MAR 20000005: OBED

Received date: Mar 14, 2000

Public release date: Mar 15, 2001

NTS 83F/6, 83F/11

EXPLORATION – 1999

OBED PROPERTY, ALBERTA
(CLAIM NUMBERS 9395120001 and 9395120002)

Shear Minerals Ltd.

April, 2000

P. D. Strand
M.B. Dufresne

EXPLORATION - 1999

OBED PROPERTY, ALBERTA (CLAIM NUMBERS 9395120001 and 9395120002)

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EXPLORATION - 1999

OBED PROPERTY, ALBERTA
(CLAIM NUMBERS 9395120001 and 9395120002)

SUMMARY

Shear Minerals Ltd.'s (Shear) OBED mineral property (claim numbers 939512001 and 939512002) is located 260 km west of Edmonton and about 20 km east of the town of Hinton, Alberta. Shear Minerals Ltd. acquired the property in October, 1999 from Sharata Resources Ltd., Capamal Holdings Ltd., and C.E.C. Holdings Ltd.

Past exploration conducted by APEX Geoscience Ltd. of Edmonton recovered anomalous metals and kimberlite indicator minerals in bedrock, till and stream samples, including three G9 chrome pyrope garnets (recovered from till samples), several diamond inclusion quality eclogitic G3 garnets and chromites, kimberlitic chromites, and picroilmenites. Several of the G3 eclogitic garnets and the diamond inclusion quality chromites yield some of the best chemistries seen in Alberta to date.

A large positive magnetic high, overlain by the prominent ridge in the center of the OBED Property, is flanked on the west and east sides by several linear features trending northeast-southwest and northwest-southeast. These lineaments and any point magnetic anomalies along them may represent alteration zones or local intrusions such as kimberlites or related alkaline intrusions along the lineaments. Several circular to semicircular point magnetic anomalies are visible in the magnetic data. These include three prominent magnetic features, generally isolated from the large basement feature in the center of the Property (A1-A3), and eight subtle high frequency magnetic highs and lows around the periphery of the large basement magnetic high (B-1 to B-8).

Further work is warranted on the OBED Property based upon the results of the 1997 sampling program and the preliminary identification of prominent to subtle aeromagnetic anomalies from recently obtained data. Follow-up work should include infill geophysical surveys to reduce the magnetic data line spacing to 100 metres. High priority geophysical targets should be gridded, ground geophysically surveyed and/or drill tested. The total estimated cost to conduct the infill airborne geophysical and ground geophysically surveying and drill testing of three high priority magnetic targets is approximately $40,000 excluding GST.

INTRODUCTION

Location, Physiography and Climate

The OBED property (claim numbers 939512001, 939512002 and 9398100055) of Shear Minerals Ltd. ("Shear") is in west-central Alberta, approximately 260 km west of Edmonton, and 20 km east of the town of Hinton. The property is geographically centered at about latitude 53°30'N and longitude 117°15'W, and encompasses 1:50,000 National Topographic System map areas 83F/6 and 83F/11 (Figure 1).

The OBED property lies at the eastern margin of the Rocky Mountain Foothills of the Canadian Cordillera and is drained by numerous smaller creeks which flow either west or north into the Athabasca River, or east into the McLeod River. Topographic relief ranges from about 975 m (3,200 feet) above sea level (asl) along the Athabasca River in the northwest corner of the property, to a maximum elevation of about 1,340 m (4,400 feet) asl at the OBED Mountain summit just north of the central portion of the OBED property.

Summers in west-central Alberta are moderate, with temperatures ranging up to 25°+C in July, whereas winters are typically cold, with temperatures reaching –40°C. Snow can fall as early as September, but usually comes in late October or November, with abundant snow cover that can last into late April or early May.

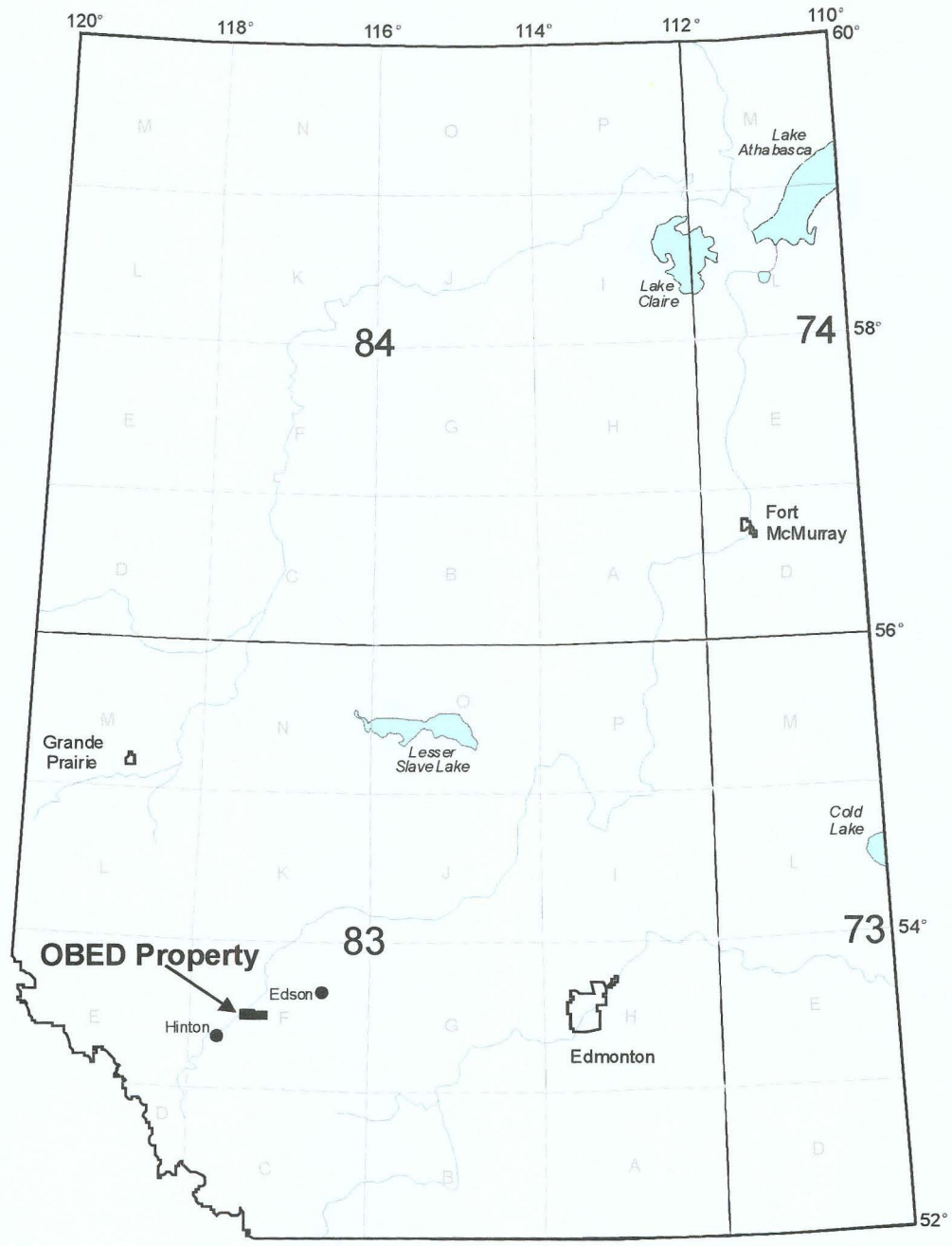
Access and Infrastructure

Access to and within the OBED property is provided by a well-maintained network of: (a) primary, paved all-weather roads; (b) secondary gravel roads; and (c) numerous seismic cut lines. The Yellowhead Highway (Highway 16 West) runs southwesterly across the northwest corner of the property. Four-wheel all-terrain-vehicles provide access to more remote parts of the property along the cut seismic lines. Accommodation, gas and food are available from the town of Hinton, about 20 km southwest of the property, or from Edson, about 55 km northeast of the property.

Previous Exploration and Geoscientific Studies

In the Hinton and OBED Mountain region, industrial minerals, such as sand, gravel, clay, marl, limestone, gypsum and sulphur, have been exploited locally by various municipalities, individuals and companies.

Placer gold has been panned from many of the major rivers in Alberta, including the Peace, Smoky, Little Smoky, Athabasca and North Saskatchewan rivers, since the turn of the century. Some of the tributary rivers, such as the McLeod River, in the vicinity of the OBED property, are also known to contain placer gold. In most cases, the sources of the gold is unknown, but is generally believed to be from upstream localities



Map divisions expressed in the National Topographic System Grid

SHEAR MINERALS LIMITED

OBED PROPERTY

LOCATION

Scale 0 100 200 Km

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FIGURE 1

20000005

nearer to the Rocky Mountains or derived from paleoplacers which exist in pre-glacially deposited gravels.

In 1958, an independent prospector, Mr. Einar Opdahl, reportedly found the first diamond in Alberta in fluvial gravels near Evansburg, Alberta, east of Edson (Edmonton Journal, 1992a). Subsequently, several areas in northern and southern Alberta with anomalous diamond indicator minerals, including in a few places, microdiamonds, have been reported by companies (summarized in Dufresne *et al.*, 1996). The Mountain Lake kimberlite, located near Peace River, Alberta, was discovered by Monopros Ltd. in the early 1990s. In the Buffalo Head Hills region in north-central Alberta, 34 kimberlites have been discovered by the Ashton joint venture (Ashton Mining of Canada Ltd., Pure Gold Resources Ltd. and Alberta Energy Company Ltd.). On the Legend Property, northwest of Fort McMurray, a total of eight kimberlites have been discovered by Kennecott Canada Explorations (Kennecott) and Montello Resources (Montello). The Legend Property is currently under option by New Blue Ribbon Resources Ltd. (New Blue). Several other exploration companies, such as New Blue, Buffalo Diamonds Ltd., Marum Resources Ltd., Indocan, and New Claymore Resources Ltd. (New Claymore) are currently exploring other geologically diverse areas of Alberta.

Closer to Shear's OBED property, at least 23 diamonds were discovered in 1995 about 65 km north of Hinton in stream sediment in a Wildhay River tributary (Dufresne *et al.*, 1996; Balzer and Olson, 1997). Eight targets in this region were drill-tested by Kennecott in a joint venture with New Claymore/Troymin Resources-Montello. Results from this drilling are reported to have been negative. In October 1999, Shear acquired the three townships in the Wildhay River area covering the diamond sample sites.

Mineral Claim Status

The location, size and current expiry dates of the two mineral permits owned by Shear Minerals Ltd, are summarized in Table I.

TABLE I

OBED PROPERTY MINERAL CLAIM TABULATION

Claim Number	Location (R-Tp-Sc)	Hectares	Recorded	Expiry Date[1]
9395120001	5-22-052; 1-18	4,608	Dec. 15, 1995	Dec. 15, 1999
9395120002	5-23-052; 1-19; 20SE; 21-24	5,952	Dec. 15,1995	Dec. 15, 1999
Totals		**10,560**		

REGIONAL GEOLOGY

The OBED property is situated near the western edge of the Western Canadian Sedimentary Basin (WCSB), just east of the Rocky Mountain Foothills belt that lies between the Rocky Mountain Front Ranges of the Cordillera and the WCSB (Figure 2). Other regional structures in the vicinity include: the northwest trending axes of the Western Alberta Arch (WAA) and the Alberta Syncline, which pass near Hinton and to the east, respectively, and the northeast trending extension of the Snowbird Tectonic Zone situated north of Hinton.

Precambrian Basement

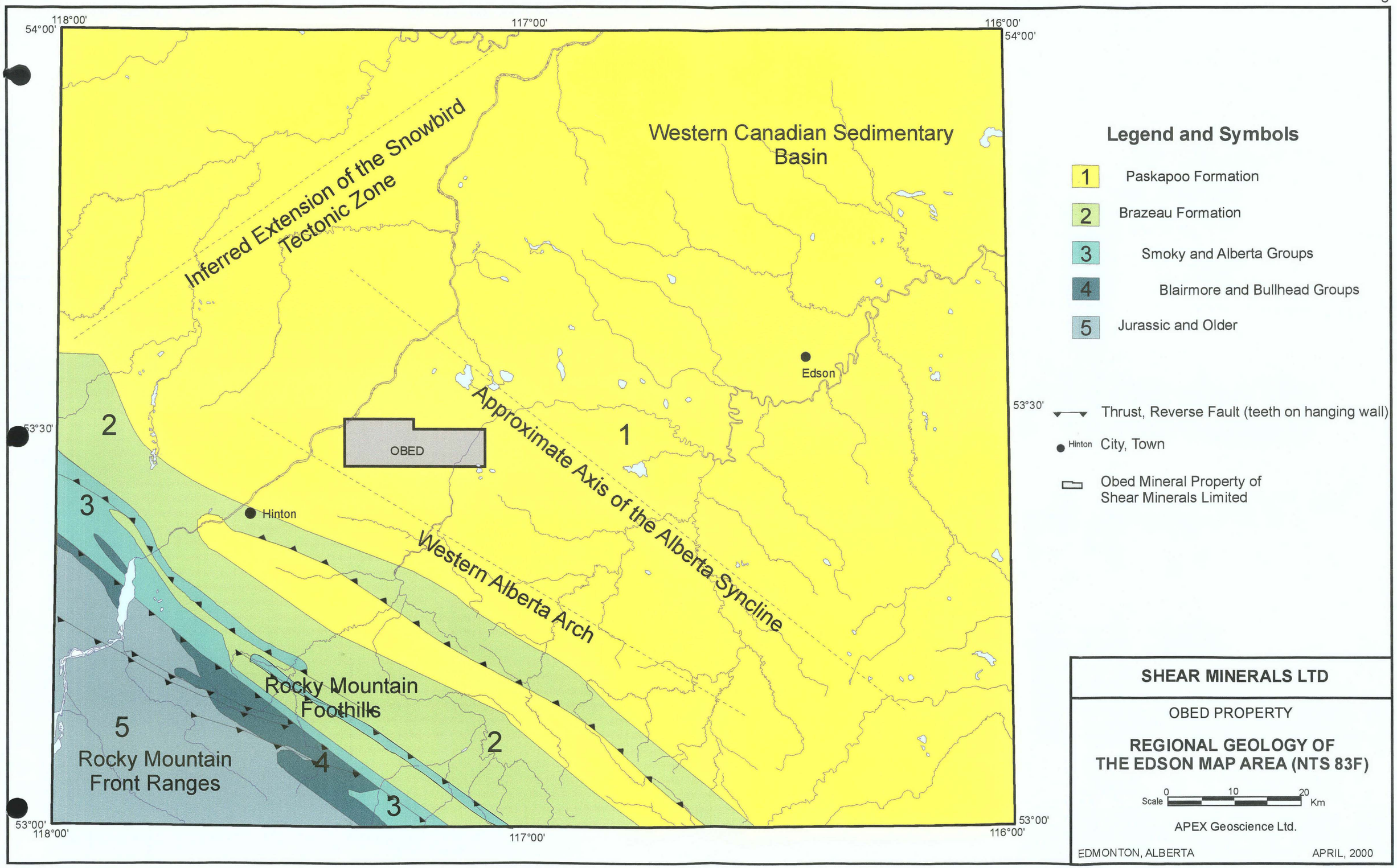
The Precambrian Basement exists approximately 5 km beneath the current topographic surface in the Hinton region (NTS 83F) and comprises two distinct magnetic terranes: the Chinchaga Terrane of lower magnetic relief to the north, and the more magnetically diverse Wabamum Terrane to the south. The age of these two terranes is inferred by Ross *et al.* (1991, 1994) to be mainly Proterozoic (2.4 to 2.0 Ga), however others (e.g., Burwash *et al.*, 1994), have suggested there is a significant Archean component.

The Chinchaga Terrane underlies the northern third of the map area, represents subducted oceanic lithosphere that was accreted to the North American continent between 2.19 and 2.09 Ga (Ross *et al.*, 1991). The Wabamun Terrane is interpreted to be a magmatic belt about 2.32 Ga in age that has largely escaped deformation (Villeneuve *et al.*, 1993). The boundary between these two terranes is believed to be a splay of the Snowbird Tectonic Zone, a major cratonic lineament that, further to the northeast, divides the Rae and Hearne Structural Subprovinces of the Churchill Province of the Precambrian Shield.

The 1: 250,000 scale regional aeromagnetic coverage for the Edson map area (Geological Survey of Canada, 1996), shows numerous magnetic anomalies throughout the Hinton region, including a positive magnetic high centred within the OBED property. The geological cause of this aeromagnetic high is uncertain, but it may be related to a deep-seated basement feature in the underlying Wabamum Terrane.

Phanerozoic

The Precambrian Basement in the Hinton region is overlain by a thick sequence of Phanerozoic rocks comprised mainly of Cretaceous sandstones and shales near surface and Mississipian to Devonian carbonates at depth (Wright, 1984; Glass, 1990). Bedrock exposure within and immediately adjacent to the OBED property is limited to


118°00'
117°00'
116°00'
54°00'
53°30'
53°00'
Inferred Extension of the Snowbird Tectonic Zone
Western Canadian Sedimentary Basin
Approximate Axis of the Alberta Syncline
Western Alberta Arch
Rocky Mountain Foothills
Rocky Mountain Front Ranges
OBED
Edson
Hinton
1
2
3
4
5
Legend and Symbols
1 Paskapoo Formation
2 Brazeau Formation
3 Smoky and Alberta Groups
4 Blairmore and Bullhead Groups
5 Jurassic and Older
Thrust, Reverse Fault (teeth on hanging wall)
Hinton City, Town
Obed Mineral Property of Shear Minerals Limited
SHEAR MINERALS LTD
OBED PROPERTY
REGIONAL GEOLOGY OF THE EDSON MAP AREA (NTS 83F)
Scale 0 10 20 Km
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APRIL, 2000

FIGURE 2

road, stream and river cuts and topographic highs. Table II shows the upper units found in the region.

The lowermost Cretaceous units present within the Edson map area comprise, from base to top, the Luscar Group, Alberta Group and the lower part of the Saunders Group (Table II). The Luscar Group comprises marine and non-marine sandstones and shales deposited during the Aptian to Albian (about 119 to 96 Ma) The group is stratigraphically equivalent to the Mannville Group in central and northeastern Alberta.

Overlying the Luscar Group is the middle to Late Cretaceous Alberta Group (or stratigraphically equivalent Smoky Group). The Alberta Group is divided into three formations, Blackstone, Cardium and Wapiabi. The Blackstone Formation, deposited between 96 to 89 Ma, is approximately 500 m thick, and consists primarily of dark marine shale and siltstone, with lesser amounts of sandstone and, in places, a few bentonite beds. The Cardium Formation, deposited between about 89 to 87 Ma, is about 80 m thick, and consists of marine sandstone, siltstone and shale. The sandstones are typically more resistant with trough cross-beds and trace fossils. The Wapiabi Formation, deposited about 87 to 74.5 Ma, is about 600 m thick, and is composed of dark grey marine shale and siltstone, and red-brown weathering sandstone with minor amounts of siltstone.

The Late Cretaceous to Tertiary (about 74.5 to 58 Ma) Saunders Group is comprised of the Brazeau, Coalspur and Paskapoo Formations, conformably overlies the Luscar Group and is predominantly of continental origin. The 1,200 m thick Brazeau Formation is composed almost solely of sandstone. The Brazeau Formation is overlain by the latest Cretaceous to Paleocene Lower and Upper Coalspur Formation that comprises an interbedded succession of sandstone, mudstone and thick coal seams that total about 600 m thick. In the Foothills, the Entrance Conglomerate exists at the base of the Lower Coalspur. The uppermost unit exposed in the Hinton region is Paleocene Paskapoo Formation, which consists of cycles of thick, tabular, buff-coloured sandstone interbedded with siltstone and mudstone (Price *et al.*, 1973). The sandstone beds range from a few metres to stacked successions greater than 60 m thick. Near the Rocky Mountain Foothills, the Paskapoo Formation can exceed 800 m in total thickness.

GEOLOGY OF THE OBED PROPERTY

Surficial Geology

Overlying the bedrock in the Hinton region is an extensive blanket to veneer of surficial deposits of late Tertiary and Quaternary age. The surficial deposits include till, glaciofluvial, glaciolacustrine and aeolian sediments, alluvium, colluvium and organics (Roed, 1970, 1975; Balzer and Olson, 1997). The oldest deposits are pre-glacial

TABLE II

STRATIGRAPHY OF THE HINTON AREA*

Period	Age	Group	Formation	Member	Thickness
Quaternary	Recent				
Tertiary	2 to 74.5 Ma	Saunders	Paskapoo		1,500 m
			Upper Coalspur		600 m
Cretaceous			Lower Coalspur (Entrance Conglomerate at base)		(12 m)
			Brazeau		1,200 m
	74.5 to 87 Ma	Alberta	Wapiabi	Nomad	600 m
				Chungo	
				Hanson	
				Thistle	
				Dowling	
				Marshybank	
				Muskiki	
	87 to 89 Ma		Cardium		80 m
	89 to 96 Ma		Blackstone		500 m
	96 to 106 Ma	Luscar	Gates	Mountain Park	400 m
				Grande Cache	
				Torrens	
			Moosebar		75 m
			Gladstone		125 m
			Cadomin		10 m
			Nikanassin		
Jurassic			Fernie		

*Table adapted from Chin and Olsen (1998)

(possibly late Tertiary) in age and restricted primarily to paleochannels, such as the one currently occupied by the Athabasca River. The oldest deposits comprise unconsolidated gravels up to tens of metres thick, with up to boulder-sized clasts. Lithologically, the gravels contain well-rounded clasts of Cordilleran origin, such as metaquartzite, carbonate and chert (Roed, 1975). Pleistocene till of Wisconsinan age is widespread over the entire Hinton region. Till thickness may locally exceed 50 m,

particularly near the Athabasca River, where drift thickness has been estimated to range from 50 m to 150 m (Fenton *et al.*, 1994). Seven tills have been identified in the Hinton to Edson region based on various lithological and granulometric properties. Two of these tills exist within the OBED property, the OBED and the Marlboro (Figure 3).

The Marlboro Till, the older of the two tills, is moderately stony with a silty, sandy-clay matrix and moderate carbonate content. The pebble and larger-sized clasts are composed mainly of quartzite, limestone and sandstone, with minor granite of possible Canadian Shield origin. Numerous flutes and drumlins in the area covered by the Marlboro Till indicate ice movement was from the west to the east, then gradually curves towards the southeast, east of the OBED property. The overlying OBED Till is associated with extensive peat deposits, particularly in lower lying regions, is very stony and has a sandy-clay matrix with a high carbonate content. The clasts in the OBED Till are composed primarily of quartzite, limestone and sandstone. The OBED Till flanks the Athabasca River and contains glacial erratics from the Athabasca Erratics Train (Roed *et al.*, 1967). Drumlins, flutes and grooves associated with the OBED Till indicated ice movement from the southwest to the northeast, following the Athabasca River valley to just north of the community of OBED, where ice movement abruptly changed course to a more southeasterly direction. The lithological composition of these tills and their associated flutes and drumlins indicate that they were both deposited by the Cordilleran Ice Sheet, hence glacial transport was from the Rocky Mountain valleys northeast onto the Interior Plains.

Glaciofluvial deposits, such as kames, kame moraines, eskers, meltwater channel deposits and outwash, are restricted to regions blanketed by the OBED Till and, in particular, to the area adjacent to the Athabasca River. Recent alluvial river sediments exist along and near major drainage systems, such as the Athabasca and McLeod Rivers, and minor stream tributaries. Peat bogs and fens may be locally extensive.

Bedrock Geology

The lithology of the Paskapoo Formation underlying the OBED property is not known with certainty due to the tick blanket of surficial sediments. Bedrock exposure is less than one areal percent of the property. Where exposed, the bedrock is predominantly sandstone, with subordinate amounts of calcareous siltstone, limestone, coal and conglomerate.

The outcropping Paskapoo Formation sandstones within the OBED property, are pale grey-brown weathering, medium-grained, well-sorted and calcareously cemented. Grains are moderate to well rounded, with a bulk composition of lithic arenite to quartz arenite. The sandstones are massively bedded or planar tabular cross-bedded. Along Highway 16 West, other prominent sedimentary structures are seen in road cuts, including trough cross-bedding, foreset bedding and graded bedding. Other features

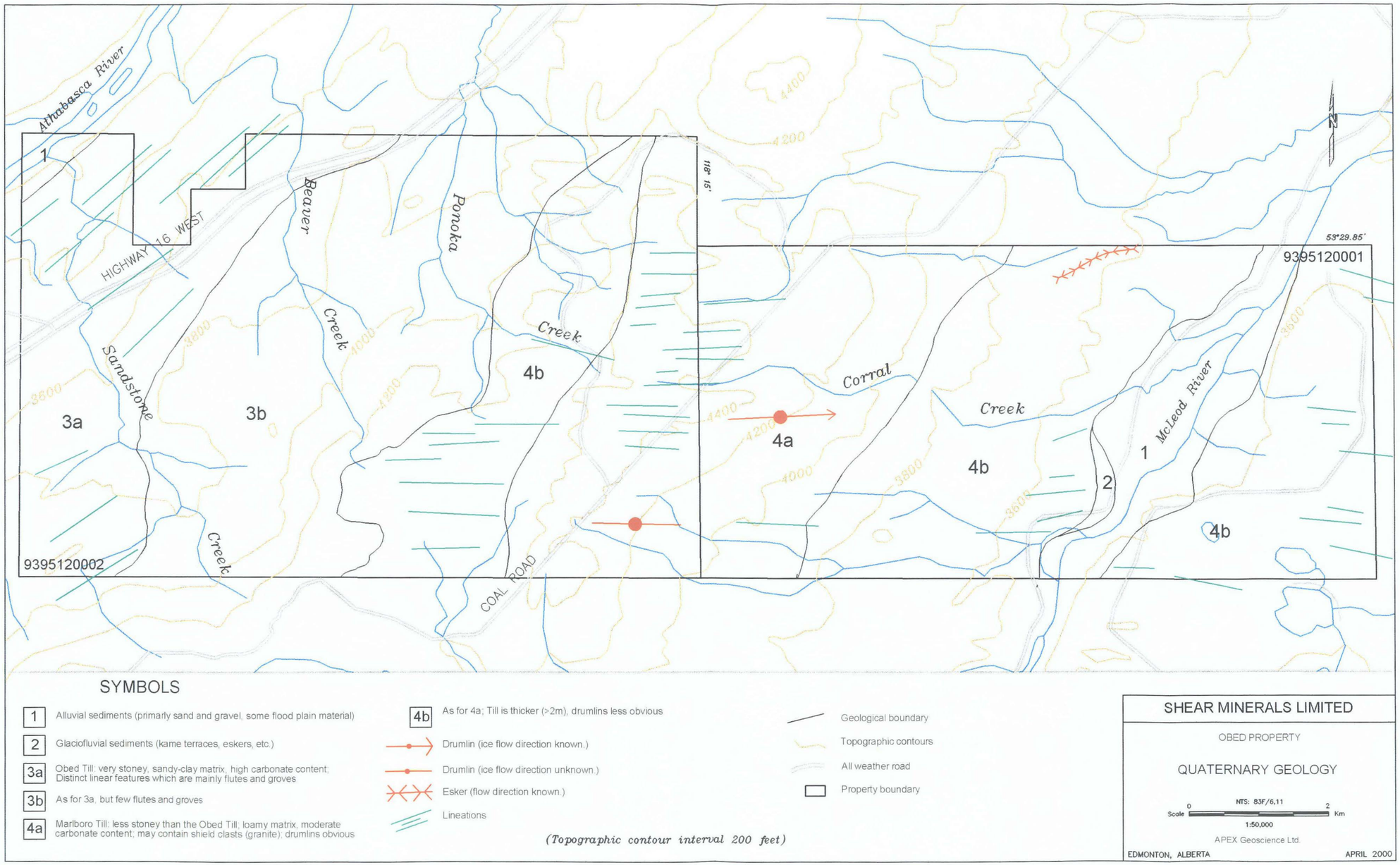
R. 23

R. 22

10

Tp. 52

Tp. 51



SYMBOLS

- 1 — Alluvial sediments (primarily sand and gravel, some flood plain material)
- 2 — Glaciofluvial sediments (kame terraces, eskers, etc.)
- 3a — Obed Till: very stoney, sandy-clay matrix, high carbonate content; Distinct linear features which are mainly flutes and groves
- 3b — As for 3a, but few flutes and groves
- 4a — Marlboro Till: less stoney than the Obed Till; loamy matrix, moderate carbonate content; may contain shield clasts (granite); drumlins obvious
- 4b — As for 4a; Till is thicker (>2m), drumlins less obvious

Drumlin (ice flow direction known.)

Drumlin (ice flow direction unknown.)

Esker (flow direction known.)

Lineations

(Topographic contour interval 200 feet)

Geological boundary

Topographic contours

All weather road

Property boundary

SHEAR MINERALS LIMITED

OBED PROPERTY

QUATERNARY GEOLOGY

NTS: 83F/6,11

Scale 0 2 Km

1:50,000

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FIGURE 3

present in the sandstones include large (up to 2 m) siliceously cemented concretions, rusty weathering oxidized horizons and, in a few places, channel-lag conglomerate deposits. Little alteration, other than local silicification, is present.

The siltstones are predominantly calcareous and massive, with occasional planar tabular bedding, and range in colour from pale yellowish-brown to dark black-brown depending upon the organic content. Conglomerate occurs in only a few locations within the OBED property. Coal seams were discovered at four sites, but it is doubtful if coal seam thicknesses exceed 0.5 m; the lateral extent of these seams is unknown. Limestones in the OBED property are not exposed at surface, but were identified in some of the cuttings from the percussion drilling. These limestones are probably of freshwater origin and are laterally extensive in the southwest part of the OBED property.

1997 EXPLORATION RESULTS

In June 1997, APEX Geoscience Ltd. spent 39 man-days sampling, prospecting and reconnaissance geological mapping within the OBED property. The property was systematically prospected along existent road cuts, seismic cut lines and drainage systems. Outcrop is scarce and mainly occurs in road cuts or along cut lines, riverbanks and steep drainages. A total of 46 outcrops were discovered in or near the OBED property; all were prospected and geologically examined.

During the 1997 exploration program, a total of 38 stream silt, 5 rock grab, 35 heavy mineral stream sediment and 11 heavy mineral till samples were collected from the OBED property. During this period Amoco Canada Petroleum Company Ltd. drilled 232 percussion holes at 145 sites within the property. The drill cuttings from this program were geologically logged by APEX.

Four of the 38 stream silt samples were anomalous, containing up to 132 parts per billion (ppb) gold, 1.0 parts per million (ppm) cadmium, 3,123 ppm manganese, 13 ppm copper, 2.0 ppm silver and 563 ppm strontium. These anomalous samples were re-assayed by Bondar-Clegg to test the initial results. Although the new results were lower, three of the four samples still yielded anomalous to possibly anomalous concentrations.

Rock grab samples were collected from several outcrops within the OBED property. Twenty-four samples were collected for reference purposes. Only two of the five samples submitted for analysis yielded anomalous results. One sample yielded 1.0 gram silver per tonne (g Ag/t). The other sample contained 398 ppm lead, 603 ppm zinc, 6.3 ppm cadmium and 154 ppm chromium. Neither one of the samples are considered highly anomalous.

The 35 heavy mineral stream sediment and 11 heavy mineral till samples were superpanned for placer gold grains and processed for diamond indicator minerals. A total of 324 gold grains were counted from the stream silt (258 grains) and the till (66 grains) samples. Nineteen of the stream sediment samples yielded 6 to 26 gold grains apiece with grains ranging in length from 20 to 560 µm and in width from 20 to 300 µm. Five of the till samples yielded 6 to 14 gold grains apiece with grains ranging in length from 40 to 300 µm and in width from 20 to 280 µm. The highest concentrations of gold grains are within samples clustered around the central part of the property or just east of the McLeod River near the property's eastern margin. One anomalous heavy mineral stream sediment sample is coincident with a gold anomaly in a silt stream sample.

Of the 46 heavy mineral stream sediment and till samples processed, electron microprobing revealed that 13 contained DIMs of definite or probable anomalous chemistries (Figure 4). These silicate grains include: (a) eclogitic garnets, (b) chrome-rich G9 pyropic garnets, (c) one chrome-rich diopside, and (d) several grains of high titanium and high chromium grossular garnets. A large number of chromites with chemistries well within the diamond inclusion field were found in almost all of the samples. In addition, two picro-ilmenites with favourable chemistries were also found in both a till and a stream sediment sample.

In summary, 22 stream sample sites produced a gold anomaly in either the stream silts (6 up to 132 ppb Au at 4 sites) or the superpanned heavy mineral stream sediments (6 up to 26 gold grains at 19 sites; I site coincident with a stream silt sample). Five additional gold anomalies were found in the superpanned till samples. The diamond indicator results show that several grains from the OBED property samples have anomalous DIM chemistry indicative of possible deep-seated mantle origin, and the possibility that kimberlite or lamproite diatremes may exist in subcrop. There is a reasonable possibility that an intrusive kimberlitic or lamproitic body with diamondiferous mantle xenoliths may exist within or in close proximity to Shear's OBED property.

WORK CONDUCTED IN 1999

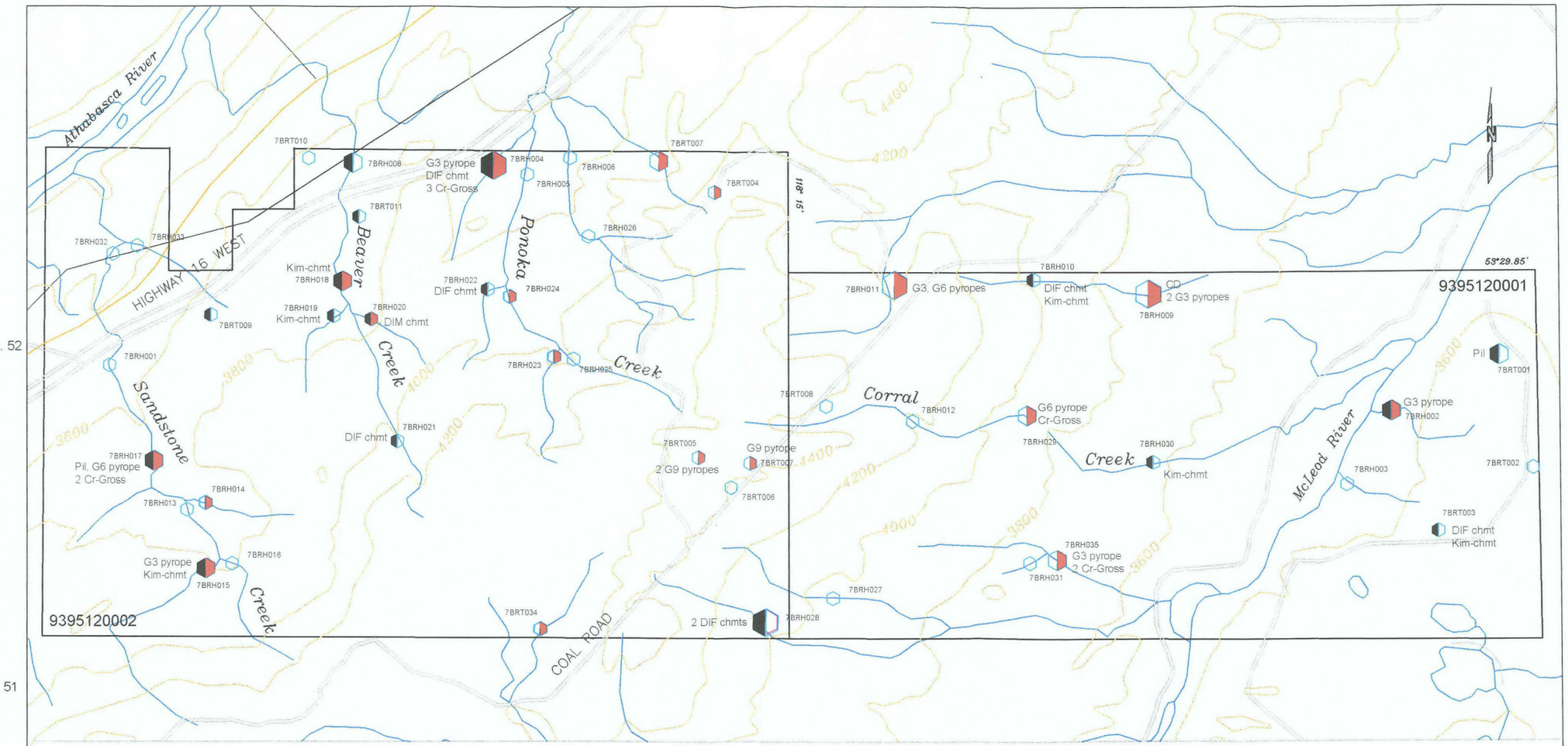
Airborne Geophysical Survey

During late 1999, high resolution fixed-wing airborne geophysical magnetic data was acquired for the OBED permits by Shear Minerals Ltd. The geophysical survey was flown by Spectra Aviation Services. Processing and final leveling of the geophysical data was performed by Spectra Exploration Geoscience Corp. APEX conducted the initial interpretation of airborne data to delineate targets for follow-up exploration including lineaments potentially indicative of cross-cutting structures

R. 23 R. 22

Tp. 52

Tp. 51



SYMBOLS

7BRH004 — Definitely Anomalous Diamond Indicator Mineral Sample Site which has at least 2 grains (silicate in red and oxide in black, or both) that are "Definite Indicators" (see Appendix XII); sample identifier.

7BRH002 — Probably Anomalous Diamond Indicator Mineral Sample Site which has at least 1 grain (silicate in red or oxide in black) that is a "Definite Indicator" (see Appendix XII); sample identifier.

7BRT003 — Possibly Anomalous Diamond Indicator Mineral Sample Site which has at least 1 grain (silicate in red or oxide in black) that is a "Possible (or Questionable) Indicator" (see Appendix XII); sample identifier.

7BRH010 — Sample site that produced no anomalous indicator mineral grains; sample identifier.

(Topographic contour interval 200 feet)

Property boundary

All-weather road

Terminology
chmt = chromite
Cr-Gross = chrome grossular
DIF = diamond inclusion field
Kim = kimberlitic
Pil = picro-ilmenite

SHEAR MINERALS LIMITED

OBED PROPERTY

DIAMOND INDICATOR MINERAL ANOMALY HIGHLIGHTS

NTS: 83F/6,11

Scale 0 2 Km

1:50,000

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FIGURE 4

(Figures 5, 6 and 7) and point magnetic anomalies potentially indicative of kimberlites or related intrusions (Figures 7 and 8).

Preliminary Results

A large positive magnetic high, which is likely the result of a basement magnetic feature, is centered within the OBED Property (Figures 5 and 6). The prominent ridge in the center of the OBED Property roughly overlies the prominent basement magnetic high. Flanking the west and east sides of this positive magnetic high are several linear features trending northeast-southwest and northwest-southeast (Figures 5 and 6). These lineaments potentially are related to subtle cross-cutting structures as they are orthogonal to the regional folding and thrust belt, cutting across the known strike of the bedrock. Several of the lineaments appear to be offset. These lineaments and any point magnetic anomalies along the lineaments are good candidates for follow-up exploration as the associated magnetic anomalies may represent alteration zones or local intrusions such as kimberlites or related alkaline intrusions along the lineaments.

A number of circular to semicircular point magnetic anomalies are also visible in the magnetic data. These anomalies are shown on Figures 7 and 8, and are described in Table 3. Anomalies A-1 to A-3 represent 3 large (up to 700 or 800 m diameter) prominent magnetic features that for the most part are isolated from the large basement feature in the center of the OBED Property. Anomaly A-1 is adjacent to Highway 16 and A-3 is adjacent to a well site and pipeline. Both of these anomalies may be the result of culture, however, anomaly A-2 is unexplained and warrants follow-up exploration. Anomalies B-1 to B-8 represent a series of much more subtle high frequency magnetic highs and lows that exist around the periphery of the large basement magnetic high. These anomalies have the appearance of piercing the basement magnetic high and, therefore, they may be the result of subtle variations in the basement magnetics or they may be the related to near-surface geological features such as local kimberlitic intrusions or concentrations of magnetite or pyrrhotite related to paleoplacer accumulations in Cretaceous or Tertiary sediments (or Quaternary material), or related to post-depositional alteration along faults. A number of the these subtle magnetic anomalies such as B-3, B-5, B-6 and B-7 do not appear to be related to any local culture and, therefore, warrant follow-up exploration. Anomalies B-2 and B-4 exist adjacent to Highway 16 but they also line up along property size lineaments and may warrant follow-up exploration.

Many of the diamond indicator minerals recovered during 1997, including three G9 chrome pyrope garnets (recovered from till samples), a number of diamond inclusion quality eclogitic G3 garnets, a number of diamond inclusion quality chromites, as well as a few kimberlitic chromites, and a couple of picroilmenites were recovered from stream sediment samples collected from creeks draining the main ridge at the center of the OBED Property. Several of the G3 eclogitic garnets and the diamond inclusion quality chromites yield some of the best chemistries seen in Alberta to date.

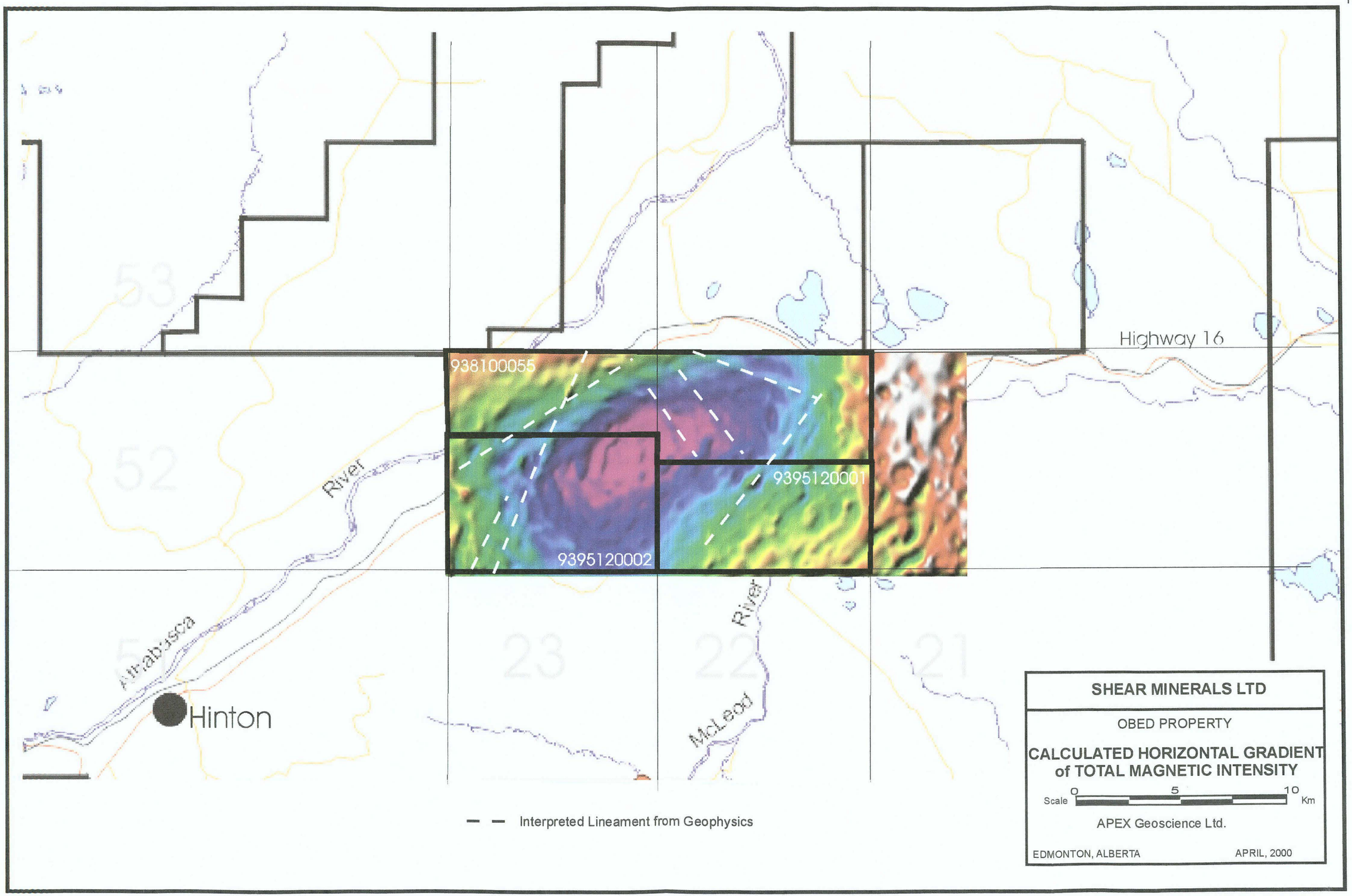
Highway 16
938100055
9395120001
9395120002
Athabasca River
Hinton
McLeod River
53
52
23
22
21
— — Interpreted Lineament from Geophysics
SHEAR MINERALS LTD
OBED PROPERTY
CALCULATED HORIZONTAL GRADIENT
of TOTAL MAGNETIC INTENSITY
Scale 0 5 10 Km
APEX Geoscience Ltd.
EDMONTON, ALBERTA
APRIL, 2000

Figure 5

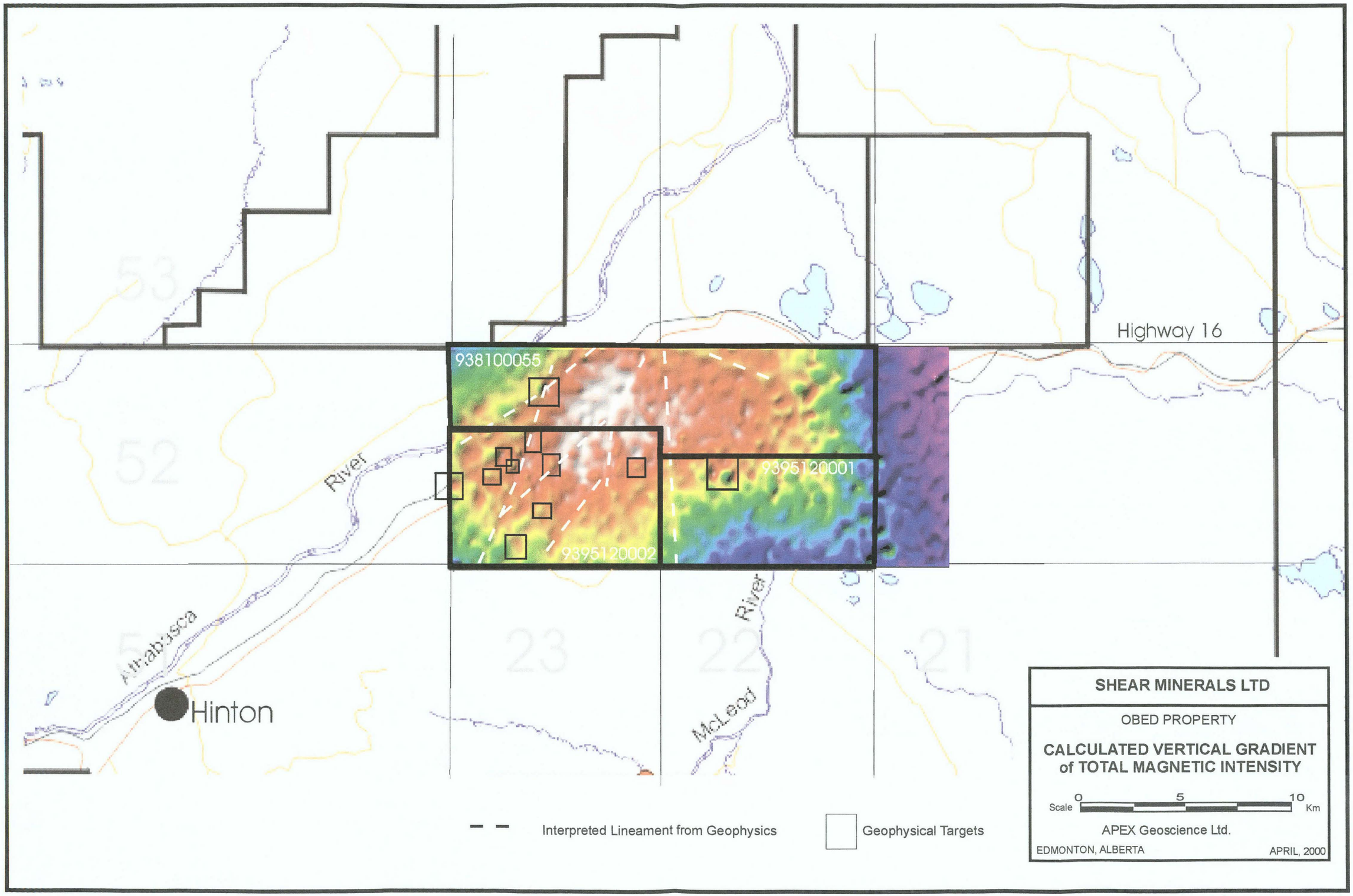
Highway 16
938100055
9395120001
9395120002
River
Athabasca
Hinton
River
McLeod
53
52
23
22
21
Interpreted Lineament from Geophysics
Geophysical Targets
SHEAR MINERALS LTD
OBED PROPERTY
CALCULATED VERTICAL GRADIENT
of TOTAL MAGNETIC INTENSITY
Scale 0 5 10 Km
APEX Geoscience Ltd.
EDMONTON, ALBERTA
APRIL, 2000

Figure 6

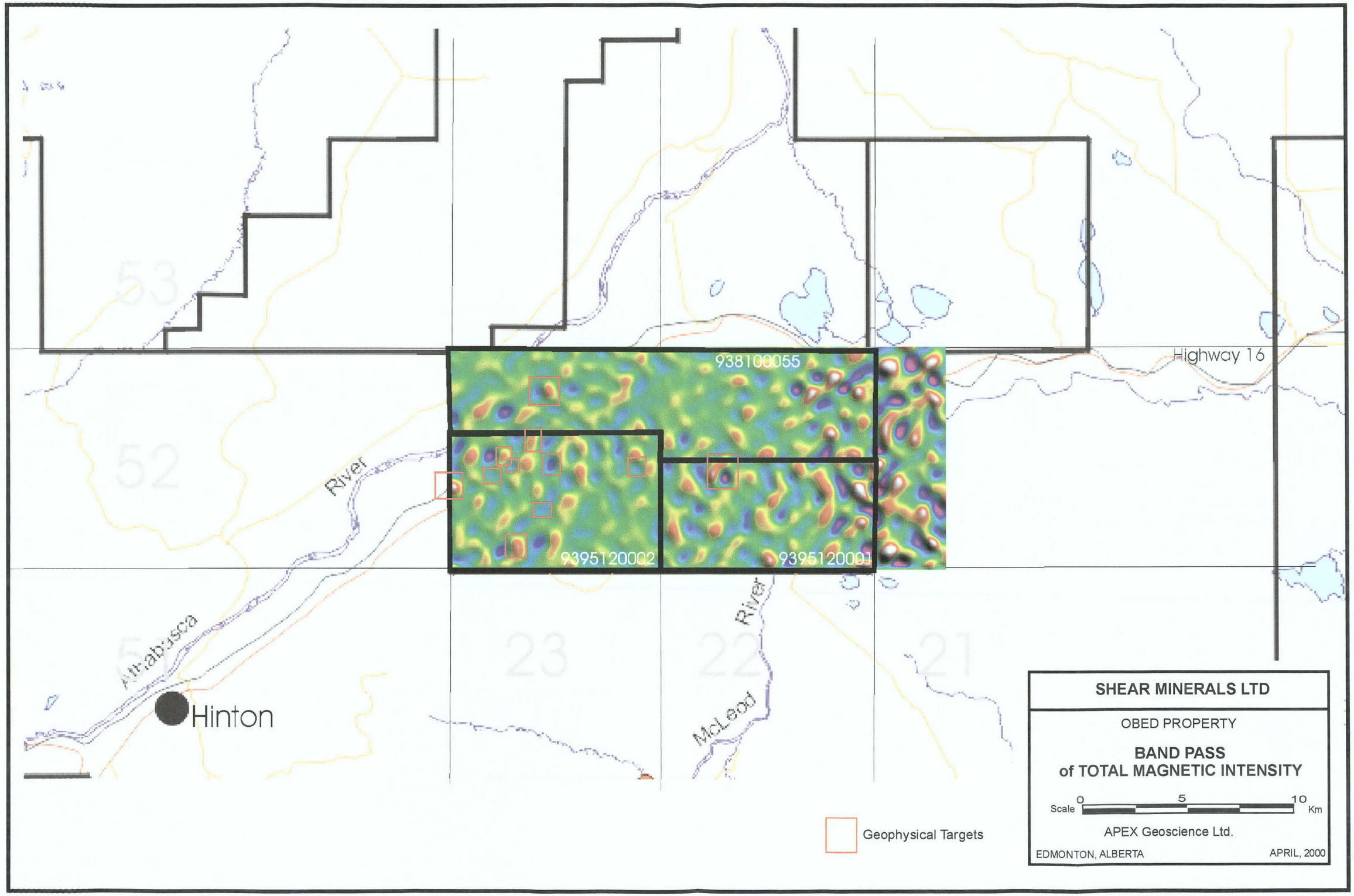
938100055
9395120002
9395120001
Highway 16
River
Athabasca
Hinton
McLeod
River
53
52
23
22
21
Geophysical Targets
SHEAR MINERALS LTD
OBED PROPERTY
BAND PASS
of TOTAL MAGNETIC INTENSITY
Scale 0 5 10 Km
APEX Geoscience Ltd.
EDMONTON, ALBERTA
APRIL, 2000

Figure 7

R. 23

R. 22

18

Tp. 52

Tp. 51

Athabasca River

HIGHWAY 16 WEST

Beaver Creek

Ponoka Creek

Sandstone Creek

Corral Creek

McLeod River

COAL ROAD

118° 15'

53°29.85'

9395120001

9395120002

A1

A2

A3

B1

B2

B3

B4

B5

B6

B7

B8

3600

3800

4000

4200

4400

N

SYMBOLS

A1 — Geophysical anomaly; identifier
A = primary targets; yellow = secondary targets

Property boundary

All-weather road

(Topographic contour interval 200 feet)

SHEAR MINERALS LIMITED

OBED PROPERTY

GEOPHYSICAL ANOMALIES

NTS: 83F/6,11

Scale 0 2 Km

1:50,000

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EDMONTON, ALBERTA APRIL, 2000

FIGURE 8

TABLE III

FOLLOW-UP GEOPHYSICAL TARGETS

Target ID	Location		Type	Comment
	Easting	Northing		
A-1	473598	5925881	Low	Large prominent low beside the old highway; culture?
A-2	479552	5931189	Dipole	Large good looking dipole anomaly north of the highway, no culture
A-3	489291	5926527	Low - Dipole	Large prominent magnetic low/dipole anomaly, well and pipeline close by, culture?
B-1	476644	5926527	Low	Weak low on band pass (BP) and vertical gradient (VG) maps, no culture
B-2	477382	5927634	High - Dipole	Weak to moderate high near highway along NE trending lineament, culture?
B-3	477798	5927034	Low	Weak low beside B-2 beneath creek, no culture
B-4	478905	5928419	High	Weak to moderate high near highway but at junction of NE and N trending lineaments, culture?
B-5	479967	5927034	Low	Prominent low on BP and VG maps beneath north draining creek, no culture
B-6	479460	5924588	Low	Weak low along NW lineament on BP and vertical gradient VG maps
B-7	478121	5922558	High	Moderate high on BP and VG maps at junction of NW and NE trending lineaments, near old coal road
B-8	484721	5926850	Low	Weak low on BP and VG maps near end of access road off of old coal road, culture?

These grains are likely derived from a kimberlite or closely related intrusion that exists somewhere in the region. Several of the subtle magnetic anomalies exist in close proximity to the highly anomalous sample sites from the 1997 exploration program (Figures 4 and 8) and, therefore, warrant follow-up exploration.

CONCLUSIONS AND RECOMMENDATIONS

Further work is warranted on the OBED Property based upon the results of the 1997 sampling program in conjunction with the preliminary identification of a number prominent to subtle magnetic anomalies from recently obtained airborne geophysical data. Further infill geophysical surveys should be conducted in order to the reduce the currently wide spaced magnetic data down to a cross line spacing of 100 metres in order to better delineate and rank the existing magnetic anomalies. The estimated cost to conduct the infill geophysical surveys is $10,000.

The geophysical targets delineated from the recently acquired wide spaced geophysical data should be ground checked for any cultural causes. In addition, the possibility of obtaining existing seismic data for several of the higher priority targets should be investigated as numerous seismic cut lines transect the property. Once the infill airborne geophysical survey and ground truthing are conducted the resulting high priority geophysical targets should be gridded, ground geophysically surveyed and/or they should be drill tested using a water-well drill rig. Depending upon access and the local ground conditions, the cost of ground geophysics over each target can be similar in cost to water-well drill testing each target. Therefore, the decision to ground geophysically survey each target should be based upon the quality and ranking of the geophysical targets after the detailed infill airborne survey is conducted. The estimated cost to ground geophysically survey and drill test three high priority magnetic targets on the OBED Property is approximately $30,000 excluding GST.

PERMIT TO PRACTICE
APEX Geoscience Ltd.
Signature
Date April 26 2000
PERMIT NUMBER: P-5824
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

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Edmonton, Alberta
April, 2000

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CERTIFICATION

I, P. D. STRAND OF [redacted], EDMONTON, ALBERTA, CERTIFY AND DECLARE THAT I AM A GRADUATE OF THE UNIVERSITY OF TORONTO WITH A B.SC. DEGREE IN GEOLOGY (1988) AND THE UNIVERSITY OF WESTERN ONTARIO WITH A M.SC. DEGREE IN ECONOMIC GEOLOGY (1993). I AM REGISTERED AS A PROFESSIONAL GEOLOGIST WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS OF ALBERTA.

MY EXPERIENCE INCLUDES SERVICE AS A RESEARCH ASSISTANT AND GEOLOGIST WITH NUMEROUS EXPLORATION COMPANIES IN CANADA FROM 1986 TO 1994; AS A DISTRICT GEOLOGIST WITH THE DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT, NWT GEOLOGY DIVISION FROM 1994 TO 1997; AND AS VICE PRESIDENT OF PINNACLE RESOURCES (1996) LTD. FROM 1997 TO 1998. I AM CURRENTLY SERVING AS THE PRESIDENT OF SHEAR MINERALS LTD.

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PROFESSIONAL GEOLOGIST ALBERTA
PAMELA D. STRAND

P.D. STRAND, M.SC., P.GEOL.

APRIL, 2000
EDMONTON, ALBERTA

CERTIFICATION

I, M.B. DUFRESNE OF [redacted] EDMONTON, ALBERTA, CERTIFY AND DECLARE THAT I AM A GRADUATE OF THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON WITH A B.SC. DEGREE IN GEOLOGY (1983) AND A GRADUATE OF THE UNIVERSITY OF ALBERTA WITH A M.SC. DEGREE IN ECONOMIC GEOLOGY (1987). I AM REGISTERED AS A PROFESSIONAL GEOLOGIST WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS OF ALBERTA.

MY EXPERIENCE INCLUDES SERVICE AS AN EXPLORATION GEOLOGIST WITH THE DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT, YUKON, FROM 1983 TO 1985. FROM 1986 TO 1993, I HAVE CONDUCTED AND DIRECTED PROPERTY EXAMINATIONS AND EXPLORATION PROGRAMS ON BEHALF OF COMPANIES AS A GEOLOGIST IN THE EMPLOY OF R.A. OLSON CONSULTING LTD. AND ITS PREDECESSOR COMPANY TRIGG, WOOLLETT, OLSON CONSULTING LTD. OF EDMONTON, ALBERTA. SINCE JANUARY 1994, I HAVE CONDUCTED AND DIRECTED PROPERTY EXAMINATIONS, PROPERTY EVALUATIONS AND EXPLORATION PROGRAMS ON BEHALF OF COMPANIES AS A PRINCIPAL IN APEX GEOSCIENCE LTD.

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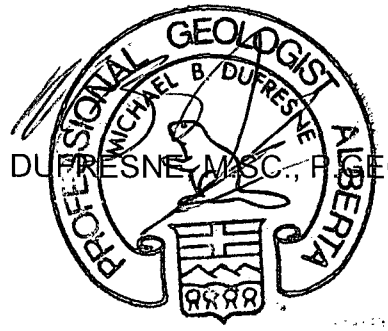

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