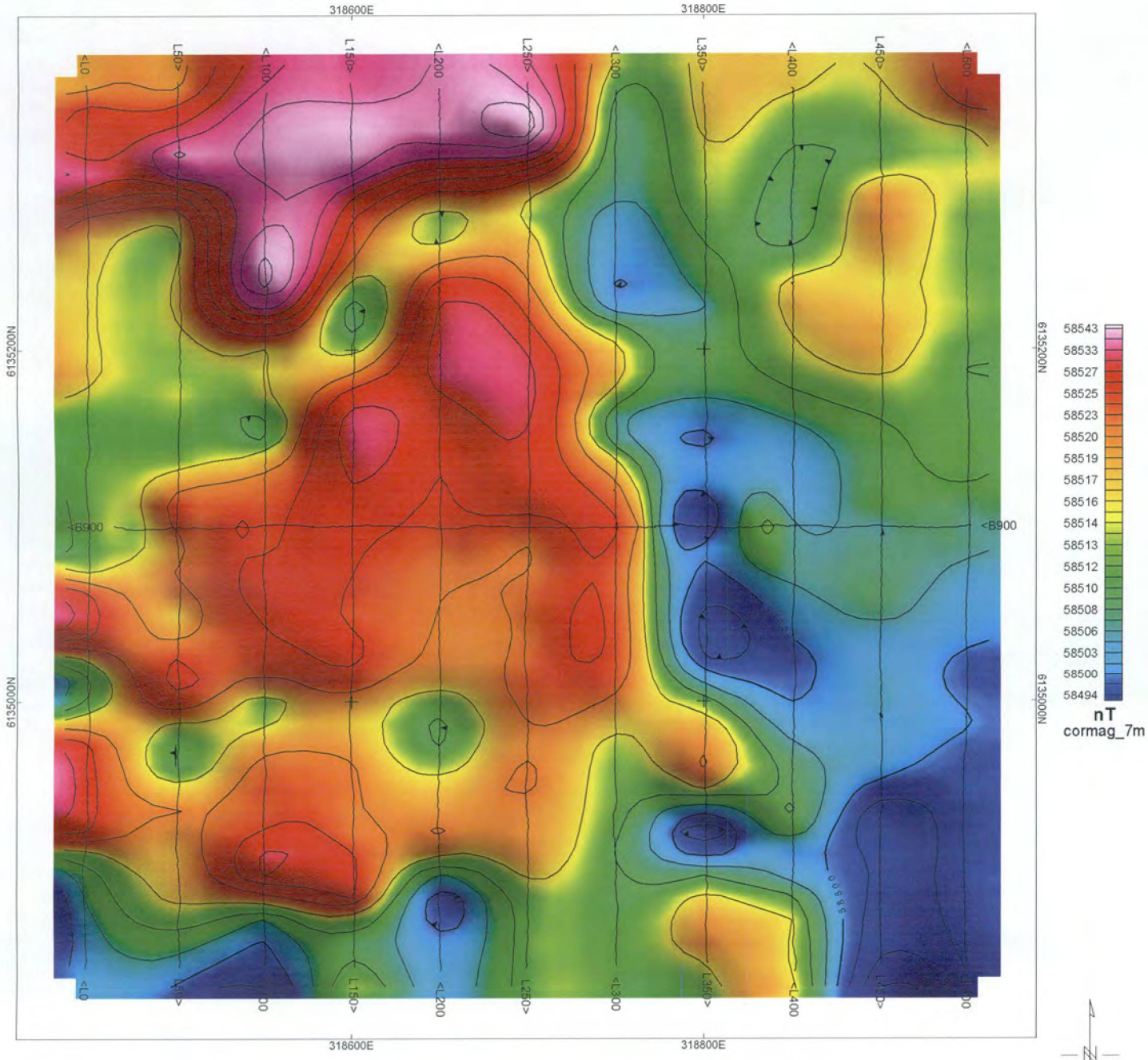


Contour Interval 5 / 50nT

25 0 25 50 75
(meters)
WGS 84 / UTM zone 12N

Apex Geoscience Ltd
Call of the Wild, AB
CL-16 Ground Magnetic Survey

February 3, 2008

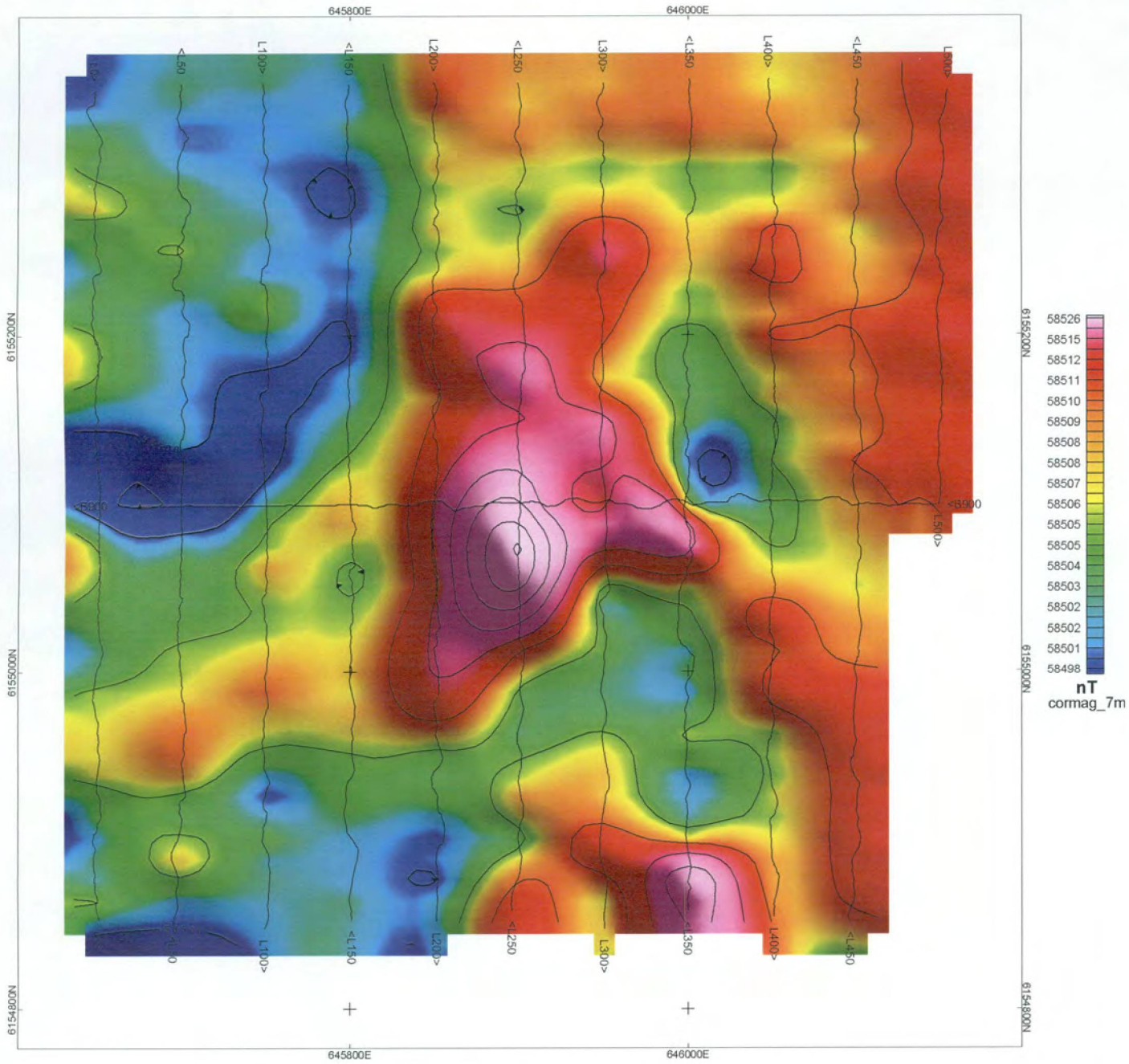


Contour Interval 5 / 50nT

25 0 25 50 75
(meters)
WGS 84 / UTM zone 12N

Apex Geoscience Ltd
Call of the Wild, AB
CL-17 Ground Magnetic Survey

February 3, 2008



Contour Interval 5 / 50nT

25 0 25 50 75
(meters)
WGS 84 / UTM zone 11N

Apex Geoscience Ltd
Call of the Wild, AB
CL-52 Ground Magnetic Survey

N

February 4, 2008

APPENDIX 3d

Magnetometer Description

v7.0

Overhauser

Magnetometer / Gradiometer / VLF (GSM-19 v7.0)

GEM's unique Overhauser system combines data quality, survey efficiency and options into an instrument that matches costlier optically pumped Caesium devices.

And the latest v7.0 technology upgrades provide even more value:

Data export in standard XYZ (i.e. line-oriented) format for easy use in standard commercial software programs

Programmable export format for full control over output

GPS elevation values provide input for geophysical modeling

Enhanced GPS positioning resolution
<1.5m standard GPS for high resolution surveying
<1.0m OmniStar GPS
<0.7m for newly introduced CDGPS

Multi-sensor capability for advanced surveys to resolve target geometry

Picket and line marking / annotation for capturing related surveying information on-the-go

And all of these technologies come complete with the most attractive savings and warranty in the business!

Overhauser (GSM-19) console with sensor and cable. Can also be configured with additional sensor for gradiometer (simultaneous) readings.

The GSM-19 v7.0 Overhauser instrument is the total field magnetometer / gradiometer of choice in today's earth science environment -- representing a unique blend of physics, data quality, operational efficiency, system design and options that clearly differentiate it from other quantum magnetometers.

With data quality exceeding standard proton precession and comparable to costlier optically pumped cesium units, the GSM-19 is a standard (or emerging standard) in many fields, including:

- Mineral exploration (ground and airborne base station)
- Environmental and engineering
- Pipeline mapping
- Unexploded Ordnance Detection
- Archeology
- Magnetic observatory measurements
- Volcanology and earthquake prediction

Taking Advantage of the Overhauser Effect

Overhauser effect magnetometers are essentially proton precession devices -- except that they produce an order-of-magnitude greater sensitivity. These "supercharged" quantum magnetometers also deliver high absolute accuracy, rapid cycling (up to 5 readings / second), and exceptionally low power consumption.

The Overhauser effect occurs when a special liquid (with unpaired electrons) is combined with hydrogen atoms and then exposed to secondary polarization from a radio frequency (RF) magnetic field.

The unpaired electrons transfer their stronger polarization to hydrogen atoms, thereby generating a strong precession signal -- that is ideal for very high-sensitivity total field measurements.

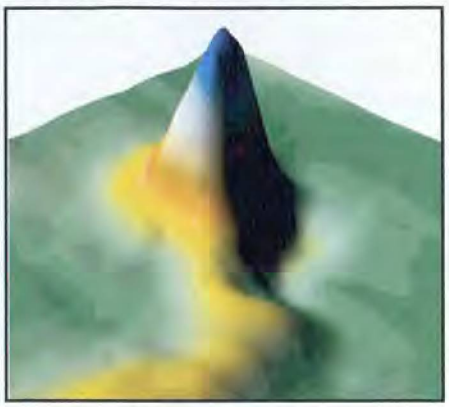
In comparison with proton precession methods, RF signal generation also keeps power consumption to an absolute minimum and eliminates noise (i.e. generating RF frequencies are well out of the bandwidth of the precession signal).

In addition, polarization and signal measurement can occur simultaneously -- which enables faster, sequential measurements. This, in turn, facilitates advanced statistical averaging over the sampling period and/or increased cycling rates (i.e. sampling speeds).

Other advantages are described in the section called, "GEM's Commercial Overhauser System" that appears later in this brochure.

Maximizing Your Data Quality with the GSM-19

Data quality is a function of five key parameters that GEM has taken into consideration carefully in the design of the GSM-19. These include sensitivity, resolution, absolute accuracy, sampling rates and gradient tolerance.



Data from Kalahari Desert kimberlites. Courtesy of MPH Consulting (project managers), IGS c. c. (geophysical contractor) and Aegis Instruments (Pty) Ltd., Botswana.

Sensitivity is a measure of the signal-to-noise ratio of the measuring device and reflects both the underlying physics and electronic design. The physics of the Overhauser effect improves sensitivity by an order of magnitude over conventional proton precession devices. Electronic enhancements, such as high-precision precession frequency counters (see the v6.0 & v7.0 -- New Milestones section) enhance sensitivity by 25% or more.

The result is high quality data with sensitivities of 0.02 nT / √Hz. This sensitivity is virtually the same as the sensitivity of costlier optically-pumped cesium systems.

Resolution is the minimum step of the counter used to measure precession frequency and its conversion into magnetic field. It is generally higher than the sensitivity to avoid a contribution of the counter to overall system noise. The GSM-19 has unmatched resolution (0.01 nT).

This level of resolution translates into well-defined, characteristic anomalies; improved visual display; and enhanced numerical data for processing and modeling.

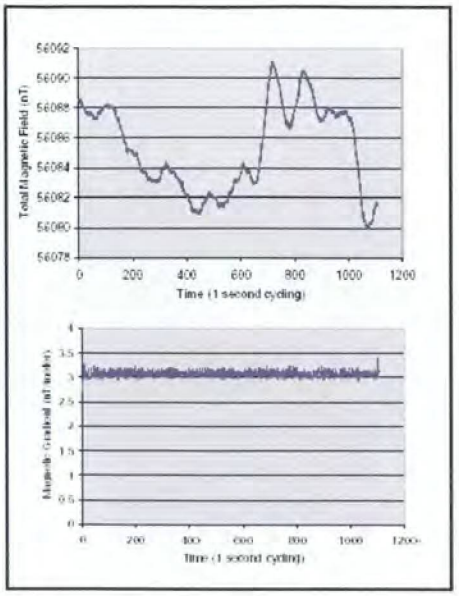
Absolute accuracy defines maximum deviation from the true value of the measured magnetic field. Since nobody really knows the true value of the field, absolute accuracy is determined by considering factors involved in determining the field value and their accuracy, including the gyromagnetic constant, maximum offset of the time base frequency, etc .

With an absolute accuracy of +/- 0.1 nT, the GSM-19 is ideal for total field work and gradient measurements maintain the same high standard of quality. Both configurations are also specially designed to minimize overall system noise so that you can be sure that your results truly reflect the geologic signal that is of most interest to you.

Sampling rates are defined as the fastest speed at which the system can acquire data. This is a particularly important parameter because high sampling rates ensure accurate spatial resolution of anomalies and increase survey efficiency.

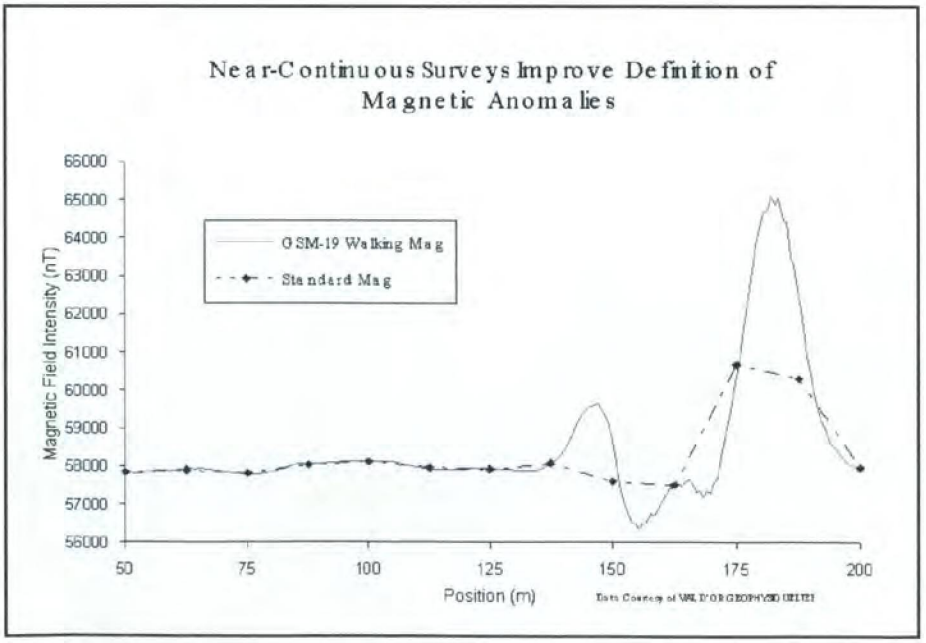
GEM's Overhauser system has three "measurement modes" or maximum sampling rates -- "Standard" (3 seconds / reading), "Walking" (0.5 seconds / reading) and "Fast" (0.2 seconds / reading). These rates make the GSM-19 a versatile system for all ground uses (including vehicle-borne applications).

Gradient tolerance is the ability to obtain reliable measurements in the presence of extreme field variations. GSM-19 tolerance is maintained through internal signal counting algorithms, sensor design and Overhauser physics. For example, the Overhauser effect produces high amplitude, long-duration signals that facilitate measurement in high gradients.



Total Field and Stationary Vertical Gradient showing the gradient largely unaffected by diurnal variation. Absolute accuracy is also shown to be very high (0.2 nT/meter).

The system's tolerance (10,000 nT / meter) makes it ideal for many challenging environments -- such as highly magnetic rocks in mineral exploration applications, or near cultural objects in environmental, UXO or archeological applications.



Much like an airborne acquisition system, the GSM-19 "Walking" magnetometer option delivers very highly-sampled, high sensitivity results that enable very accurate target location and / or earth science decision-making.

Increasing Your Operational Efficiency

Many organizations have standardized their magnetic geophysical acquisition on the GSM-19 based on high performance and operator preference. This reflects enhancements such as memory capacity; light weight; GPS and navigation; no warm-up time; no dead zones or heading errors; and dumping and processing.

Memory capacity controls the efficient daily acquisition of data, acquisition of positioning results from GPS, and the ability to acquire high volumes of data to meet daily survey objectives.

V7.0 upgrades have established the GSM-19 as the commercial standard for memory with over 838,000 readings (based on a basic configuration of memory and a survey with time, coordinate, and field values).

Optional increments of memory to over 2 million readings -- making the GSM-19 an ideal system for acquisition of data with integrated GPS readings (when required).

Portability characteristics (ruggedness, light weight and power consumption) are essential for operator productivity in both normal and extreme field conditions.

GEM's Overhauser magnetometer is established globally as a robust scientific instrument capable of withstanding temperature, humidity and terrain extremes. It also has the reputation as the lightest and lowest power system available -- reflecting Overhauser effect and RF polarization advantages.

In comparison with proton precession and optically pumped cesium systems, the GSM-19 system is the choice of operators as an easy-to-use and robust system.

GPS and navigation options are increasingly critical considerations for earth science professionals.

GPS technologies are revolutionizing data acquisition -- enhancing productivity, increasing spatial resolution, and providing a new level of data quality for informed decision-making.

As an innovative technology developer, GEM has made GPS a cornerstone of its magnetic R&D program. Real time GPS and DGPS options are now available in different survey resolutions. For more details, see the GPS and DGPS section.

GEM has also developed a GPS Navigation feature with real-time coordinate transformation to UTM, local X-Y coordinate rotations, automatic end-of-line flag, guidance to the next line, and survey "lane" guidance with cross-track display and audio indicator.

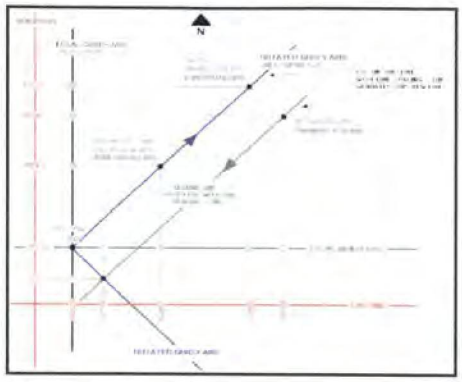
Other enhancements include way point pre-programming of up to 1000 points. Professionals can now define a complete survey on their PC and download points to the magnetometer via RS-232 connection -- before leaving for the field.

The operator then simply performs the survey using the way points as a survey guide. This capability decreases survey errors, improves efficiency, and ensures more rapid survey completion.

Dumping and processing effectiveness is also a critical consideration today. Historically, up to 60% of an operator's "free" time can be spent on low-return tasks, such as data dumping.

Data dumping times are now significantly reduced through GEM's implementation of high-speed, digital data links (up to 115 kBaud).

This functionality is facilitated through a new RISC processor as well as GEM's proprietary GEMLinkW acquisition / display software. This software serves as a bi-directional RS-232 terminal. It also has integrated processing functionality to streamline key processing steps, including diurnal data reduction. GEMLinkW is provided free to all GSM-19 customers and regular updates are available.



Navigation and Lane Guidance

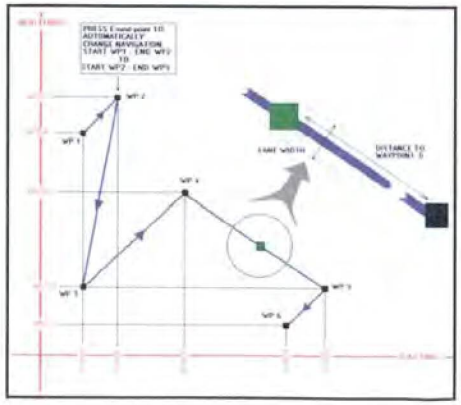
The figure above shows the Automatic Grid (UTM, Local Grid, and Rotated Grid). With the Rotated Grid, you can apply an arbitrary origin of your own definition. Then, the coordinates are always in reference to axes parallel to the grid. In short, your grid determines the map, and not the NS direction.

The Local Grid is a scaled down, local version of the UTM system, and is based on your own defined origin. It allows you to use smaller numbers or ones that are most relevant to your survey.

The figure below shows how programmable waypoints can be used to plan surveys on a point-by-point basis.

Initially, you define waypoints and enter them via PC in the office or via PC in the field or office. When you perform your survey, the unit guides you to each point.

While walking between waypoints, lane guidance keeps you within a lane of pre-defined width using arrows (< - or - >) to indicate left or right. The display also shows the distance (in meters) to the next waypoint.



Adding Value through Options

When evaluating the GSM-19 as a solution for your geophysical application, we recommend considering the complete range of options offered by GEM. These options can be added at time of original purchase or later to expand capabilities as your needs change or grow.

GEM's approach with options is to provide you with an expandable set of building blocks:

- Gradiometer
- Walking Magnetometer / Gradiometer
- Fast Magnetometer / Gradiometer
- VLF (3 channel)
- GPS (built-in or external)

GSM-19G Gradiometer Option

The GSM-19 gradiometer is a versatile, entry level system that can be upgraded to a full-featured "Walking" unit (model GSM-19GW) in future.

The GSM-19G configuration comprises two sensors and a "Standard" console that reads data to a maximum of 1 reading every three seconds.

An important GEM design feature is that its gradiometer sensors *measure the two magnetic fields concurrently* to avoid any temporal variations that could distort gradiometer readings. Other features, such as single-button data recording, are included for operator ease-of-use.

GSM-19W / GW "Walking" Magnetometer / Gradiometer Option

GEM Systems pioneered the innovative "Walking" option that enables the acquisition of nearly continuous data on survey lines. Since its introduction, the GSM-19W and GSM-19GW systems have become one of the most popular magnetic instruments in the world.

Similar to an airborne survey in principle, the system records data at discrete time intervals (up to 5 readings per second) as the instrument is carried along the line.

At each survey picket (fiducial), the operator touches a designated key. The system automatically assigns a picket coordinate to the reading and linearly interpolates the coordinates of all intervening readings (following survey completion during post-processing).

A main benefit is that the high sample density improves definition of geologic structures and other targets (UXO, archeological relics, drums, etc.).

It also increases survey efficiency because the operator can record data almost continuously. Another productivity feature is the instantaneous recording of data at pickets. This is a basic difference between the "Walking" version and the GSM-19 / GSM-19G (the "Standard" mode version which requires 3 seconds to obtain a reading each time the measurement key is pressed).

GSM-19W / GW Magnetometer

The GSM-19 reads up to 5 readings per second. (Sensors and console are the same as other models.) This system is ideal for vehicle-borne surveys, such as UXO, archeological or some mineral exploration applications, where very high productivity is required.

GSM-19 "Hands-Free" Backpack Option

The "Walking" Magnetometer and Gradiometer can be configured with an optional backpack-supported sensor. The backpack is uniquely constructed -- permitting measurement of total field or gradient with both hands free.

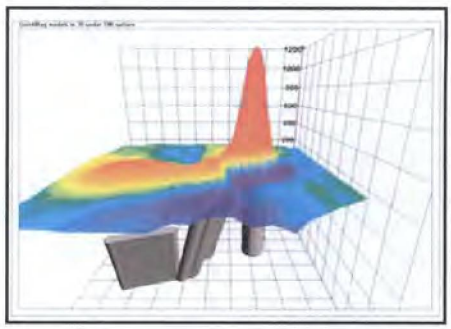
This option provides greater versatility and flexibility, which is particularly valuable for high-productivity surveys or in rough terrain.

GSM-19V / GV "VLF" Option

With GEM's omnidirectional VLF option, up to 3 stations of VLF data can be acquired without orienting. Moreover, the operator is able to record both magnetic and VLF data with a single stroke on the keypad.

3rd Party Software - A One-Stop Solution for Your Potential Field Needs

Now it's even easier to take data from the field and quality control stage through to final map preparation and modeling.



GEM-VIS provides links to fast 3D modeling via Encom's professional QuickPro software.

GEM provides the most comprehensive solution available for working with magnetometer data:

- Free **GEMLinkW** *Transfer and Internet Upgrade* software
- Optional, low-cost **GEM-*VIS*** *Quality Control, Visualization and Analysis*
- Optional *Data Processing*
- Optional **QuickMag Pro** *Automated Modeling and Inversion*

Internal / External GPS Options

To learn more about GEM's leading GPS options, see the GPS and DGPS section.

GSM-19 with internal GPS board. Small antenna attaches above sensor.

V7.0 and V6.0 -- Technology Developments

One of the main differences between GEM and other manufacturers is GEM's 25+ year, consistent focus on developing leading-edge magnetic technologies.

This commitment has led to many innovations in sensor technology; signal counting; firmware and software; and hardware and console design, culminating in the release of v7.0.

v7.0 and the **previous** release (v6.0) of the GSM-19 system provides many examples of the ways in which GEM continues to advance magnetics technologies for its customers.

Enhanced data quality:

- o 25% improvement in sensitivity (new frequency counting algorithm)
- o new intelligent spike-free algorithms (in contrast to other manufacturers, GEM does not apply smoothing or filtering to achieve high data quality)

Improved operational efficiency:

- o Enhanced positioning (GPS engine with optional integrated / external GPS and real-time navigation)
- o 16 times increase in memory to 32 Mbytes standard
- o 1000 times improvement in processing and display speed (RISC microprocessor with 32-bit data bus)

2 times faster digital data link (115 kBaud through RS-232)

Innovative technologies:

- o Battery conservation and survey flexibility (base station scheduling option with 3 modes - daily, flexible and immediate start)
- o Survey pre-planning (up to 1000 programmable waypoints that can be entered directly or downloaded from PC for greater efficiency)
- o Efficient GPS synchronization of field and base units to Universal Time (UTC)
- o Cost saving with firmware upgrades

GEM's Proven Overhauser System

In a *standard Proton magnetometer*, current is passed through a coil wound around a sensor containing a hydrogen-rich fluid. The auxiliary field created by the coil (>100 Gauss) polarizes the protons in the liquid to a higher thermal equilibrium.

When the current, and hence the field, is terminated, polarized protons precess in the Earth's field and decay exponentially until they return to steady state. This process generates precession signals that can be measured as described below.

Overhauser magnetometers use a more efficient method that combines electron-proton coupling and an electron-rich liquid (containing unbound electrons in a solvent containing a free radical). An RF magnetic field -- that corresponds to a specific energy level transition -- stimulates the unbound electrons.

Instead of releasing this energy as emitted radiation, the unbound electrons transfer it to the protons in the solvent. The resulting polarization is much larger, leading to stronger precession signals.

Both Overhauser and proton precession, measure the scalar value of the magnetic field based on the proportionality of precession frequency and magnetic flux density (which is linear and known to a high degree of accuracy). Measurement quality is also calculated using signal amplitude and its decay characteristics. Values are averaged over the sampling period and recorded.

As the world's first and most experienced manufacturer of commercial Overhauser systems, GEM's technical focus on the GSM-19 has resulted in a superior magnetic measuring device with high sensitivity, high cycling speed, low noise, and very low power consumption over a wide temperature range.

With minor software modifications (i.e. addition of a small auxiliary magnetic flux density while polarizing), it can also be easily configured for high sensitivity readings in low magnetic fields (i.e. for equatorial work).

GPS -- Positioning You for Effective Decision Making

The use of Global Positioning Satellite (GPS) technology is increasing in earth science disciplines due to the ability to make better decisions in locating anomalies, and in improving survey cost effectiveness and time management.

Examples of applications include:

- o Surveying in remote locations with no grid system (for example, in the high Arctic for diamond exploration)
- o High resolution exploration mapping
- o High productivity ferrous ordnance (UXO) detection
- o Ground portable magnetic and gradient surveying for environmental and engineering applications
- o Base station monitoring for observing diurnal magnetic activity and disturbances with integrated GPS time

GEM addresses requests for GPS and high-resolution Differential GPS (DGPS) through internal and external options. Customer units can also be integrated.

GPS surveys return a variety of real data to the user, including Time, Latitude and Longitude, UTM, Elevation and # of Satellites. This data is available to be applied in various ways by the user. The table below shows GPS modes, ranges and services.

GPS Options:

Description	Range	Services
GPS Option A		Time Reception only
GPS Option B	<1.5m	DGPS*
GPS Option C	<1.0m	Ag 114 DGPS*, OmniStar
GPS Option D	<0.7m <1.2m <1.0m	CDGPS, DGPS*, OmniStar.
Output		
Time, Lat / Long, UTM, Elevation and number of Satellites		
*DGPS with SBAS (WAAS / EGNOS / MSAS)		

Key System Components

Key components that differentiate the GSM-19 from other systems on the market include the sensor and data acquisition console. Specifications for components are provided on the right side of this page.

Sensor Technology

GEM's sensors represent a proprietary innovation that combines advances in electronics design and quantum magnetometer chemistry.

Electronically, the detection assembly includes dual pick-up coils connected in series opposition to suppress far-source electrical interference, such as atmospheric noise. Chemically, the sensor head houses a proprietary hydrogen-rich liquid solvent with free electrons (free radicals) added to increase the signal intensity under RF polarization.

From a physical perspective, the sensor is a small size, light-weight assembly that houses the Overhauser detection system and fluid. A rugged plastic housing protects the internal components during operation and transport.

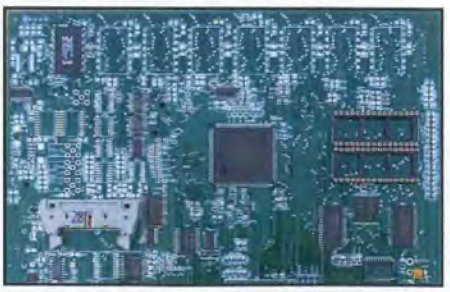
All sensor components are designed from carefully screened non-magnetic materials to assist in maximization of signal-to-noise. Heading errors are also minimized by ensuring that there are no magnetic inclusions or other defects that could result in variable readings for different orientations of the sensor.

Optional omni-directional sensors are available for operating in regions where the magnetic field is near-horizontal (i.e. equatorial regions). These sensors maximize signal strength regardless of field direction.

Data Acquisition Console Technology

Console technology comprises an external keypad / display interface with internal firmware for frequency counting, system control and data storage / retrieval. For operator convenience, the display provides both monochrome text as well as real-time profile data with an easy-to-use interactive menu for performing all survey functions.

The firmware provides the convenience of upgrades over the Internet via the GEMLinkW software. The benefit is that instrumentation can be enhanced with the latest technology without returning the system to GEM -- resulting in both timely implementation of updates and reduced shipping / servicing costs.



About GEM Advanced Magnetometers

GEM Systems, Inc. delivers the world's only magnetometers and gradiometers with built-in GPS for accurately-positioned ground, airborne and stationary data acquisition. The company serves customers in many fields including mineral exploration, hydrocarbon exploration, environmental and engineering, Unexploded Ordnance Detection, archeology, earthquake hazard prediction and observatory research.

Key products include the QuickTracker™ Proton Precession, Overhauser and SuperSenser™ Optically-Pumped Potassium instruments. Each system offers unique benefits in terms of sensitivity, sampling, and acquisition of high-quality data. These core benefits are complemented by GPS technologies that provide metre to sub-metre positioning.

With customers in more than 50 countries globally and more than 25 years of continuous technology R&D, GEM is known as the only geophysical instrument manufacturer that focuses exclusively on magnetic technology advancement.

"Our World is Magnetic"

Specifications

Performance

Sensitivity:	0.022 nT / √Hz
Resolution:	0.01 nT
Absolute Accuracy:	+/- 0.1 nT
Range:	15,000 to 120,000 nT
Gradient Tolerance:	< 10,000 nT/m
Samples at:	60+, 5, 3, 2, 1, 0.5, 0.2 sec
Operating Temperature:	-40C to +50C

Operating Modes

Manual: Coordinates, time, date and reading stored automatically at minimum 3 second interval.

Base Station: Time, date and reading stored at 1 to 60 second intervals.

Remote Control: Optional remote control using RS-232 interface.

Input / Output: RS-232 or analog (optional) output using 6-pin weatherproof connector.

Storage - 32 MB (# of Readings)

Mobile:	1,465,623
Base Station:	5,373,951
Gradiometer:	1,240,142
Walking Mag:	2,686,975

Dimensions

Console:	223 x 69 x 240 mm
Sensor:	175 x 75mm diameter cylinder

Weights

Console with Belt:	2.1 kg
Sensor and Staff Assembly:	1.0 kg

Standard Components

GSM-19 console, GEMLinkW software, batteries, harness, charger, sensor with cable, RS-232 cable and USB adapter, staff, instruction manual and shipping case.

Optional VLF

Frequency Range: Up to 3 stations between 15 to 30.0 kHz. Parameters: Vertical in-phase and out-of-phase components as % of total field. 2 components of horizontal field amplitude and total field strength in pT.

Resolution:	0.1% of total field

GEM Systems, Inc.
135 Spy Court
Markham, ON
Canada L3R 5H6
Phone: 905 752 2202
Fax: 905 752 2205
Email: info@gemsys.ca
Web: www.gemsys.ca

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