MAR 20000018: ATHABASCA

Received date: Jul 10, 2000

Public release date: Jul 19, 2001

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JUL 10 2000

NTS 83I

ASSESSMENT REPORT
ATHABASCA PROPERTY, NORTHERN ALBERTA
MINERAL PERMIT 9398030076

Prepared for

BOHAUTU DIAMONDS LTD.

APEX Geoscience Ltd.

July, 2000

S.A. Balzer
D.J. Besserer

ASSESSMENT REPORT
ATHABASCA PROPERTY, NORTHERN ALBERTA
MINERAL PERMIT 9398030076

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ASSESSMENT REPORT
ATHABASCA PROPERTY, NORTHERN ALBERTA
MINERAL PERMIT 9398030076

SUMMARY

APEX Geoscience Ltd. (APEX), was retained during the Fall of 1998, as consultants by Bohautu Diamonds Ltd. (Bohautu) to prepare an independent evaluation of the diamond potential of their Athabasca Property. The Athabasca Property lies about 24 km southeast of Calling Lake and 24 km northeast of the town of Athabasca in Townships 68 - 69, Ranges 19 - 20, West of the Fourth Meridian.

The regional setting for Bohautu's Athabasca property is considered favourable for the presence of diamondiferous kimberlites, as the permits are underlain by an unnamed basement domain with gravity and magnetic signatures similar to those of the Buffalo Head Terrane and Wabamun Terrane. In addition, the permit area is in close proximity to the northeast trending Snowbird Tectonic Zone, a major crustal fault and shear zone. This regional structural setting is 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.

However, recent exploration by APEX on behalf of Bohautu has not indicated the presence of local kimberlites at the Athabasca Property. The limited amount and quality of the diamond indicator minerals (DIMs) obtained to date, the majority of which were collected from fluvial gravel deposits, has no known source within the property. Aeromagnetic surveying failed to detect any high quality/priority magnetic targets that may be related to kimberlite or other similar intrusions. In addition, drilling and ground geophysical surveying conducted in the southeastern portion of the property proximal to and up-ice of samples yielding confirmed DIMs did not delineate any kimberlites or related intrusives.

Although the regional geological setting for Bohautu's Athabasca Property is favourable for the preservation of diamonds and / or emplacement of kimberlite, the results obtained to date from exploration conducted on the property do not indicate the presence of kimberlites or associated intrusives. Based on the results to date, one target exists as a low priority for follow–up exploration. No other work is warranted at this time on the property.

INTRODUCTION

Terms of Reference

APEX Geoscience Ltd. (APEX), was retained during Fall 1998, as consultants by Bohautu Diamonds Ltd. (Bohautu) to prepare an independent evaluation of the diamond potential of Bohautu's Athabasca Property. This evaluation has been prepared on the basis of available published and unpublished material and field work conducted by APEX personnel at Bohautu's Property between 1998 and February 2000.

Property Description and Location

The legal description for the Athabasca Property, which comprises 8,436 hectares, is provided in Table 1. Situated along the Athabasca River, the Athabasca Property lies about 24 km southeast of Calling Lake and 24 km northeast of the town of Athabasca (Figure 1). The Athabasca Property is within the Tawatinaw Lake 1:250,000 scale National Topographic System (NTS) map sheet 83I, specifically 83 I/14 and I/15 1:50,000 scale NTS map sheets.

TABLE 1. LEGAL PERMIT DECRIPTION, ATHABASCA PROPERTY

Permit No.	Issue Date	Expiry Date	Legal Description			
			Twp.	Rg.	W. of	Section*
9398030076	Mar. 13, 1998	Mar. 13, 2000	68	19	4	19; 30; 31
			68	20	4	20-29; 32-36
			69	19	4	6; 7NEP; 18N,SE,SWP
			69	20	4	1S, NW; 2S,NWP,NE; 3S,NP; 4; 5;8; 9; 10N,SEP,SW; 11SP,NW,NEP; 12NWP; 13SP,N; 14-17

*P = portions lying outside of Pine Sands Natural Area

Accessibility, Climate and Local Resources

The Athabasca Property may be accessed via numerous all season roads and cutlines that service the gas wells, pipelines and country dwellings in the area. The cut lines are accessible using quads during the summer and fall, and snow mobiles during the winter. Accommodation, food and supplies are best obtained in Athabasca or Calling Lake, about 24 km southwest and 26 km northeast, respectively, of the property.

The Athabasca Property lies within the Alberta Plain physiographic zone (Klassen, 1989). Elevation in the immediate vicinity of the Athabasca Property ranges from 518 m above sea level (asl) along the Athabasca River to 610 m asl in the southeastern portions of the property. Numerous creeks and streams drain the property into the Athabasca

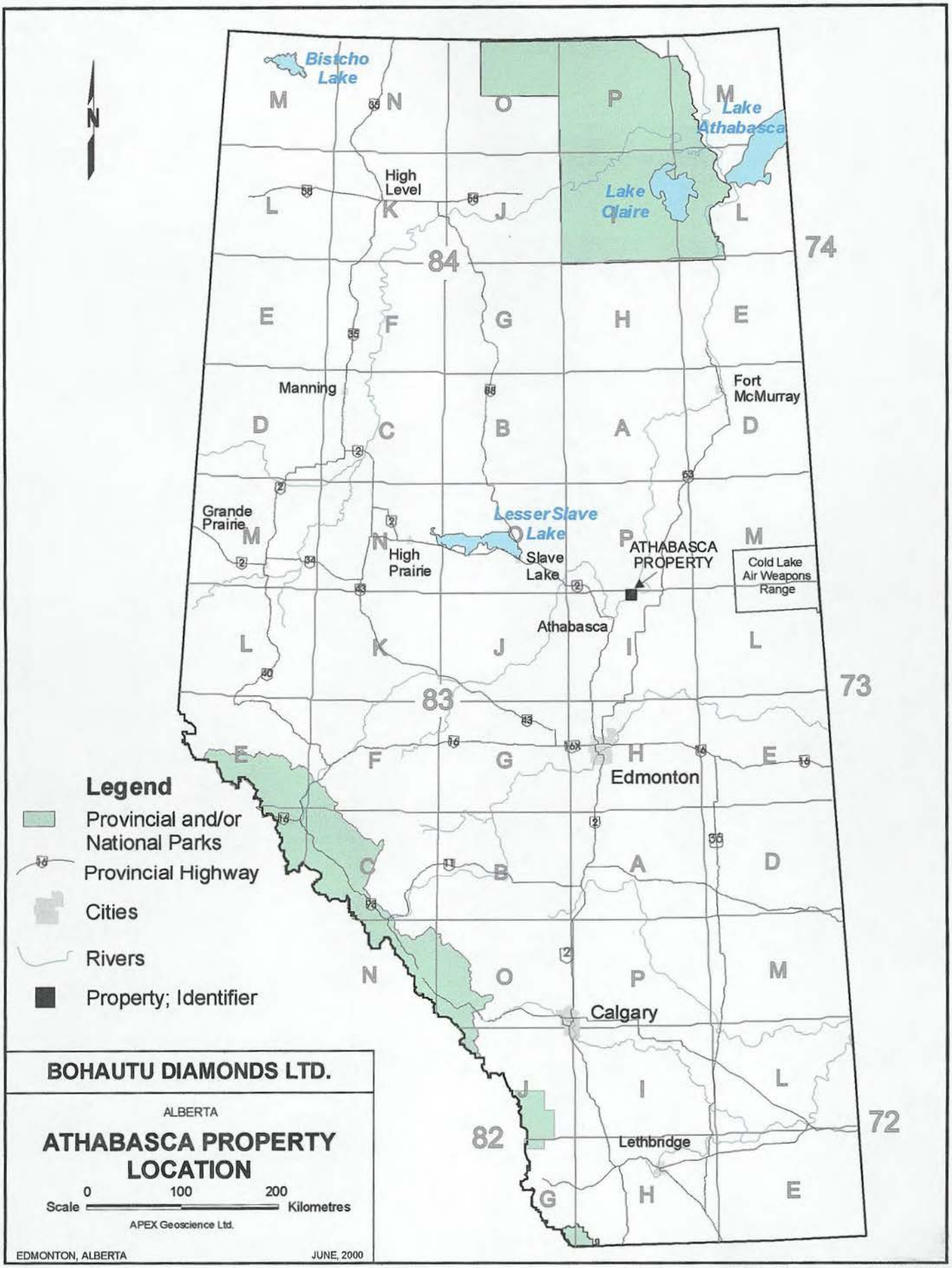

Bistcho Lake
Lake Athabasca
High Level
Lake Claire
74
84
Manning
Fort McMurray
Grande Prairie
Lesser Slave Lake
High Prairie
Slave Lake
ATHABASCA PROPERTY
Cold Lake Air Weapons Range
Athabasca
73
83
Edmonton
Calgary
82
Lethbridge
72
Legend
Provincial and/or National Parks
Provincial Highway
Cities
Rivers
Property; Identifier
BOHAUTU DIAMONDS LTD.
ALBERTA
ATHABASCA PROPERTY LOCATION
0 100 200
Scale Kilometres
APEX Geoscience Ltd.
EDMONTON, ALBERTA
JUNE, 2000

FIGURE 1

River, which passes through the northern half of the property. Average annual temperatures range from -22°C in January to 16°C in July. The majority of the area is covered by boreal forest comprised of spruce and jack pine and open fields/ farm land (Borneuf, 1973). Small, northeast to southwest elongated muskegs, ponds and topographic highs typify the area south of the Athabasca River.

REGIONAL GEOLOGICAL SETTING

Precambrian

The Athabasca Property lies in the Western Canadian Sedimentary Basin along the southern flank of the Peace River Arch (PRA). Precambrian rocks are not exposed within the Tawatinaw Lake area (NTS 83I). The basement underlying the Athabasca Property comprises part of an unnamed domain situated between the Buffalo Head Terrane (BHT), Wabamun Terrane, Thorsby Low and Taltson Magmatic Zone (TMZ) (Figure 2). 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 BHT is an area of high positive magnetic relief with a north to northeasterly fabric (Villeneuve *et al.,* 1993). Ashton Mining of Canada Inc.'s (Ashton) diamondiferous kimberlites are underlain by basement of the BHT. The Wabamum 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 basement just northeast of the Athabasca Property has been interpreted to be part of the Talston Magmatic Zone (Figure 2). The Taltson Magmatic Zone (TMZ) is a 2.0 to 1.8 Ga aged terrane that represents a magmatic arc related to collisional orogeny during the Proterozoic. It is unclear whether the TMZ represents a deep-seated thermal welt between two distinct protocontinents or a discreet thin-skinned thrust slice that has been emplaced over the top of the basement of the Rae Subprovince, as has been proposed for the Trans-Hudson orogenic belt in Saskatchewan (Hajnal *et al.*, 1993). The TMZ is characterised by a highly corrugated internal fabric comprised of extremely high relief, north to northwest trending sinuous magnetic anomalies. Villeneuve *et al.* (1993) indicate that the western boundary of the TMZ is not obvious based upon geophysical data and has been placed using zircon ages from a couple of basement drill cores.

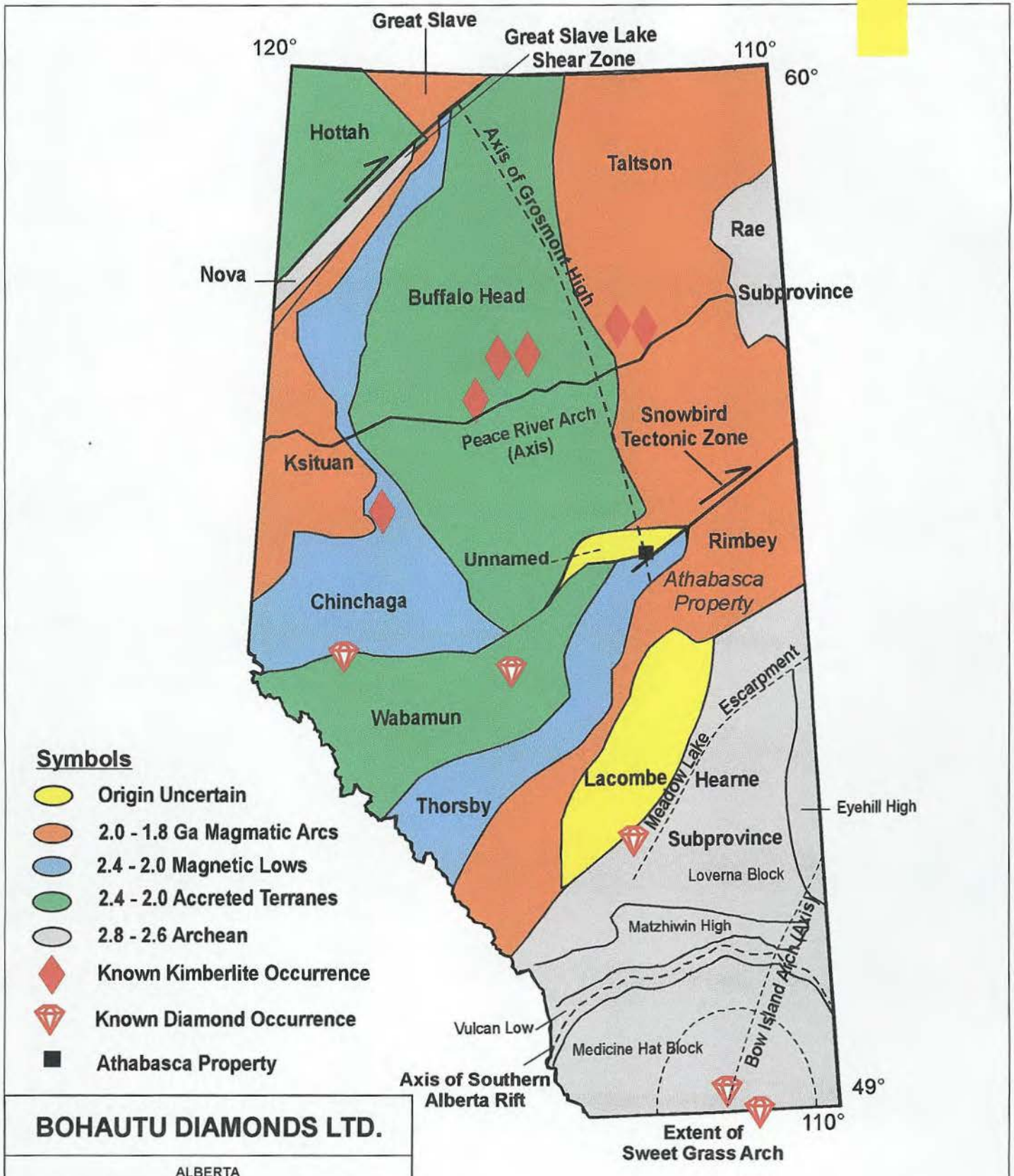

Great Slave
Great Slave Lake
Shear Zone
120°
110°
60°
Hottah
Axis of Grosmont High
Taltson
Rae
Subprovince
Nova
Buffalo Head
Peace River Arch
(Axis)
Snowbird
Tectonic Zone
Ksituan
Rimbey
Unnamed
Athabasca
Property
Chinchaga
Wabamun
Escarpment
Meadow Lake
Lacombe
Hearne
Eyehill High
Thorsby
Subprovince
Loverna Block
Matzhiwin High
Bow Island Arch (Axis)
Vulcan Low
Medicine Hat Block
Axis of Southern
Alberta Rift
49°
110°
Extent of
Sweet Grass Arch
Symbols
Origin Uncertain
2.0 - 1.8 Ga Magmatic Arcs
2.4 - 2.0 Magnetic Lows
2.4 - 2.0 Accreted Terranes
2.8 - 2.6 Archean
Known Kimberlite Occurrence
Known Diamond Occurrence
Athabasca Property
BOHAUTU DIAMONDS LTD.
ALBERTA
BASEMENT GEOLOGY
0 100 200
Scale Kilometres
APEX Geoscience Ltd.
EDMONTON, ALBERTA
JUNE, 2000
(Modified after Ross et al., 1991)

FIGURE 2

Directly south of the Athabasca Property, 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 (Figure 2). 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).

The Athabasca Property lies within an area with an intermediate to high residual gravity signature. Seismic refraction and reflection studies indicate that the crust in the Tawatinaw 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 exists proximal to the area (Helmstaedt, 1993).

Phanerozoic

Overlying the basement in the Tawatinaw 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 block is limited primarily to river cuts along the Athabasca River. 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 (Green *et al.*, 1970; Borneuf, 1973; Glass, 1990; Mossop and Shetson, 1994).

Underlying the near surface Cretaceous units in the Tawatinaw 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 east of Lesser Slave Lake to the N.W.T. (Bloy and Hadley, 1989). The Grosmont Reef Complex is likely the result of tectonic uplift along this trend during the Devonian. This structure, in conjunction with the PRA, may have played a significant role in the localisation of faults and other structures that could have provided favourable pathways for kimberlite volcanism.

In general, the Cretaceous strata underlying the Athabasca Property is composed of alternating units of marine and nonmarine sandstones, shales, siltstones, mudstones and bentonites. The oldest documented units exposed in the vicinity of the permit area belong to the Smoky Group, a sequence of Upper Cretaceous, calcareous and noncalcareous shales (Figure 3).

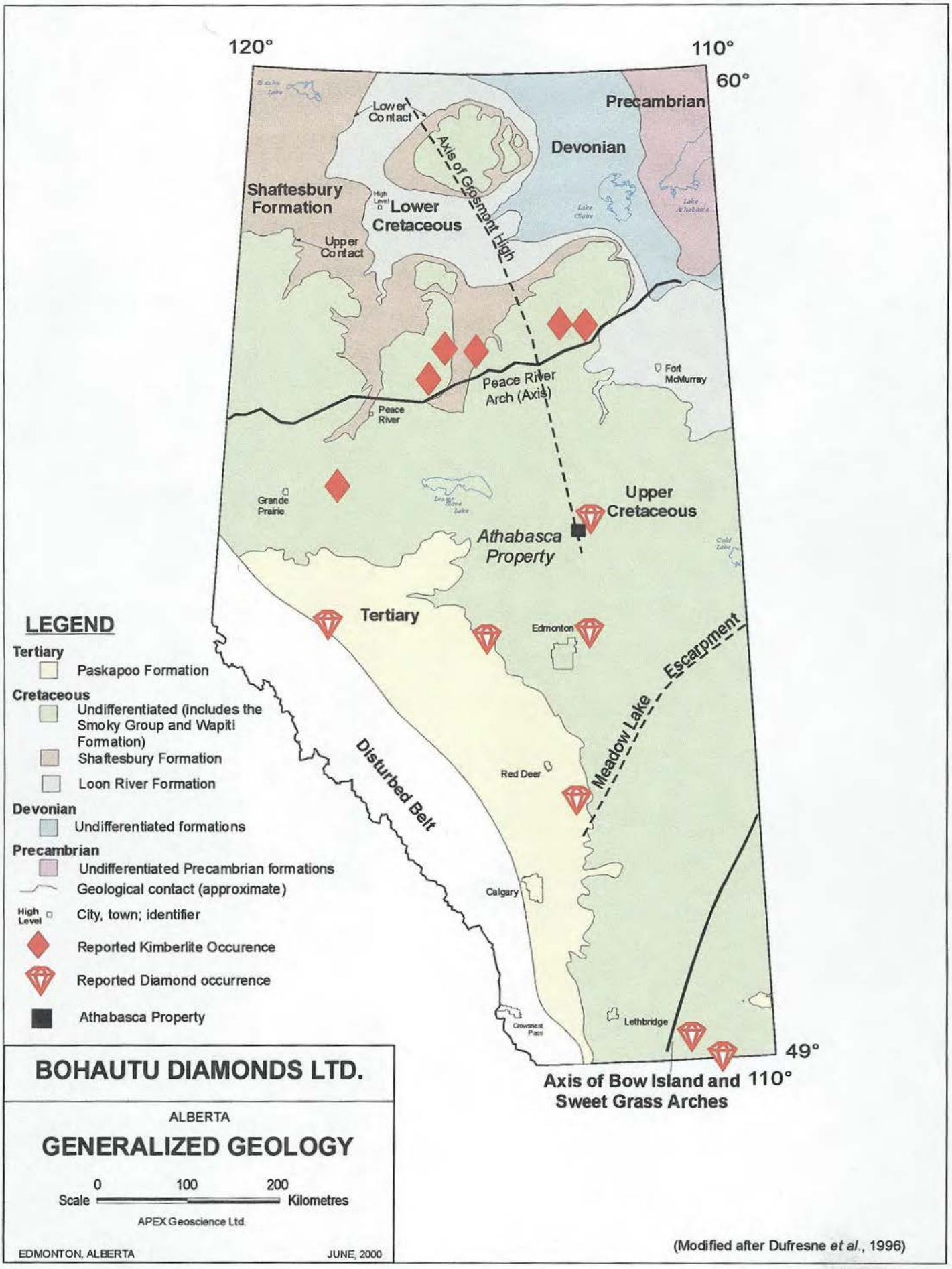

120°
110°
60°
Precambrian
Lower Contact
Axis of Grosmont High
Devonian
Shaftesbury Formation
High Level
Lower Cretaceous
Upper Contact
Peace River Arch (Axis)
Fort McMurray
Peace River
Grande Prairie
Upper Cretaceous
Athabasca Property
Tertiary
Edmonton
Escarpment
Meadow Lake
Disturbed Belt
Red Deer
Calgary
Crowsnest Pass
Lethbridge
49°
110°
Axis of Bow Island and Sweet Grass Arches
LEGEND
Tertiary
Paskapoo Formation
Cretaceous
Undifferentiated (includes the Smoky Group and Wapiti Formation)
Shaftesbury Formation
Loon River Formation
Devonian
Undifferentiated formations
Precambrian
Undifferentiated Precambrian formations
Geological contact (approximate)
High Level
City, town; identifier
Reported Kimberlite Occurence
Reported Diamond occurrence
Athabasca Property
BOHAUTU DIAMONDS LTD.
ALBERTA
GENERALIZED GEOLOGY
0 100 200
Scale
Kilometres
APEX Geoscience Ltd.
EDMONTON, ALBERTA
JUNE, 2000
(Modified after Dufresne et al., 1996)

FIGURE 3

TABLE 2. GENERALIZED STRATIGRAPHY, TAWATINAW LAKE 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

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

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 (SWS) 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). The top of the SWS also culminates with evidence of a significant increase in volcanism, based on the volume and number of bentonite units in the vicinity. It is conceivable that this volcanism may have been in conjunction with or a prelude to gradual uplift and non-deposition of the missing Smoky Group formations. 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 yield emplacement ages of 86 to 88 Ma (Auston, 1998; Carlson *et al.*, 1998). In addition, recently discovered kimberlites in the Birch Mountains by Kennecott Canada Exploration Inc. (Kennecott) in a joint venture with Montello Resources Ltd. (Montello) and Redwood Resources Inc. (Redwood) are reported to yield emplacement ages of about 82 Ma (Northern Miner, 1998). Bedrock exposures in the Athabasca Property are likely comprised of the Puskwaskau Formation, the upper portion of which may have been partially eroded

by glaciation. Exposures of the Smoky Group are limited to river cuts along the Athabasca River.

The youngest bedrock unit that may be exposed in the Tawatinaw Lake area is the Wapiti Formation 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. It is uncertain whether the Wapiti Formation is present within the Athabasca Property. Smaller outliers or remnants of the Wapiti Formation are known to be present south and west of the property (Green *et al.*, 1970; Borneuf, 1973).

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 Tawatinaw 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, fluvial sand and gravel was deposited preglacially in these channels.

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 Athabasca Property are possible. The surficial geology of the Athabasca Property likely comprises primarily glacial sediments, namely till and glaciofluvial ice contact and outwash deposits and postglacial lake, fluvial, colluvial and organic sediments. Glacial sediments infilled low-lying and depressional areas, draped topographic highs and covered much of the Tawatinaw Lake area as veneers and/or blankets of till and diamict. Streamlined ridges and ponds within the morainal sediments indicate a strong southwesterly ice flow of the Laurentide Ice Sheet during the Late Wisconsinan.

North of the property, organics and reworked till form a large swath suggestive of the movement of large amounts of water that may be glacial or post-glacial in origin. This pathway is subparallel to parallel with the north-south trend of the Athabasca River. Sand is abundant within this swath area, suggesting that the swath may be a glacial outwash plain and part of a large and broad meltwater channel. The sand and gravel exposures in the southern half of the Athabasca Property may be remnants of glacial outwash from this meltwater pathway.

Glacial ice is believed to have receded from the area between 15,000 and 10,000 years ago. After the final glacial retreat, lacustrine clays and silts were deposited in low-lying regions. 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. Aeolian

sediments may be present as smaller patches within the reworked morainal or outwash units in the southern half of the Athabasca Property.

The majority of the Athabasca Property is covered by drift of variable thickness, averaging 20 to 45 m (Pawlowicz and Fenton, 1995a,b). However, local drift thicknesses can not be confirmed without detailed compilation of available drill hole 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 Athabasca Property lie along the southeastern flank of the PRA and are underlain by and proximal to basement faults related to the STZ and the underlying Grosmont Reef Complex, which formed over the Grosmont High (Bloy and Hadley, 1989; Dufresne *et al.*, 1996). There is strong evidence that basement faults that have manifested themselves in the overlying Phanerozoic sedimentary succession may have controlled the emplacement of the Mountain Lake Kimberlite and the Buffalo Head Hills kimberlites west of the Athabasca Property (Dufresne *et al.*, 1996; Leckie *et al.*, 1997). Structures observed on the Athabasca Property resulting from tectonic activity associated with movement along the PRA, Grosmont High, STZ or even along contacts between different basement terranes could be pathways for kimberlitic volcanism.

PREVIOUS EXPLORATION

The bulk of exploration in the Tawatinaw Lake region has been restricted primarily to oil sands, gas and groundwater. Geological mapping and airborne geophysical surveys have been conducted by various government agencies and companies in the past as part of large regional studies (Green, 1970; Hamilton *et al.,* 1998). In addition, oil, gas and water well logs have been compiled by various Alberta government agencies into drift thickness, bedrock topography and paleochannel maps (Borneuf, 1973; Pawlowicz and Fenton, 1995a,b; Dufresne *et al.*, 1996). Only recently has the focus of exploration been redirected towards diamonds (Dufresne *et al.*, 1996). The Geological Survey of Canada (GSC) and the Alberta Geological Survey (AGS) have conducted reconnaissance till

sampling for diamond indicator minerals in Alberta since 1991. During 1991 and 1992, the GSC collected 17, 30 kg till samples within the Tawatinaw Lake map area (83I) as part of a regional study on diamond indicator mineral trends (Dufresne *et al.,* 1996). Two till samples, 23-1-2-T and 23-3-1-T, were collected southeast of the Athabasca Property. One of the till samples, 23-3-1-T yielded two diamond indicator minerals (DIMs) of interest, a G3 pyrope garnet and a chrome diopside. The source of these DIMs is unknown. More recently, public companies such as New Claymore Resources Ltd. and Buffalo Diamonds Inc. have been exploring for diamonds in the Athabasca and Calling Lake areas (M.B. Dufresne, *pers. comm.*, 2000).

1998-2000 EXPLORATION

Exploration conducted by APEX on behalf of Bohautu between December 1998 and February 2000 consisted of two, reconnaissance diamond indicator sampling campaigns, ground magnetic surveying and drilling. In 1999, Terraquest Ltd. (Terraquest) flew a fixed-wing, high resolution, aeromagnetic (HRAM) survey over the property (Barrie, 1999). Expenditures to May 15, 2000, not including current report expenditures, total $36,114.44 and are described in Appendix 1.

Surface Sampling

Limited reconnaissance diamond indicator mineral sampling was completed in two phases in December 1998 and September 1999 (Figure 4; Appendix 2). A total of 12 samples, 11 till (8LCT702 to 8LCT704, 9DCT201 to 9DCT206, and 9DCT208) and one sand/gravel (9DCT207), were collected by APEX personnel at the Athabasca Property in December 1998 and September 1999. Five rock grab (MD-03 to MD-07), two clay (CG509 and LS3) and five gravel samples (01AB, 02AL, 04AL, 05AB and 06AB) were also collected by Ms. C. Lega of Bohautu, from various locations on the property (Figure 4).

Surface sampling consisted of manually collecting 25 to 30 kg samples of glacial till from road sections and sand/gravel in gravel pits. The till samples were generally collected by clearing a section about 0.50 m wide and 1 to 1.5 m deep. The sample was collected from the bottom of the section in order to get as far below the soil profile and the associated weathering and iron-stained horizon. The sand/gravel samples were collected from exposed sections of active gravel pits. All till and sand/gravel samples collected were processed 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, picked, and analysed by the Saskatchewan Research Council (SRC) in Saskatoon, Saskatchewan. The microprobe data and scatter plots for the diamond indicator minerals is presented in Appendix 3. The results of certain picked and confirmed diamond indicator minerals are presented on Figure 4.

The five rock grab samples (MD-3 to MD-7) were sent to GR Petrology Consultants Inc. (GR) in Calgary for basic petrographic descriptions (Appendix 4). In addition, both of the clay samples, CG509 and LS3, were sent to SRC for ICP analysis, the results of which are presented in Appendix 5.

Geophysical Surveys

During July 19 to 21, 1999, Terraquest Ltd. (Terraquest) flew a high-resolution fixed-wing aeromagnetic survey over the Athabasca Property (Figure 4). A total of 638 line-km were flown at an altitude of about 60 m above ground or canopy. North-south trending flight lines were spaced 200 m apart with east-west tie lines every 1 km. Preliminary processing of the Terraquest magnetic data was conducted by Terraquest personnel. Interpretation of the data by APEX personnel resulted in the identification of several low priority magnetic anomalies.

Airborne magnetic anomalies within the Athabasca Property, which were identified from the Terraquest airborne geophysical survey, were ground truthed in September 1999 during the sampling program. One of the anomalies, located in a lake/slough, was selected for more detailed examination by ground geophysics on January 19, 2000. A two-man APEX crew conducted a ground magnetic survey over the Slough Grid with a pair of Gem Systems GSM-19 magnetometers. An 800 m by 600 m grid was centered over the approximate geographic centre of the airborne magnetic anomaly (Figure 4). Cross lines were spaced at 200 m along the baseline with a station spacing of 50 m. All magnetic data was corrected for diurnal variation using an in-field base station.

Drilling and Subsurface Sampling

The 2000 winter drilling program comprised four days of overburden drilling between January 17 and 20 in order to recover till and bedrock material for diamond indicator sampling. A total of two core holes were drilled (DH-1 and DH-2) about 30 m apart in a gravel pit (Albert's Pit) using Elk Point Drilling Corp.'s XTD Top Drive Failing Rig (Figure 4). Drill site locations, picked by the property permit holders, were based on three factors. These factors were the presence of DIMs in sample 9DCT207, a poorly defined and very weak aeromagnetic anomaly situated within the area, and the circular appearance of the drill site locations. A shale shaker was used to capture the necessary cuttings for visual identification and geochemical and DIM analyses. A total of 170.69 m (560 ft.) were drilled and although drill cuttings were recovered from the top to the bottom of the drill holes, only about 20 kg of core cuttings were bagged as character samples for each hole. The geological logs, sample intervals and drill hole depths are compiled in Appendix 6.

DISCUSSION OF RESULTS TO DATE

Surface Sampling

Nine of the samples collected by APEX personnel for DIM processing yielded a number of DIMs including chrome diopsides, chromites, ilmenites, and grossular, almandine and pyrope garnets (Figure 5; Appendix 3). Samples yielding picked and confirmed DIMs appear to be restricted to the southeast corner of the property. The best results were obtained from gravel sample 9DCT207, which yielded a total of seven confirmed DIMs, including three G9 Chrome pyropes. Till sample 9DCT205, located southeast of 9DCT207, yielded a single G10 Chrome pyrope.

The source of the DIMs in the samples is uncertain. Till samples yielding DIMs do not appear to be part of a distinct dispersal fan and seem randomly dispersed within a confined region of the property. The most DIMs were collected from a gravel deposit of possible glaciofluvial or fluvial origin. DIMs obtained from fluvial deposits, particularly large gravel deposits, are often concentrated into pockets or lags. Unfortunately, the source of the DIMs within these deposits is difficult to determine. If the gravel is pre-glacial in origin, DIMs within may have been incorporated into the base of glacial ice and re-deposited down-ice in till. The DIMs in pre-gravel would likely have come from a source much further up-stream. If the gravel is glacial in origin, the source of the DIMs is likely not too far up-stream and up-ice of the sample location. In either case, it is impossible to determine how far up-ice or upstream the source of the DIMs is due to a lack of samples in the northern half of the property.

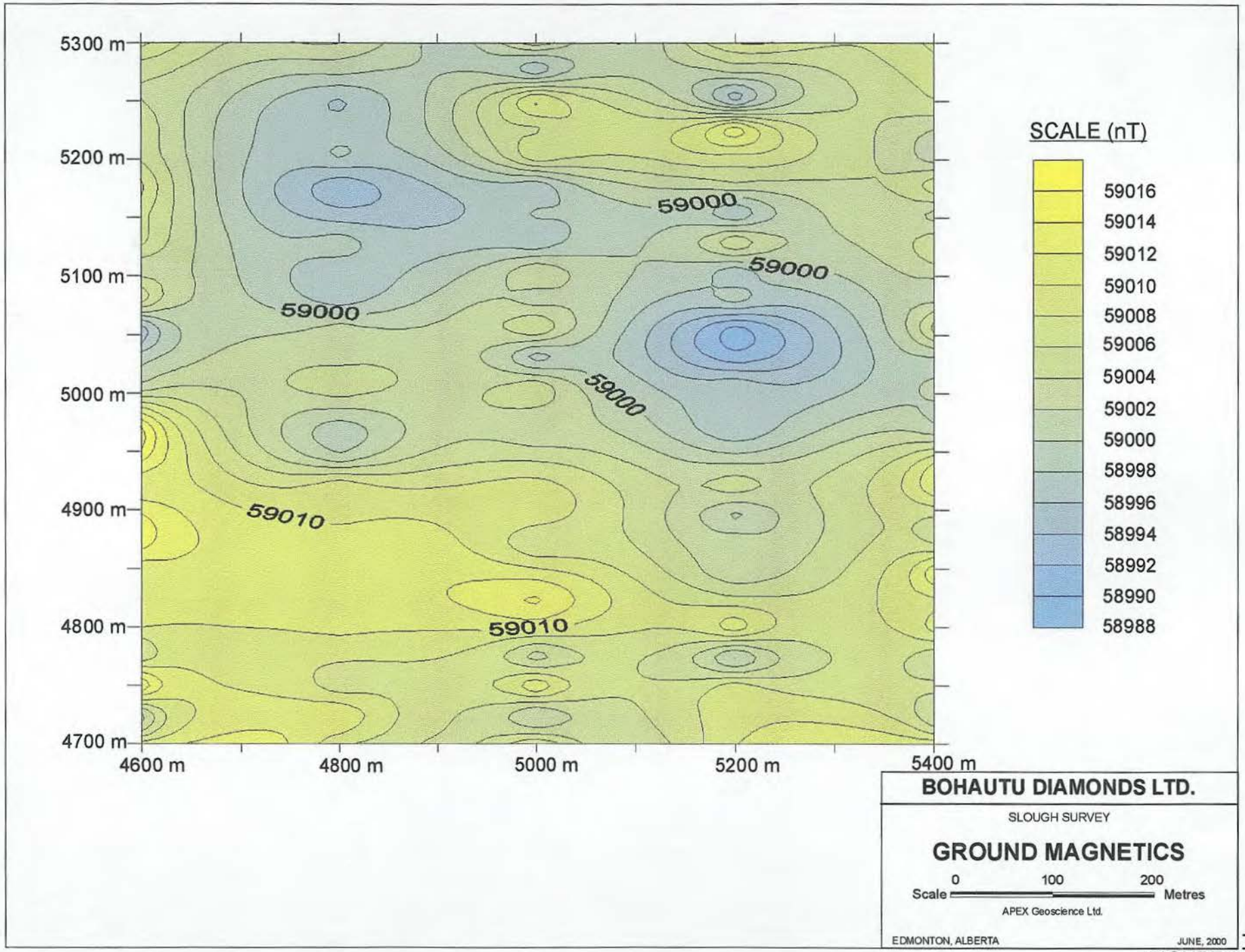
Petrographic analysis of the five rock grab samples yielded a variety of rock types including chert breccia, pumice, calcareous volcanic ash and andesite with gabbroic breccia (Appendix 4). No kimberlitic or related intrusives were found. The ICP analysis of the selected clay samples did not provide chemistries indicative of kimberlitic or related intrusions (Appendix 5).

Geophysical Surveys

The Terraquest airborne survey indicated that the majority of the property comprises a magnetic low with little variation in magnetic signature. However, the survey did delineate several isolated, circular and linear aeromagnetic highs, the majority of which were related to culture and drainage (Figures 6 to 8). The linear magnetic highs appear to be related to current and previous drainage systems. Several of the circular aeromagnetic highs along these linear trends are coincident with exposed gravel deposits. It is likely that the magnetic signature of other circular aeromagnetic highs in the area may also be related to gravel and sand deposits.

A ground magnetic survey was conducted at the Slough Grid, a swampy region in the southeastern corner of the property (Figure 9). The Slough Grid is located over a circular aeromagnetic low ringed by magnetic highs. The ground magnetic survey showed a similar magnetic signature to that of the aeromagnetic survey, namely, a magnetic low surrounded by highs. The magnetic low does not appear to contain characteristics suggestive of a kimberlite or related intrusive. It is possible that the magnetically higher areas of the Slough Grid may be related to current or previous fluvial or lacustrine deposition within the swamp.

More detailed information on the stratigraphy of the area is required to properly assess whether the circular anomalies that are not situated along the linear features are drainage related. However, the results obtained from sampling and drilling in the area to date, suggest that the remaining aeromagnetic targets are of low to very low priority as potential kimberlite targets.


5300 m
5200 m
5100 m
5000 m
4900 m
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SCALE (nT)
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58988
BOHAUTU DIAMONDS LTD.
SLOUGH SURVEY
GROUND MAGNETICS
0
100
200
Scale
Metres
APEX Geoscience Ltd.
EDMONTON, ALBERTA
JUNE, 2000

FIGURE 9

Drilling and Subsurface Sampling

The drilling program conducted at one of the circular, aeromagnetic highs on the Athabasca Property did not intersect any kimberlites or related rocks (Figure 4). Character/ representative drill cuttings recovered from the two holes were logged and bagged (Appendix 6).

The drill holes intersected over 50 m of overburden comprised of shaley to clayey till with abundant granite clasts and interbedded sand and gravel of probable glaciofulvial or pre-glacial fluvial origin. The sand and gravel units vary from small lenses to over 20 m (60 ft) thick sequences. In DH-2, the upper 30.5 m of the overburden comprises till, while the lower portion comprises sand. The basal contact of the till in DH-1 and the sand in DH-2 appears to be gradational with the underlying silty shale. Small sand and gravel lenses and lags were noted within the shale in DH-1 at depths over 60 m (200 ft).

The drill cuttings were collected from units of little interest for kimberlite exploration and therefore, did not warrant geochemical analysis and/or DIM processing. No further work was conducted on the samples.

DISCUSSION OF DIAMOND POTENTIAL

The Athabasca Property is underlain by Upper Cretaceous shales of the Smoky Group. More importantly, the Athabasca Property lies in close proximity to the southern limits of the Buffalo Head Terrane, the axis of the Grosmont High and the trend of the Snowbird Tectonic Zone. Periodic tectonic activity associated with any of these structures could have provided the mechanism and pathways for intrusion of kimbertlitic magma during the Upper Cretaceous.

A limited amount of high quality DIM's have been recovered to date from the Athabasca property, including G1, high Cr G9, and G10 pyropic garnets, Cr-diopsides, and kimberlitic chromites. The majority of the confirmed DIMs were obtained from a fluvial deposit and have likely been moved and re-deposited a number of times. The source of the DIMs from the gravel and till samples is unknown. Aeromagnetic surveying indicated the presence of only a few low priority targets, the majority of which are culture or drainage related. Drilling and ground geophysical surveying at and just up-ice of samples yielding DIMs failed to delineate any kimberlite pipes or associated intrusives.

The potential for discovery of diamondiferous kimberlites, within or in close proximity to Bohautu's Athabasca property, is considered low based upon the following: (a) the thick cover of overburden in the area, (b) the limited number and quality of diamond indicator minerals that have been recovered to date from the area, (c) the poor drilling results, and (d) the lack of high quality magnetic anomalies beneath and in the vicinity of anomalous diamond indicator sites.

CONCLUSIONS

The regional setting for Bohautu's Athabasca property is considered favourable for the presence of diamondiferous kimberlites as the permits are underlain by an unnamed basement tectonic domain with gravity and magnetic signatures similar to those of the BHT and Wabamun Terrane. In addition, the permit area is in close proximity to the northeast trending Snowbird Tectonic Zone, a major crustal fault and shear zone. This regional structural setting is 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.

However, recent exploration by APEX on behalf of Bohautu has not indicated the presence of local kimberlites at the Athabasca Property. The limited amount and quality of the DIMs obtained to date, the majority of which were collected from fluvial gravel deposits, has no known source within the property. Aeromagnetic surveying failed to detect any high quality magnetic targets that may be kimberlite-related. In addition, drilling and ground geophysical surveying conducted in the southeastern portion of the property at and up-ice of samples yielding confirmed DIMs did not delineate any kimberlites or related intrusives. Based upon the exploration results to date, follow-up exploration is not warranted at the Athabasca Property.

RECOMMENDATIONS

Although the regional geological setting for Bohautu's Athabasca Property is favourable for the preservation of diamonds and / or emplacement of kimberlite, the results obtained to date from exploration conducted on the property do not indicate the presence of kimberlites or associated intrusives. Based on the results to date, the slough target exists as a low priority for follow–up exploration. No other work is warranted at this time on the property.

APEX Geoscience Ltd.

PROFESSIONAL GEOLOGIST OF ALBERTA
SOREIG A. BALZER

S. A. Balzer, Ph.D., P.Geol.

PROFESSIONAL GEOLOGIST OF ALBERTA
DEAN J. BESSERER

D.J. Besserer, B.Sc., P. Geol.

PERMIT TO PRACTICE
APEX Geoscience Ltd.
Signature Dean Besserer
Date July 6/00
PERMIT NUMBER: P-5824
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

July, 2000
Edmonton, Alberta

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CERTIFICATION

I, S.A. BALZER OF [redacted] EDMONTON, ALBERTA, CERTIFY AND DECLARE THAT I AM A GRADUATE OF THE UNIVERSITY OF WATERLOO WITH A B.SC. HONOURS DEGREE IN APPLIED EARTH SCIENCES (1989), THE UNIVERSITY OF NEW BRUNSWICK WITH A M.SC. DEGREE IN GEOLOGY (1992) AND THE UNIVERSITY OF ALBERTA WITH A PH.D. DEGREE IN EARTH AND ATMOSPHERIC SCIENCES-GEOLOGY (2000). 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 CONTRACT GEOLOGIST WITH THE GEOLOGICAL SURVEY OF CANADA FROM 1986 TO 1989 AND DURING 1992; AS A PROJECT GEOLOGIST WITH THE DEPARTMENT OF ENERGY AND NATURAL RESOURCES, FREDERICTON, NEW BRUNSWICK DURING 1990 AND 1991; AS A RESEARCH SCIENTIST AND PROJECT GEOLOGIST WITH THE ALBERTA RESEARCH COUNCIL FROM 1993 TO 1995; AND AS A LECTURER AND TEACHING ASSISTANT IN UNIVERSITIES ACROSS THE COUNTRY BETWEEN 1990 AND 1995. BETWEEN JUNE 1996 AND MAY 1999, I HAVE SERVED AS A STAFF GEOLOGIST WITH APEX GEOSCIENCE LTD. OF EDMONTON, ALBERTA COMPILING GEOLOGICAL DATABASES, AND WRITING AND EDITING VARIOUS GEOLOGICAL REPORTS FOR EXPLORATION PROJECTS. I AM CURRENTLY A PROJECT MANAGER FOR CAITHNESS CONSULTANTS LTD. OF EDMONTON, COMPILING MINERAL ASSESSMENT DATABASES AND GEOLOGICAL REPORTS FOR VARIOUS EXPLORATION COMPANIES AND GOVERNMENT AGENCIES.

I HAVE NO INTEREST, DIRECT OR INDIRECT, IN THE PROPERTIES THAT ARE THE SUBJECT OF THIS REPORT OR SECURITIES OF BOHAUTU DIAMONDS LTD., NOR DO I EXPECT TO RECEIVE SUCH INTEREST. AS WELL, CAITHNESS CONSULTANTS LTD. HAS NO INTEREST, DIRECT OR INDIRECT, IN THE PROPERTIES, OR SECURITIES OF BOHAUTU DIAMONDS LTD., NOR DOES IT EXPECT TO RECEIVE SUCH INTEREST.

THIS REPORT ENTITLED "ASSESSMENT REPORT, ATHABASCA PROPERTY, NORTHERN ALBERTA MINERAL PERMIT 9398030076" IS BASED UPON THE STUDY OF PUBLISHED AND UNPUBLISHED DATA. I HAVE NOT PERSONALLY PERFORMED A FIELD EXAMINATION OF THE ATHABASCA PROPERTY.

I HEREBY GRANT BOHAUTU DIAMONDS LTD. OF ALBERTA, PERMISSION TO USE THIS REPORT AS AN ASSESSMENT REPORT FOR THE ATHABASCA PROPERTY.

S.A. BALZER, PH.D., P.GEOL.

JULY, 2000
EDMONTON, ALBERTA

CERTIFICATION

I, D.J. BESSERER OF [redacted] SHERWOOD PARK, ALBERTA, CERTIFY AND DECLARE THAT I AM A GRADUATE OF THE UNIVERSITY OF WESTERN ONTARIO, LONDON WITH A B.SC. DEGREE IN GEOLOGY (1994). I AM REGISTERED AS A PROFESSIONAL GEOLOGIST WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS OF ALBERTA.

MY EXPERIENCE INCLUDES SERVICE AS A CONTRACT GEOLOGICAL ASSISTANT WITH THE MINISTRY OF NORTHERN DEVELOPMENT AND MINES, ONTARIO, FROM 1991 TO 1992, AND THE GEOLOGICAL SURVEY OF CANADA, OTTAWA IN 1993. SINCE 1994, I HAVE CONDUCTED AND DIRECTED PROPERTY EXAMINATIONS, PROPERTY EVALUATIONS AND EXPLORATION PROGRAMS ON BEHALF OF COMPANIES AS A GEOLOGIST IN THE EMPLOY OF APEX GEOSCIENCE LTD. SINCE JANUARY 2000, I HAVE BEEN A PRINCIPAL AND SHAREHOLDER OF APEX GEOSCIENCE LTD.

I HAVE NO INTEREST, DIRECT OR INDIRECT, IN THE PROPERTIES THAT ARE THE SUBJECT OF THIS REPORT OR SECURITIES OF BOHAUTU DIAMONDS LTD., NOR DO I EXPECT TO RECEIVE SUCH INTEREST. AS WELL, APEX GEOSCIENCE LTD. HAS NO INTEREST, DIRECT OR INDIRECT, IN THE PROPERTIES, OR SECURITIES OF BOHAUTU DIAMONDS LTD., NOR DOES IT EXPECT TO RECEIVE SUCH INTEREST.

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I HEREBY GRANT BOHAUTU DIAMONDS LTD. OF ALBERTA, PERMISSION TO USE THIS REPORT AS AN ASSESSMENT REPORT FOR THE ATHABASCA PROPERTY.

PROFESSIONAL GEOLOGIST OF ALBERTA
DEAN J. BESSERER

D.J. BESSERER, B.SC., P.GEOL.

JULY, 2000
EDMONTON, ALBERTA

APPENDIX 1

STATEMENT OF EXPENDITURES

AFFIDAVIT

C A N A D A, PROVINCE OF ALBERTA TO WIT:)

RE: BOHAUTU DIAMONDS LTD.

I,Helen Polny, of the County of Athabasca, in the Province of Alberta, MAKE OATH AND SAY THAT:

1. I am an officer of Bohautu Diamonds Ltd. and as such have personal knowledge of the matters herein deposed.

2. That the expenses set out in the Statement of Expenses attached as Exhibit A hereto have been incurred and expended by Bohautu Diamonds Ltd. on mineral permit number 939 803 0076

SWORN before me at the City of Edmonton, in the Province of Alberta, this 15th day of May, 2000.

[redacted]

A COMMISSIONER FOR OATHS IN AND FOR THE PROVINCE OF ALBERTA

ANDREW J. CHAMBERLAIN
BARRISTER & SOLICITOR

Bohautu Diamonds Ltd.

Expense list

This is Exhibit "A" referred to in the Affidavit ~~(or statutory declaration)~~ of Helen Alty
Sworn ~~(or affirmed or declared)~~ before me this 15 th day of May A.D. 20 00

A Commissioner for Oaths in and for Alberta
ANDREW J. CHAMBERLAIN
BARRISTER & SOLICITOR

	Date	Description	$ Amount
1.	Aug. 12, 1997	Alberta Energy for Diamond book	45.00
2.	June 26, 1997	Geological Maps	20.87
3.	Sept.6, 1997	Acme Anlylitical Lab	57.56
4.	June 29, 1997	Halferdahl & Associates	257.53
5.	Nov.4, 1998	Vancouver Petrographics LTD	125.99
6.	Nov.5, 1998	Loomis shipping to Barbra Scott-Smith	14.32
7.	Sept. 2, 1998	Lommis shipping to Vancouver Petrographics	18.77
8.	Oct. 10, 1999	Purolator to BC with papers to sign company start up	12.79
9.	Sept 28, 1999	Purolator SRC in Sask. (sample test)	9.28
10.	Oct. 8, 1999	Purolator papers to BC for comp.	10.95
11.	Oct. 26, 1999	Greyhound (sample) to SRC	12.84
12.	Nov 3, 1999	Greyhound (sample) to SRC	12.84
13.	Oct 18, 1999	Greyhound(sample) to SRC	12.84
14.	Oct 7, 1999	Greyhound (sample) to SRC	12.84
15.	March 22, 1999	[redacted] Petrology Inc.	378.60
16.	Feb 27, 1999	Alberta 1- Stop Registry for registering company	56.75
17.	Sept. 30, 1999	[redacted] (lawyer fee's)	1,000.00
18.	April 7, 1999	Bedrock supply (diamond tester)	208.65
19.	July 1, 1999	Apex Geoscience Ltd.	4,646.01
20.	Sept. 20, 1999	Apex Geoscience Ltd.	1,471.68
21.	Oct. 18, 1999	Terraquest LTD (airborne survey)	1,617.84
22.	Aug.9 1999	Terraquest LTD (airborne survey)	2,280.00
		TOTAL OF THIS PAGE	12,301.95

Bohautu Diamonds Ltd.

Expense list

	Date	Description	$ Amount
1.	Oct. 22, 1999	Apex Geoscience	3,581.84
2.	Nov. 4, 1999	S.R.C. Geo chem	128.40
3.	Nov. 13, 1999	Staples (office supplies)	15.71
4.	Oct.21, 1999	Interest on start up fee on credit line visa	75.00
5.	Decl 1999	Interest on credit line visa	15.03
6.	Nov 30, 1999	S.R.C. paid by visa Geo chem	150.99
7.	Jan 1, 2000	Credit line visa interest and fee	22.63
8.	Jan 15, 2000	Apex Geoscience paid by credit line visa	2,657.88
9.	Jan 15, 2000	Apex Geoscience paid by credit line visa	1,673.48
10.	Feb 1, 2000	Credit line Royal Bank interest	24.78
11.	Feb 13, 2000	Ink for printer	71.69
12.	Feb 29, 2000	Credit line Royal Bank interest	55.77
13.	March 8,2000	C.F. Reclaimation and water service	214.00
14.	March 8, 2000	S.R.C. paid with credit line visa	681.06
15.	March 8, 2000	S.R.C. paid with credit line visa	97.53
16.	Jan 18, 2000	M & S water well drilling Drill.	8,867.10
17.	May, 2000	Apex Geoscience Delivery	5,479.64
18.			
19.			
20.		Apex 19,510.53 for Samples - Groundhog - core boy. + Rental.)	
21.		SRC + Acme An/Petro = 1241.53	
22.		Drill. = 8,867.10	
		Airmag. = 3897.84	
		c/f + admin. - TOTAL OF THIS PAGE	23,812.49
		Balance Forward from page 1	12,301.95
		Final Total	36,114.44

APPENDIX 2

SAMPLE LOCATIONS

APPENDIX 2

SAMPLE LOCATIONS

Sample		UTM Location	
ID #	Type	Easting	Northing
01AB	gravel	376154	6087857
02AL	gravel	377712	6087701
04AL	gravel	377712	6087701
05AB	gravel	376154	6087857
06AB	gravel	376154	6087857
8LCT701	till	371451	6086149
8LCT702	till	374225	6086035
8LCT703	till	376670	6084420
8LCT704	till	377955	6084540
9DCT201	till	377670	6085996
9DCT202	till	378005	6086012
9DCT203	till	378485	6085106
9DCT204	till	377705	6085021
9DCT205	till	379406	6086179
9DCT206	till	374007	6093001
9DCT207	gravel	375977	6087748
9DCT208	till	375977	6087748
LS3	clay	376154	6087857
CG509	clay	379252	6087014
MD-03	rock grab	379252	6087014
MD-04	rock grab	376154	6087857
MD-05	rock grab	376154	6087857
MD-06	rock grab	376154	6087857
MD-07	rock grab	376154	6087857

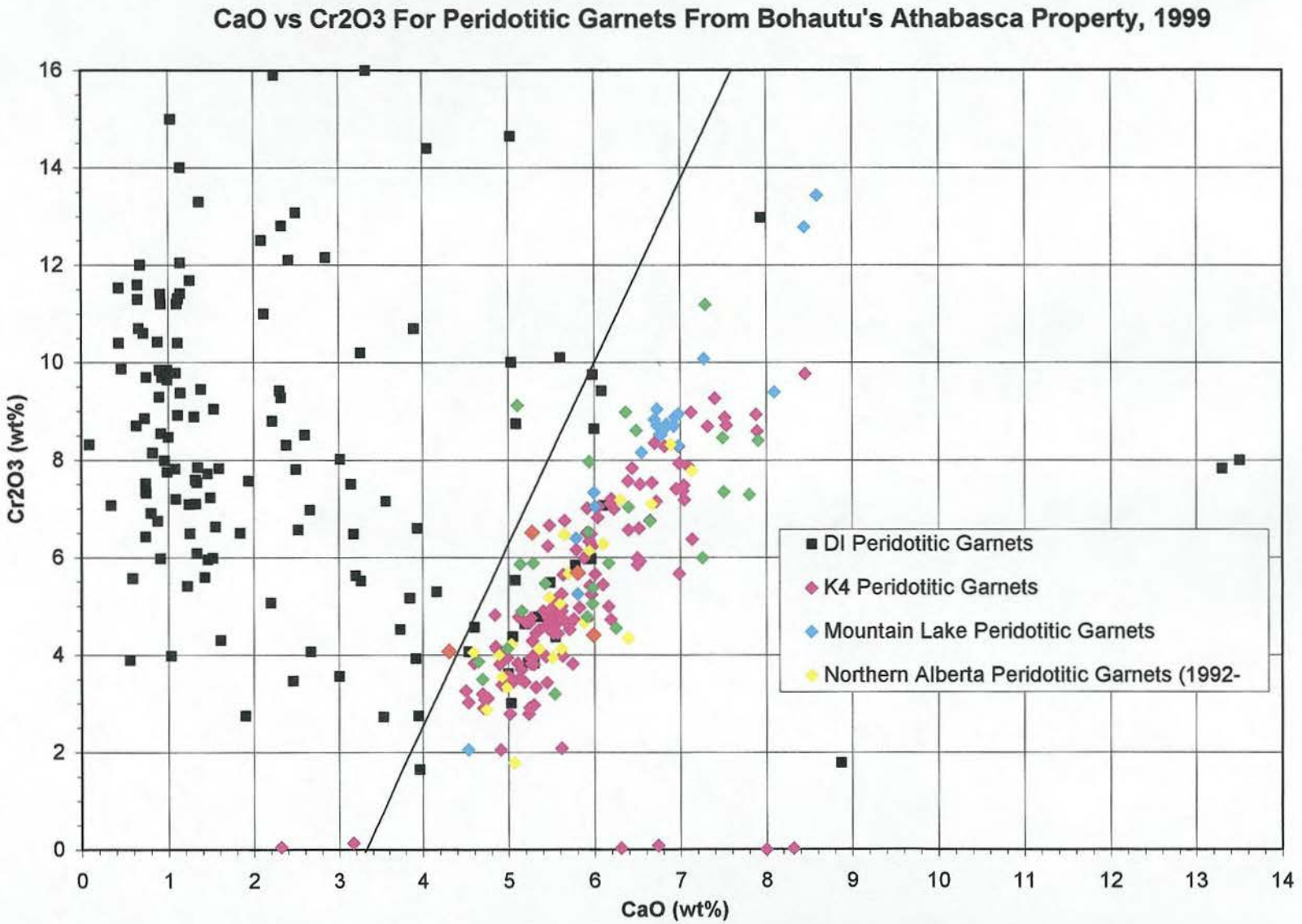
APPENDIX 3

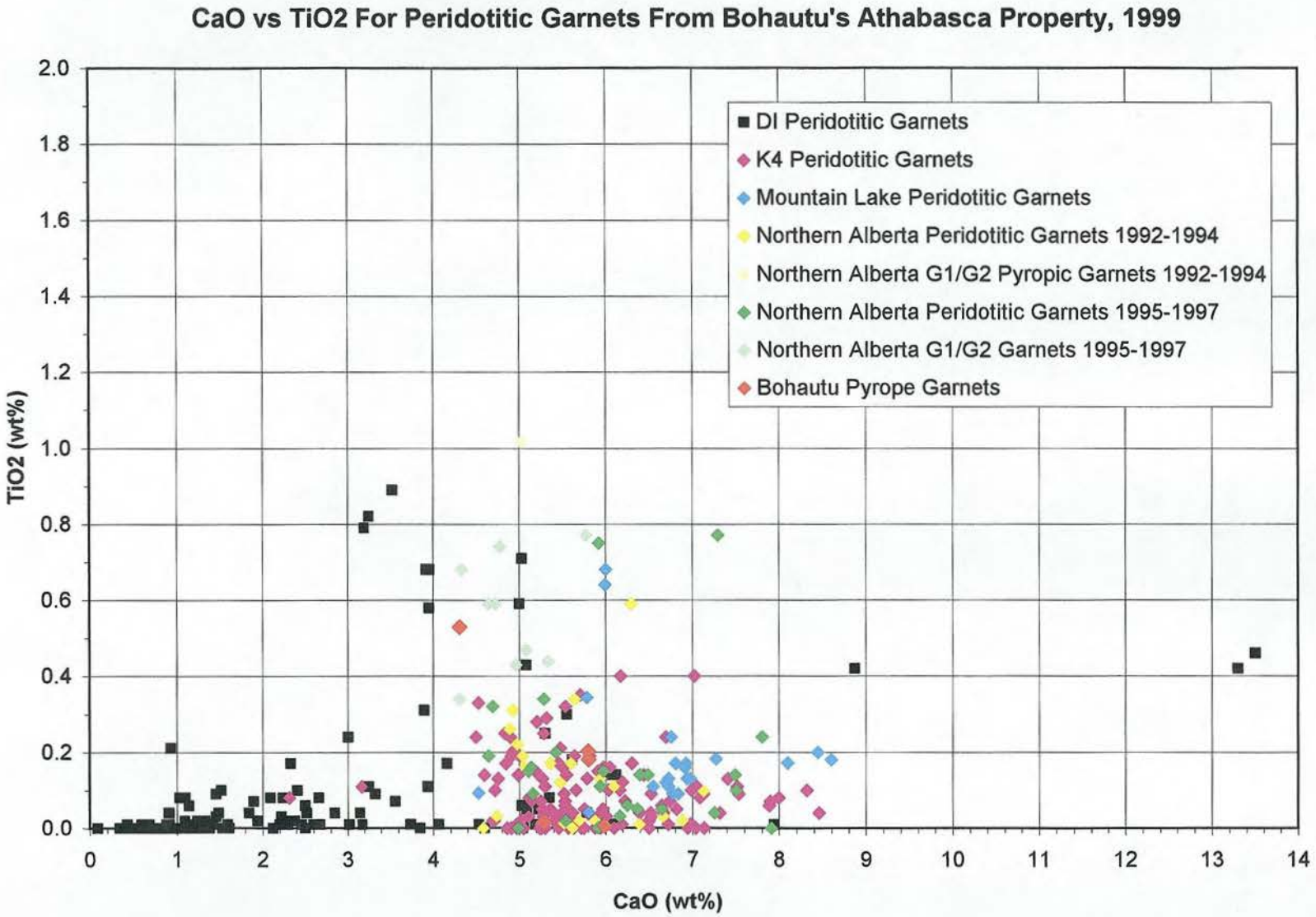
DIAMOND INDICATOR MINERAL RESULTS

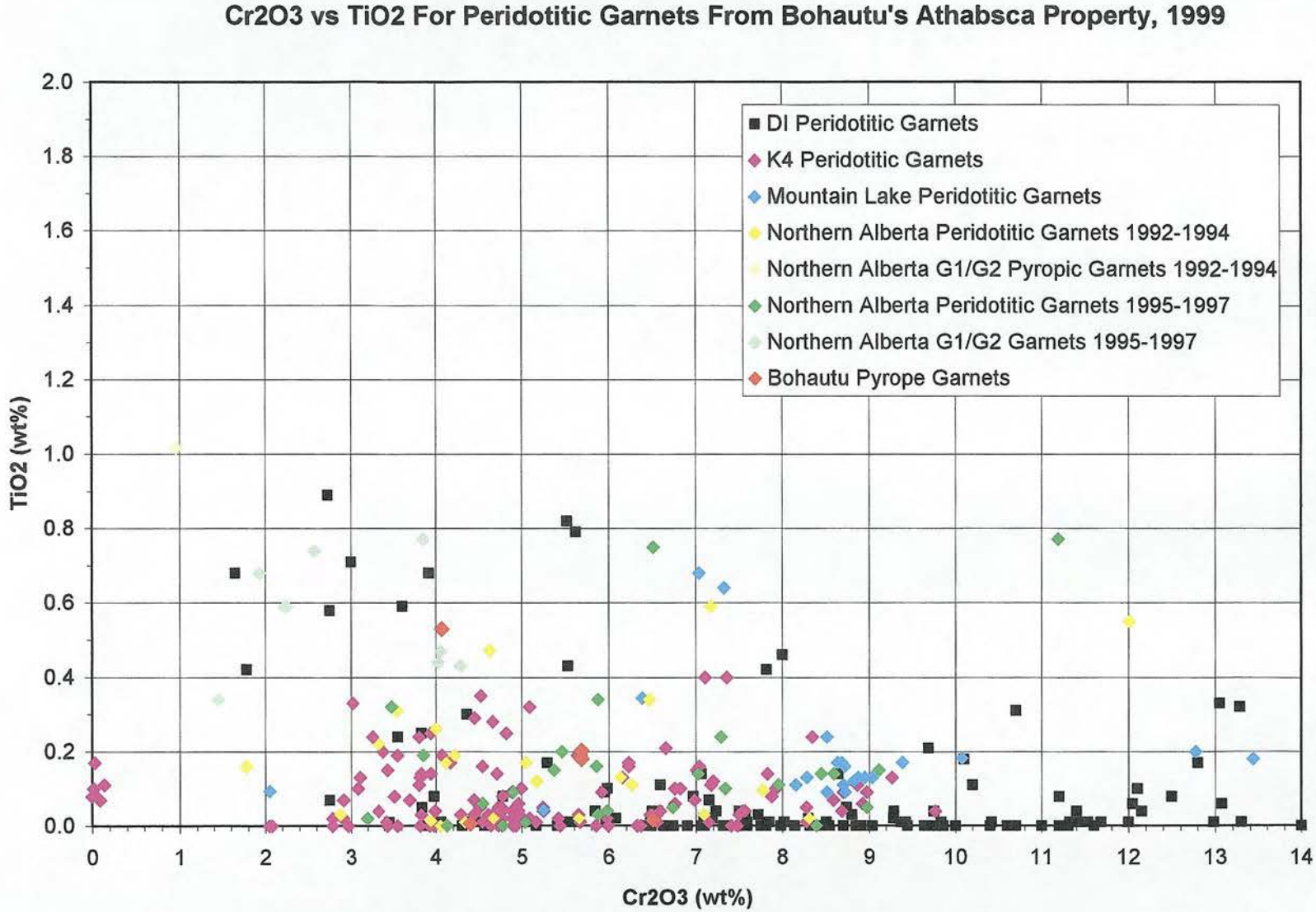
APPENDIX 3

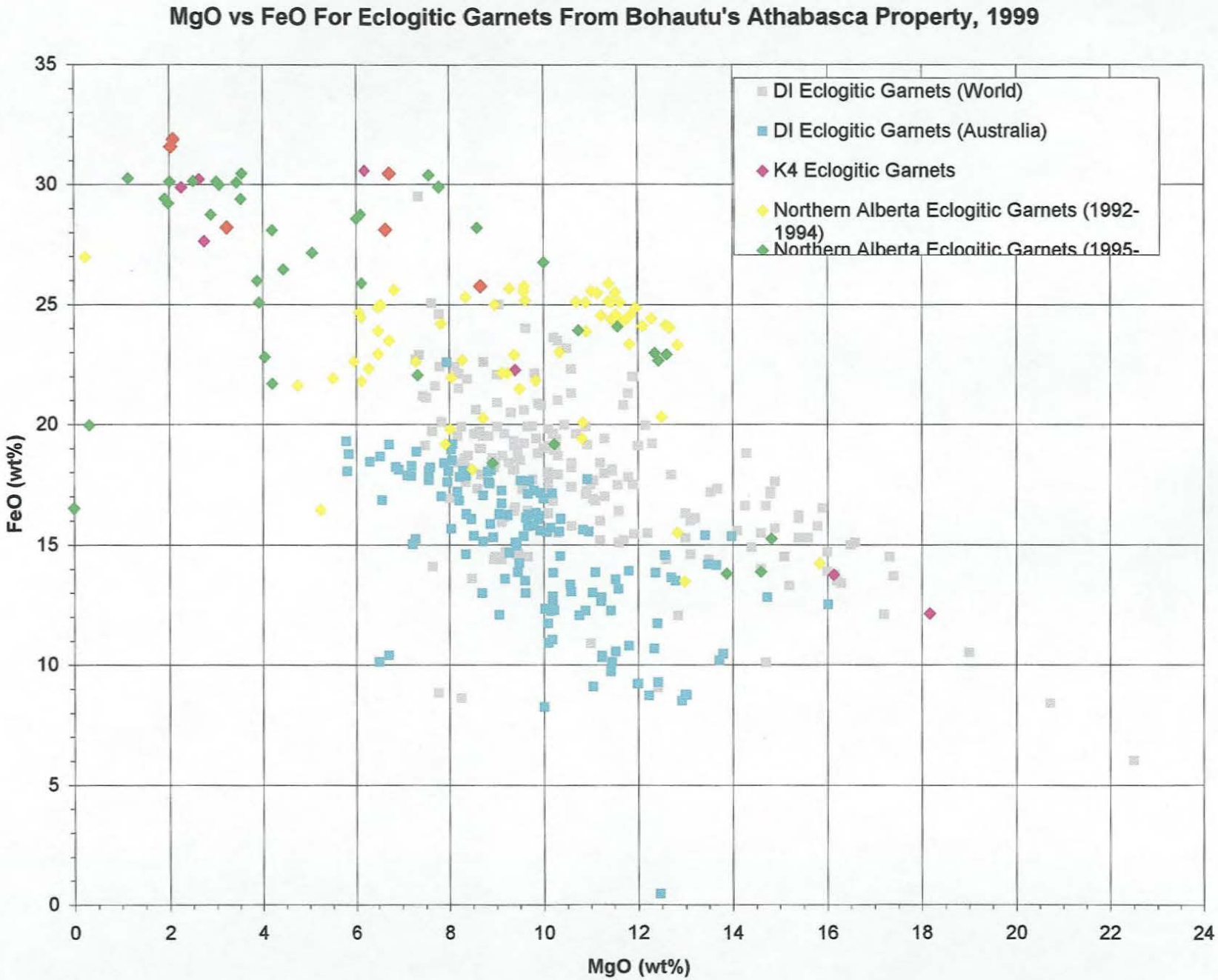
DIAMOND INDICATOR MINERAL RESULTS

Sample ID#	Grain #	Mineral By Min-id.asc	TiO2	Cr2O3	FeO	MgO	CaO	SiO2	Al2O3	Na2O	MnO	TOTAL	K2O	NiO	ZnO	Nb2O5	ZrO2	Other Comments
01AB	3	G_08_FERRO_MAGNESIAN_GROSSULAR	0.03	0.00	13.30	0.07	23.96	37.78	22.78	0.04	0.07	98.04	0.00					possible olivine
01AB	5	ALMANDINE	0.04	0.05	31.59	2.04	8.29	38.00	21.20	0.00	0.08	101.29	0.00					possible olivine
01AB	4	G_08_FERRO_MAGNESIAN_GROSSULAR	0.07	0.00	10.16	0.07	24.39	38.20	24.41	0.03	0.00	97.33	0.00					possible olivine
01AB	2	CPX_05_UNKNOWN	0.06	1.08	7.42	31.36	1.80	55.85	1.95	0.03	0.05	99.6	0.00					possible olivine
02AL	1	ALMANDINE	0.06	0.05	38.85	1.74	4.26	36.46	20.50	0.04	0.12	102.09	0.00					possible pyrope
04AL	2	G_05_MAGNESIAN_ALMANDINE	0.01	0.02	30.45	6.74	3.97	38.00	21.88	0.00	0.05	101.11	0.00					possible eclogitic garnet
04AL	4	ALMANDINE	0.00	0.00	31.90	2.10	8.21	38.33	21.23	0.00	0.13	101.89	0.00					possible eclogitic garnet
04AL	1	G_05_MAGNESIAN_ALMANDINE	0.05	0.07	28.12	6.66	5.72	39.05	21.57	0.02	0.10	101.36	0.00					possible eclogitic garnet
04AL	3	G_05_MAGNESIAN_ALMANDINE	0.00	0.02	25.77	8.67	4.41	39.54	22.08	0.01	0.01	100.5	0.00					possible eclogitic garnet
05AB	5	G_08_FERRO_MAGNESIAN_GROSSULAR	0.09	0.01	10.05	0.01	24.27	39.00	26.26	0.01	0.02	99.72	0.00					possible olivine
06AB	2	G_05_MAGNESIAN_ALMANDINE	0.11	0.00	28.20	3.23	6.48	38.76	20.90	0.03	0.19	97.9	0.00					possible eclogitic garnet
8LCT702	1	CHROMITE	0.54	54.44	28.35	5.12			7.78		0.52	97.32		0	0.5704	0	0.0119	
8LCT702	2	ILMENITE	53.81	1.34	27.79	15.70			0.52		0.29	99.68		0.0978	0.0107	0.04	0.0465	
8LCT703	1	CHROME DIOPSIDE	0.11	0.89	3.22	15.37	22.87	53.30	2.24	0.79	0.03	98.8	0.00					
8LCT703	2	CHROME DIOPSIDE	0.05	0.41	3.51	15.33	24.86	54.95	0.72	0.56	0.12	100.49	0.00					
8LCT703	3	CHROME DIOPSIDE	0.49	0.83	3.33	14.39	18.69	52.16	7.76	2.02	0.10	99.76	0.00					
8LCT703	4	CHROME DIOPSIDE	0.10	0.50	4.28	16.96	21.47	53.75	1.54	0.44	0.14	99.2	0.03					
8LCT704	5	GROSSULAR	0.15	0.05	10.12	0.09	23.43	37.70	24.69	0.01	0.65	96.88	0.00					
8LCT704	6	GROSSULAR	0.11	0.02	10.20	0.02	23.73	37.70	23.59	0.03	0.01	95.4	0.00					
9DCT-201	4	G_07_FERRO-MAGNESIAN_UVAROVITE_GROSSULAR	0.27	12.86	2.05	1.50	32.91	36.46	9.50	0.04	0.02	95.6	0.00					possible uvarovite
9DCT-205	5	G_10_LOW_CALCIUM_CHROME_PYROPE	0.02	6.51	7.75	19.59	5.28	40.56	19.05	0.00	0.07	98.83	0.00					pyrope
9DCT-207	3	G_07_FERRO-MAGNESIAN_UVAROVITE_GROSSULAR	0.40	14.92	0.78	0.26	35.49	37.16	9.48	0.00	0.00	98.51	0.01					possible uvarovite
9DCT-207	2	G_08_FERRO_MAGNESIAN_GROSSULAR	0.07	0.06	9.44	0.03	24.56	38.10	26.06	0.04	0.03	98.39	0.00					possible olivine
9DCT-207	7	G_09_CHROME_PYROPE	0.18	5.69	7.01	18.82	5.81	41.88	19.51	0.09	0.08	99.08	0.00					pyrope
9DCT-207	6	G_09_CHROME_PYROPE	0.01	4.40	8.14	18.69	5.99	42.14	20.59	0.06	0.00	100.02	0.00					pyrope
9DCT-207	8	G_09_CHROME_PYROPE	0.20	5.69	7.69	19.47	5.80	42.46	19.55	0.01	0.00	100.87	0.00					pyrope
9DCT-207	1	G_01_TITANIAN_PYROPE	0.53	4.07	7.42	20.90	4.31	42.85	20.55	0.03	0.00	100.65	0.00					possible pyrope

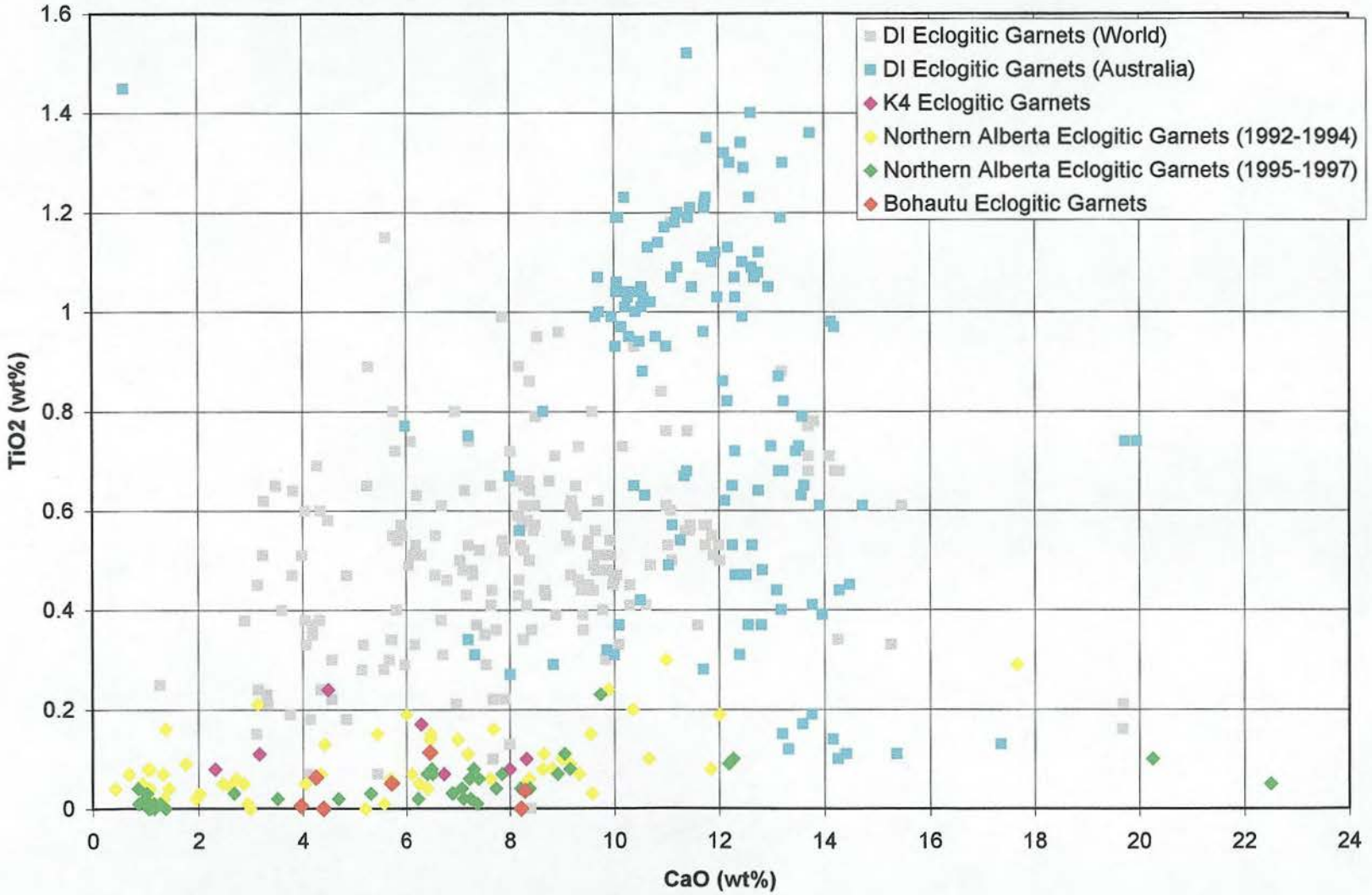

CaO vs Cr2O3 For Peridotitic Garnets From Bohautu's Athabasca Property, 1999
Cr2O3 (wt%)
CaO (wt%)
0
2
4
6
8
10
12
14
16
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
DI Peridotitic Garnets
K4 Peridotitic Garnets
Mountain Lake Peridotitic Garnets
Northern Alberta Peridotitic Garnets (1992-

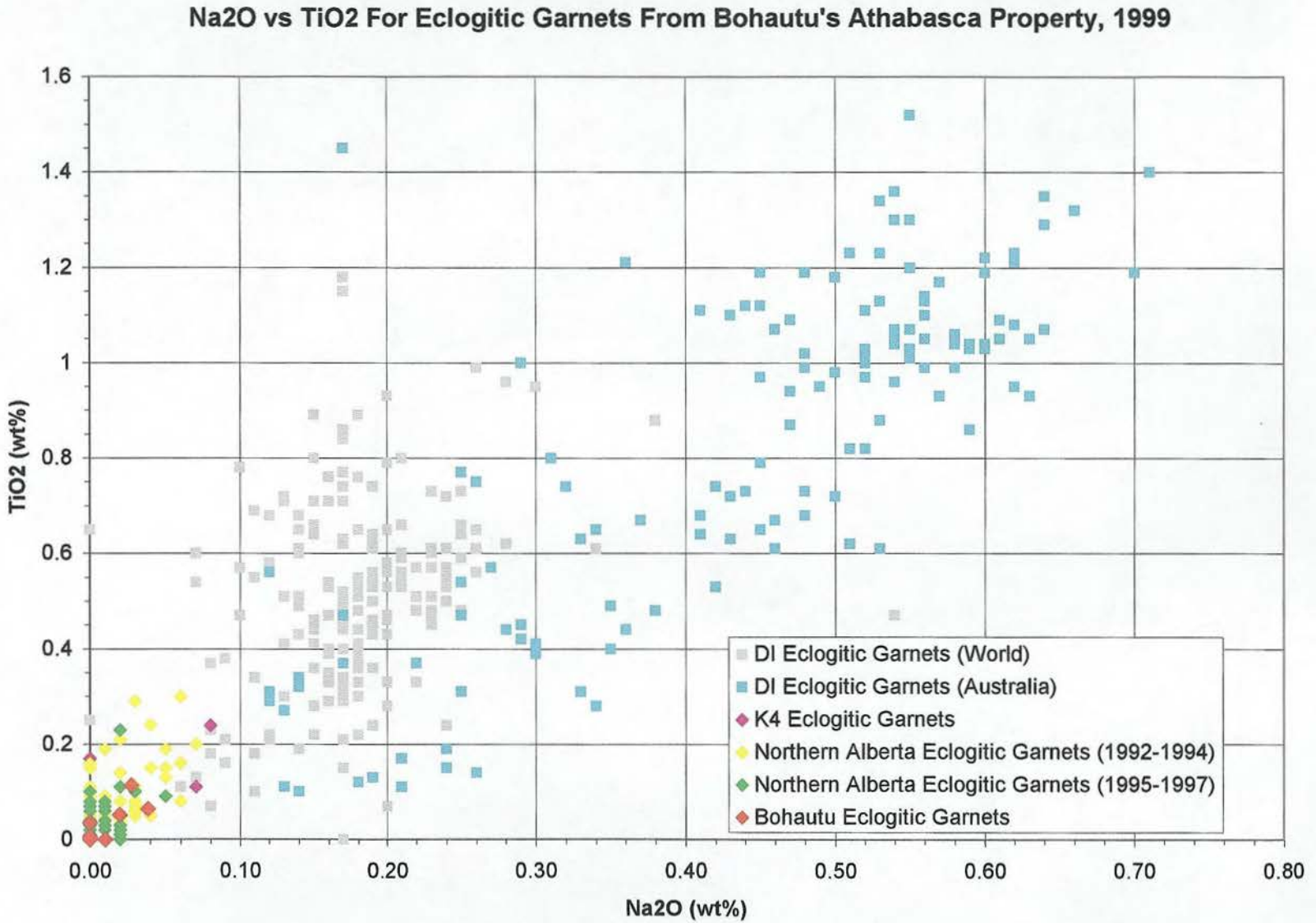

CaO vs TiO2 For Peridotitic Garnets From Bohautu's Athabasca Property, 1999
TiO2 (wt%)
CaO (wt%)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
DI Peridotitic Garnets
K4 Peridotitic Garnets
Mountain Lake Peridotitic Garnets
Northern Alberta Peridotitic Garnets 1992-1994
Northern Alberta G1/G2 Pyropic Garnets 1992-1994
Northern Alberta Peridotitic Garnets 1995-1997
Northern Alberta G1/G2 Garnets 1995-1997
Bohautu Pyrope Garnets


Cr2O3 vs TiO2 For Peridotitic Garnets From Bohautu's Athabsca Property, 1999
DI Peridotitic Garnets
K4 Peridotitic Garnets
Mountain Lake Peridotitic Garnets
Northern Alberta Peridotitic Garnets 1992-1994
Northern Alberta G1/G2 Pyropic Garnets 1992-1994
Northern Alberta Peridotitic Garnets 1995-1997
Northern Alberta G1/G2 Garnets 1995-1997
Bohautu Pyrope Garnets
TiO2 (wt%)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Cr2O3 (wt%)

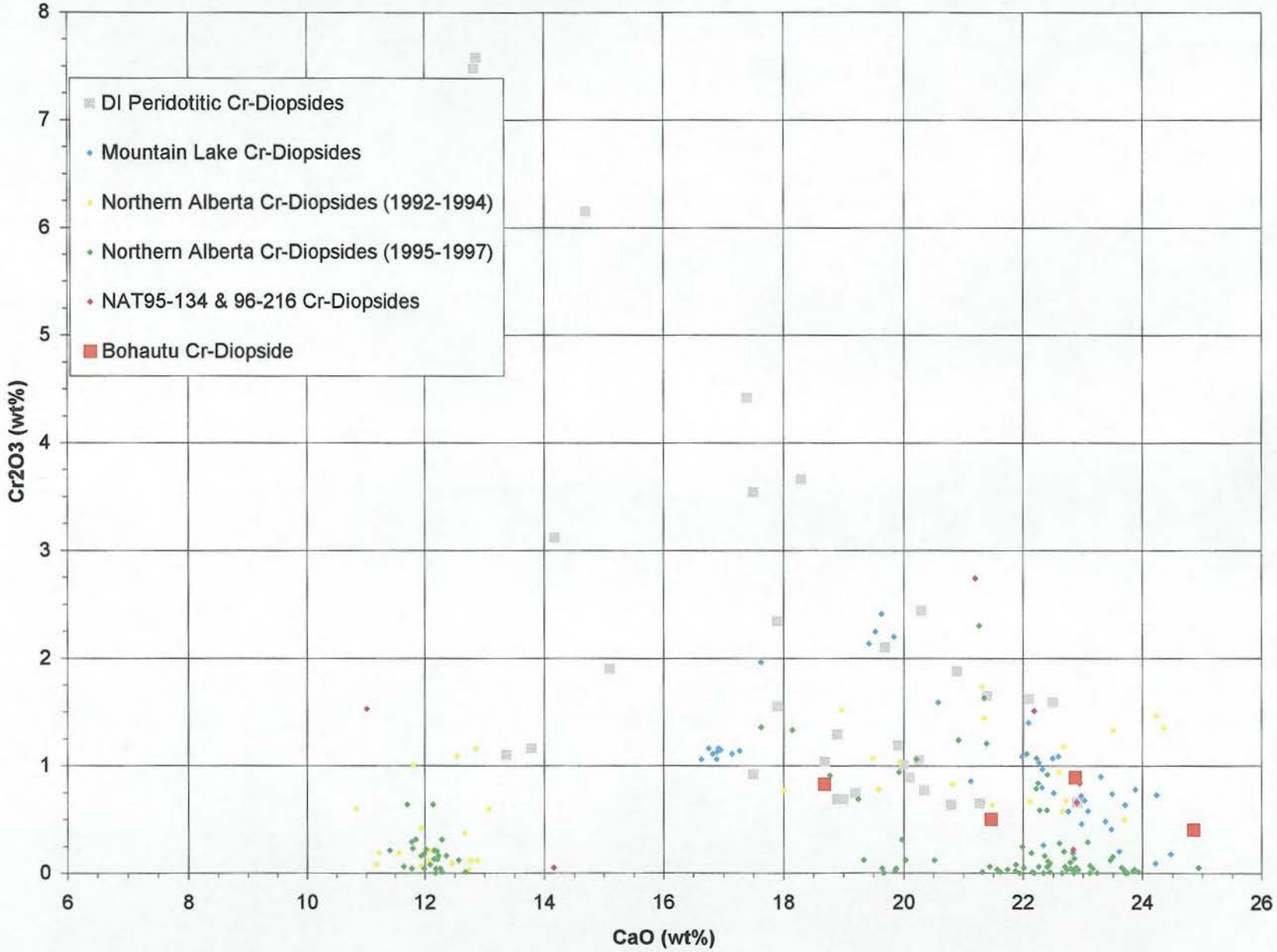

MgO vs FeO For Eclogitic Garnets From Bohautu's Athabasca Property, 1999
DI Eclogitic Garnets (World)
DI Eclogitic Garnets (Australia)
K4 Eclogitic Garnets
Northern Alberta Eclogitic Garnets (1992-1994)
Northern Alberta Eclogitic Garnets (1995-
FeO (wt%)
MgO (wt%)
0
5
10
15
20
25
30
35
0
2
4
6
8
10
12
14
16
18
20
22
24

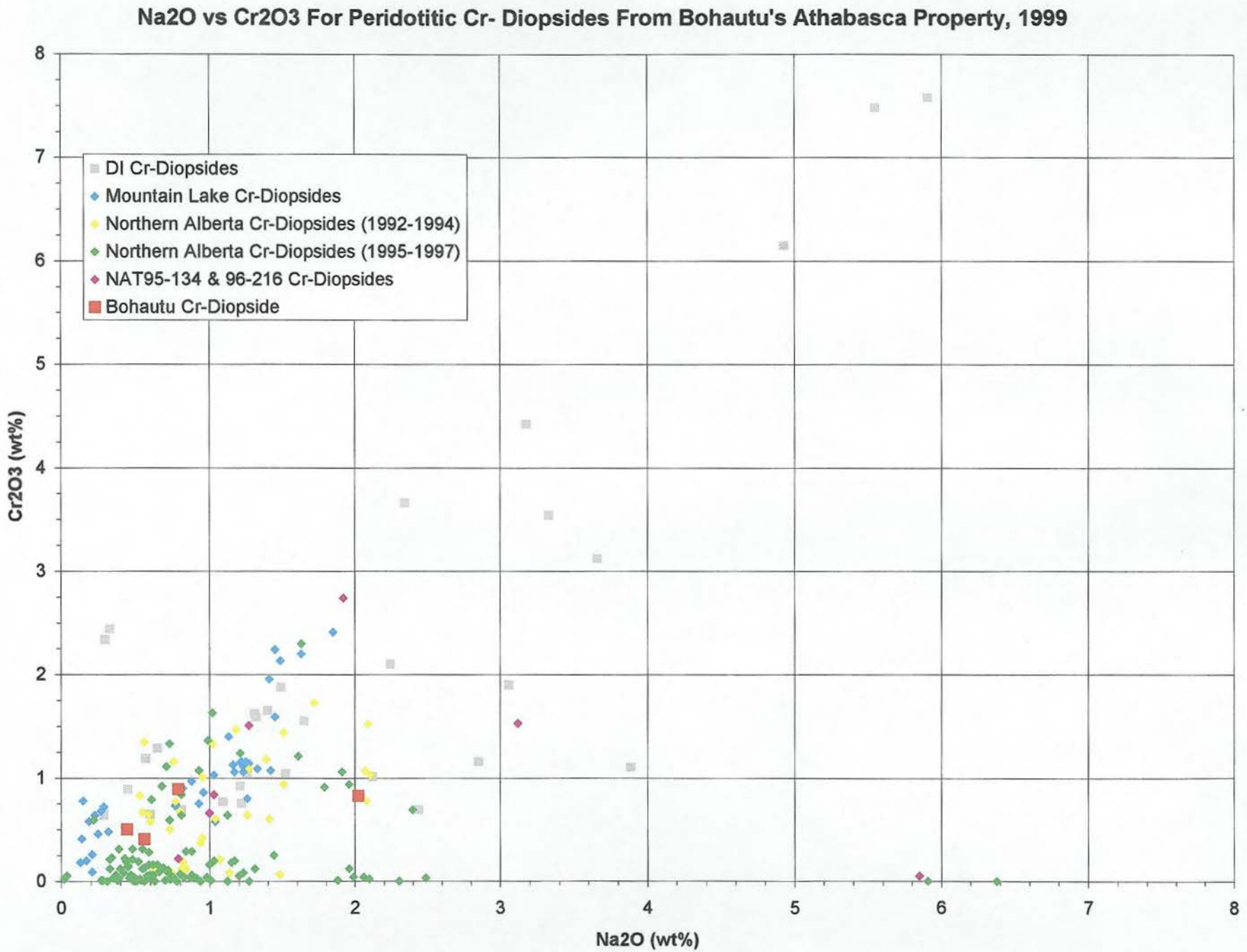
CaO vs TiO2 For Eclogitic Garnets From Bohautu's Athabasca Property, 1999

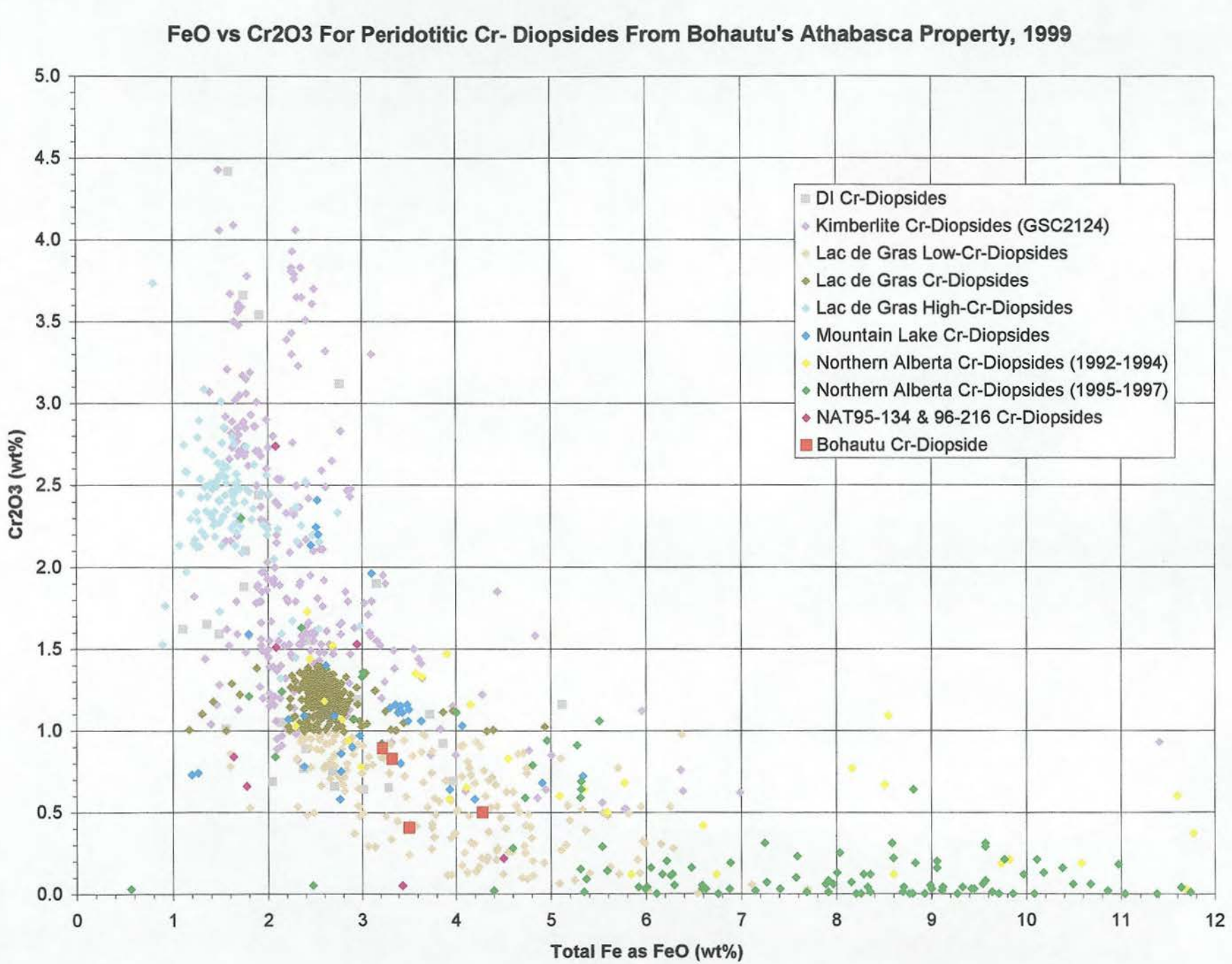


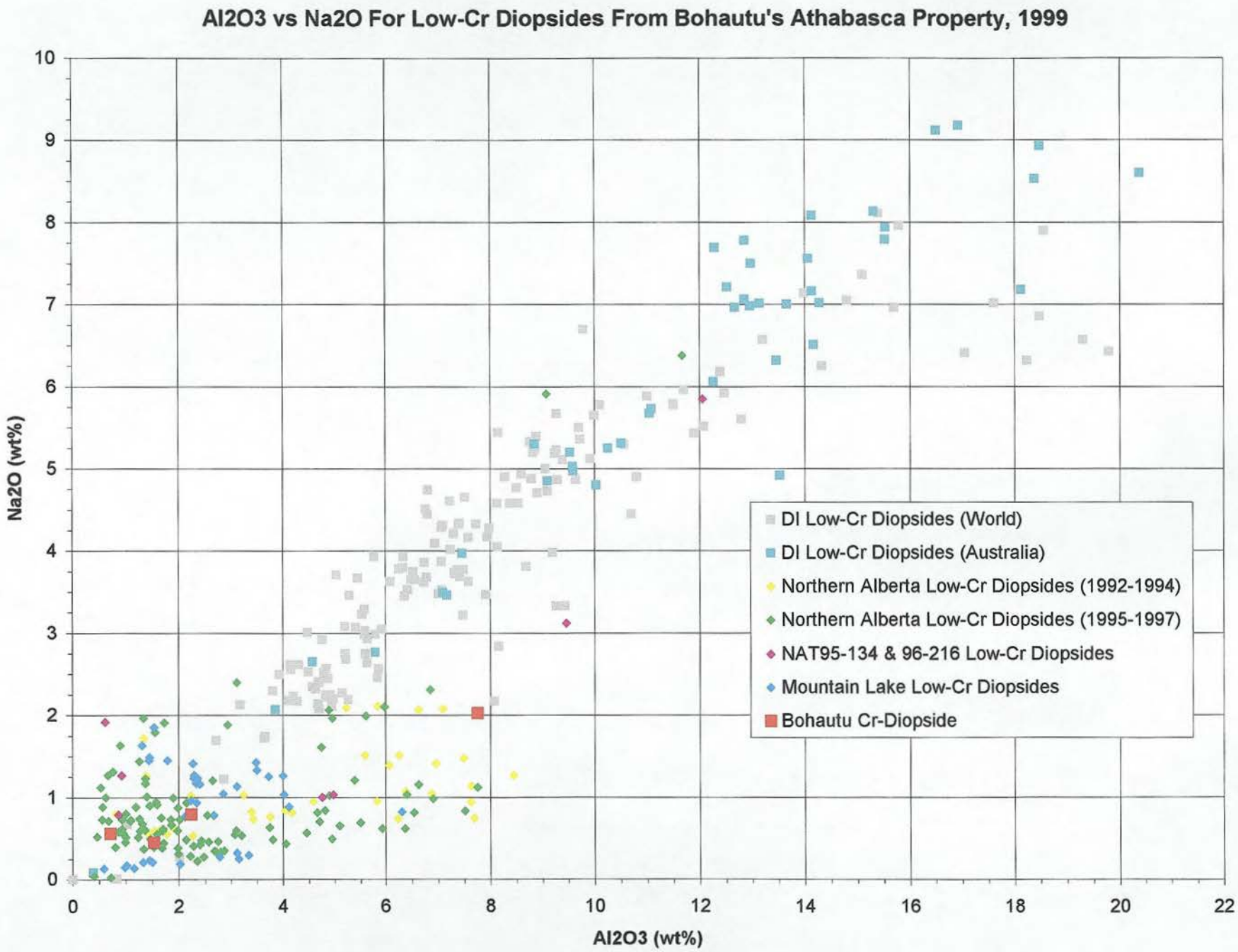

Na2O vs TiO2 For Eclogitic Garnets From Bohautu's Athabasca Property, 1999
TiO2 (wt%)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
Na2O (wt%)
DI Eclogitic Garnets (World)
DI Eclogitic Garnets (Australia)
K4 Eclogitic Garnets
Northern Alberta Eclogitic Garnets (1992-1994)
Northern Alberta Eclogitic Garnets (1995-1997)
Bohautu Eclogitic Garnets

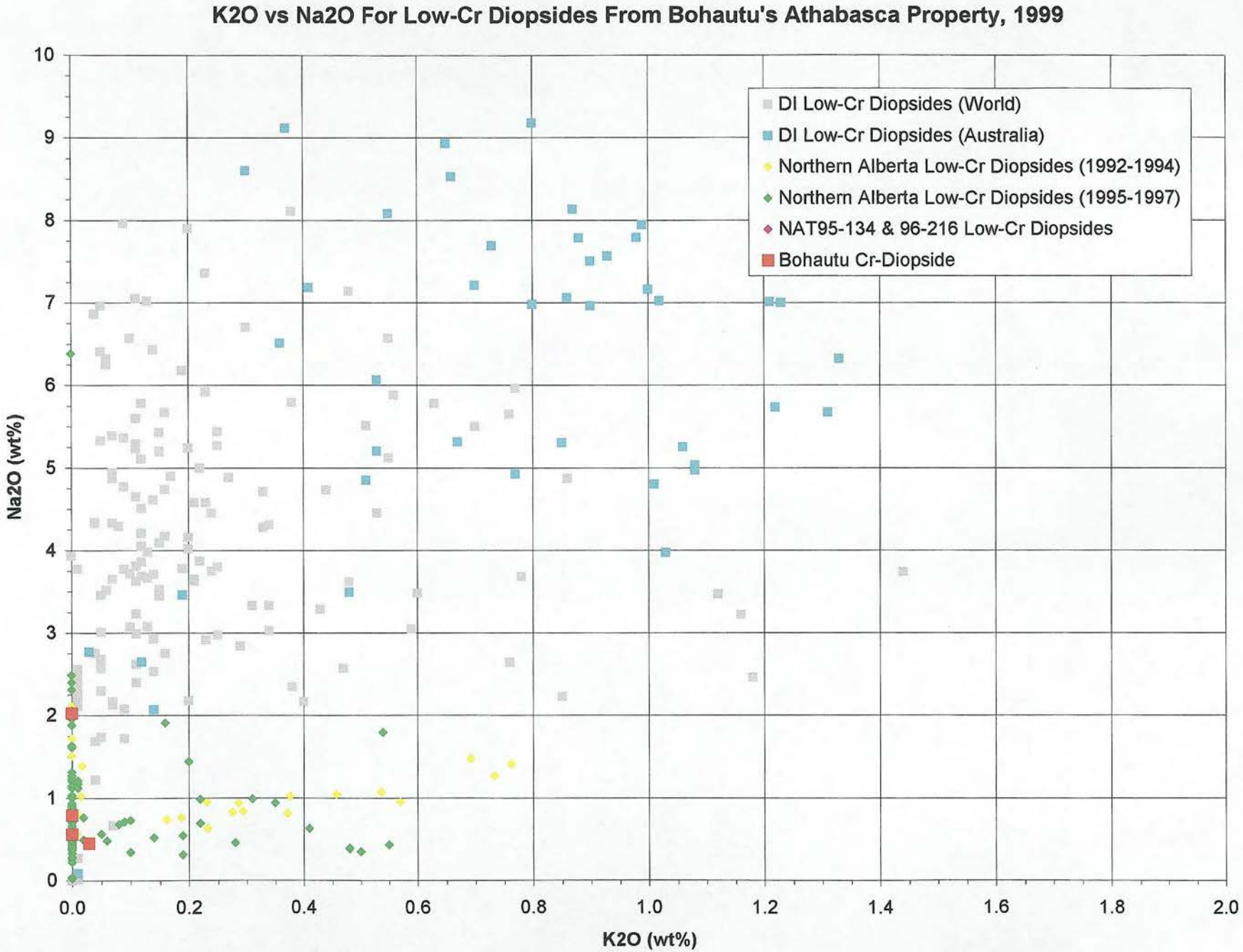
CaO vs Cr2O3 For Peridotitic Cr- Diopsides From Bohautu's Athabasca Property, 1999

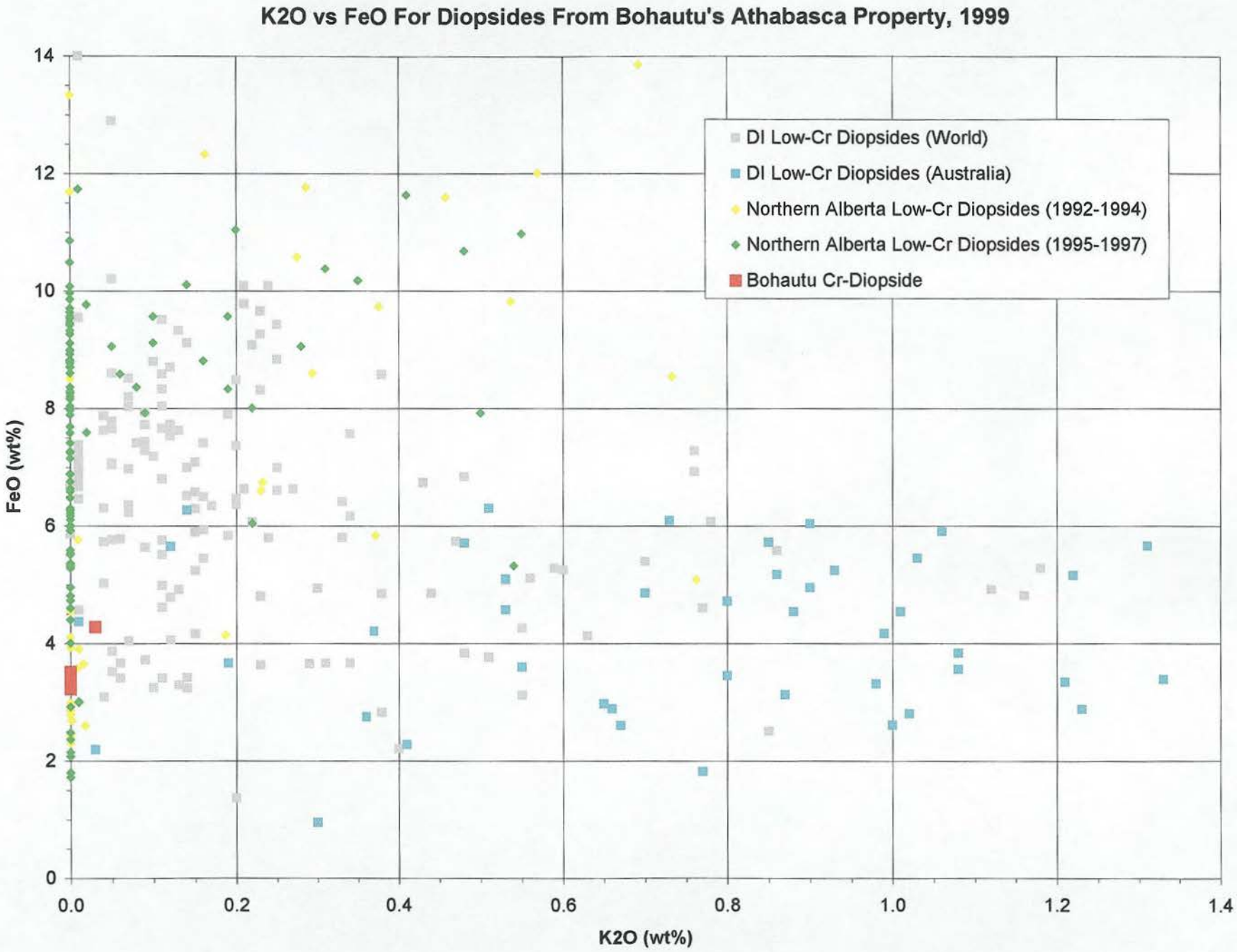


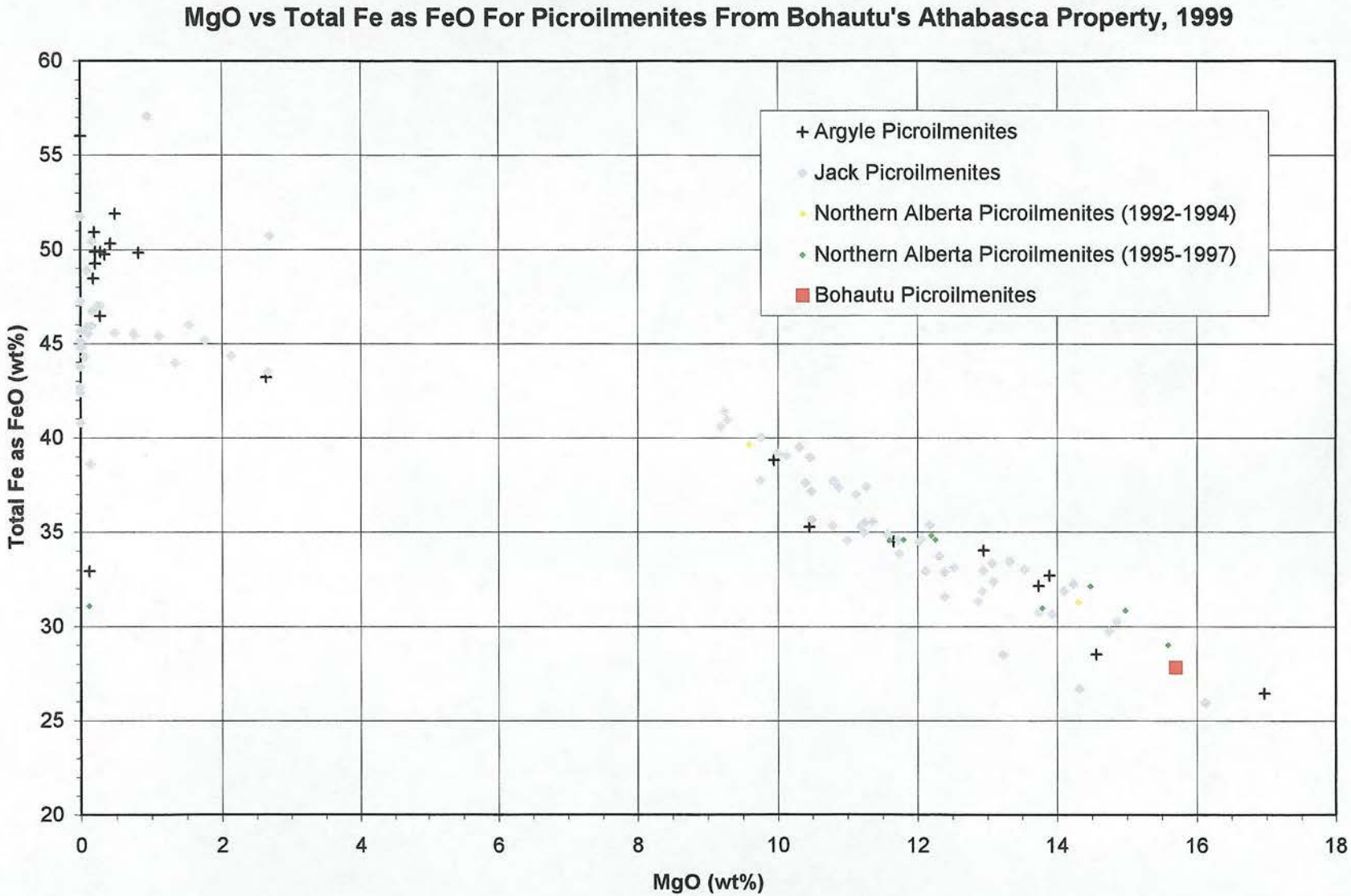

Na2O vs Cr2O3 For Peridotitic Cr- Diopsides From Bohautu's Athabasca Property, 1999
DI Cr-Diopsides
Mountain Lake Cr-Diopsides
Northern Alberta Cr-Diopsides (1992-1994)
Northern Alberta Cr-Diopsides (1995-1997)
NAT95-134 & 96-216 Cr-Diopsides
Bohautu Cr-Diopside
Cr2O3 (wt%)
Na2O (wt%)
0
1
2
3
4
5
6
7
8

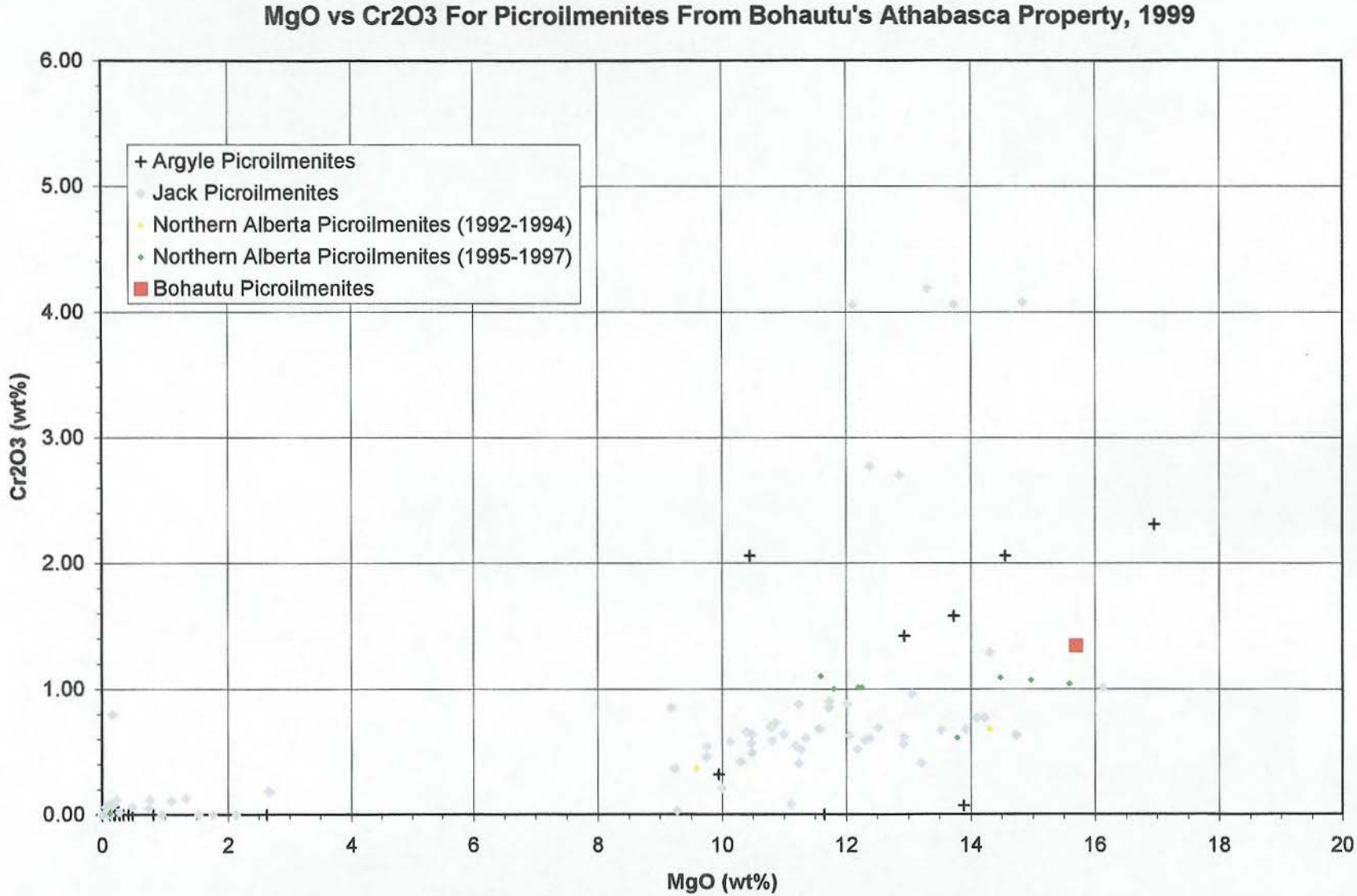

FeO vs Cr2O3 For Peridotitic Cr- Diopsides From Bohautu's Athabasca Property, 1999
Cr2O3 (wt%)
Total Fe as FeO (wt%)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
0
1
2
3
4
5
6
7
8
9
10
11
12
DI Cr-Diopsides
Kimberlite Cr-Diopsides (GSC2124)
Lac de Gras Low-Cr-Diopsides
Lac de Gras Cr-Diopsides
Lac de Gras High-Cr-Diopsides
Mountain Lake Cr-Diopsides
Northern Alberta Cr-Diopsides (1992-1994)
Northern Alberta Cr-Diopsides (1995-1997)
NAT95-134 & 96-216 Cr-Diopsides
Bohautu Cr-Diopside


Al2O3 vs Na2O For Low-Cr Diopsides From Bohautu's Athabasca Property, 1999
Na2O (wt%)
Al2O3 (wt%)
0
1
2
3
4
5
6
7
8
9
10
0
2
4
6
8
10
12
14
16
18
20
22
DI Low-Cr Diopsides (World)
DI Low-Cr Diopsides (Australia)
Northern Alberta Low-Cr Diopsides (1992-1994)
Northern Alberta Low-Cr Diopsides (1995-1997)
NAT95-134 & 96-216 Low-Cr Diopsides
Mountain Lake Low-Cr Diopsides
Bohautu Cr-Diopside

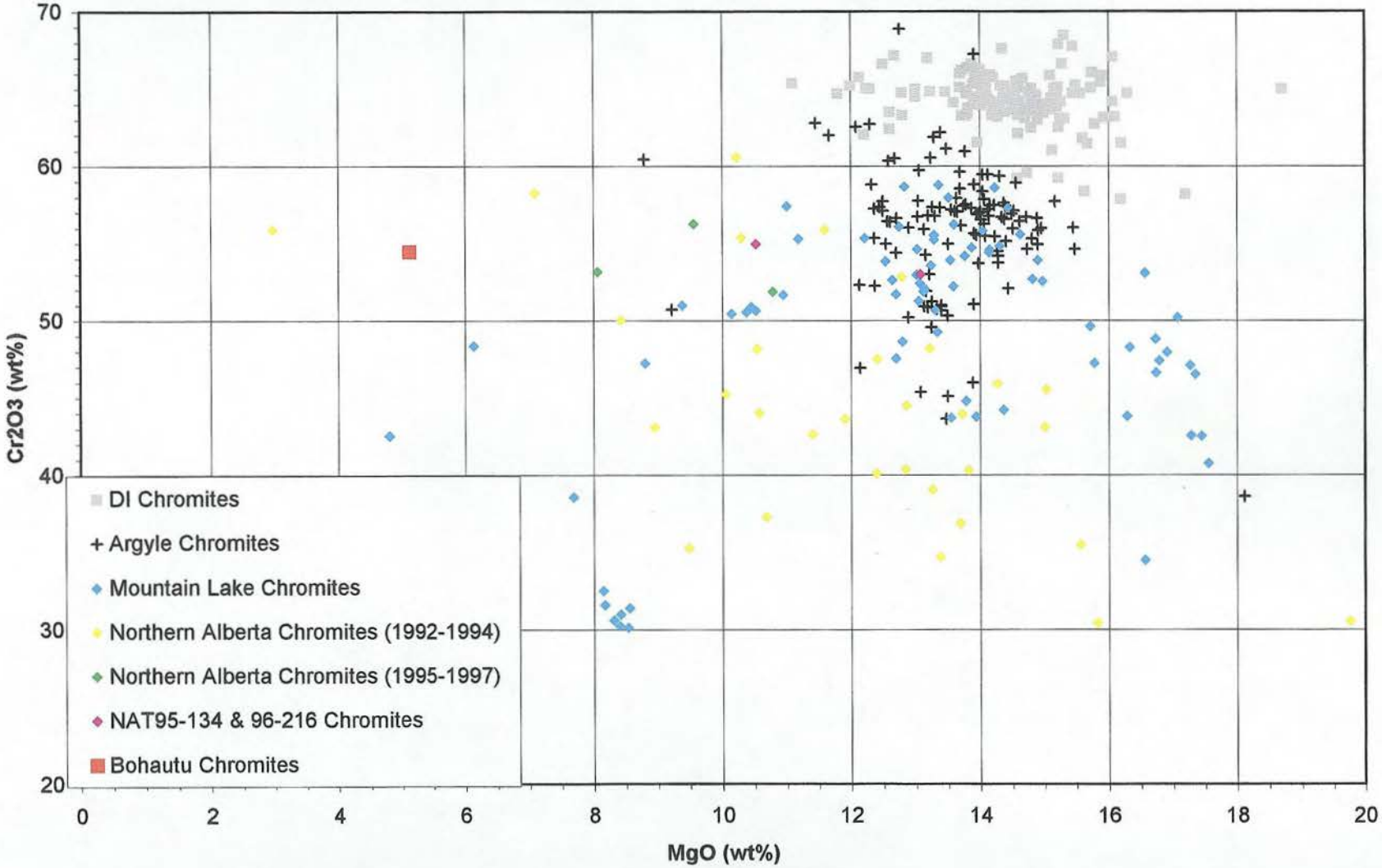

K2O vs Na2O For Low-Cr Diopsides From Bohautu's Athabasca Property, 1999
DI Low-Cr Diopsides (World)
DI Low-Cr Diopsides (Australia)
Northern Alberta Low-Cr Diopsides (1992-1994)
Northern Alberta Low-Cr Diopsides (1995-1997)
NAT95-134 & 96-216 Low-Cr Diopsides
Bohautu Cr-Diopside
Na2O (wt%)
K2O (wt%)
0
1
2
3
4
5
6
7
8
9
10
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0

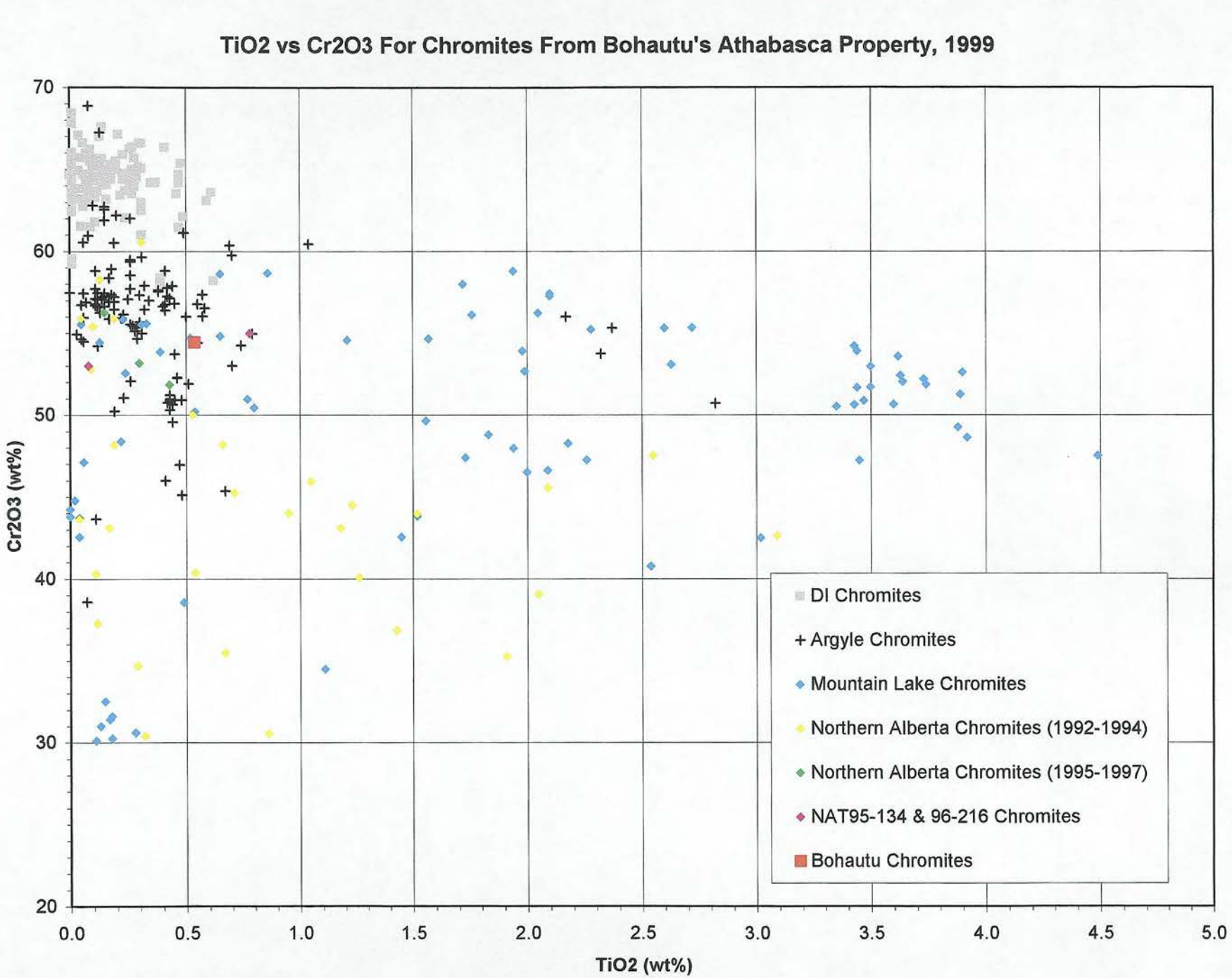

K2O vs FeO For Diopsides From Bohautu's Athabasca Property, 1999
DI Low-Cr Diopsides (World)
DI Low-Cr Diopsides (Australia)
Northern Alberta Low-Cr Diopsides (1992-1994)
Northern Alberta Low-Cr Diopsides (1995-1997)
Bohautu Cr-Diopside
FeO (wt%)
K2O (wt%)
0
2
4
6
8
10
12
14
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4


MgO vs Total Fe as FeO For Picroilmenites From Bohautu's Athabasca Property, 1999
Total Fe as FeO (wt%)
MgO (wt%)
60
55
50
45
40
35
30
25
20
0
2
4
6
8
10
12
14
16
18
Argyle Picroilmenites
Jack Picroilmenites
Northern Alberta Picroilmenites (1992-1994)
Northern Alberta Picroilmenites (1995-1997)
Bohautu Picroilmenites


MgO vs Cr2O3 For Picroilmenites From Bohautu's Athabasca Property, 1999
Argyle Picroilmenites
Jack Picroilmenites
Northern Alberta Picroilmenites (1992-1994)
Northern Alberta Picroilmenites (1995-1997)
Bohautu Picroilmenites
Cr2O3 (wt%)
MgO (wt%)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0
2
4
6
8
10
12
14
16
18
20

MgO vs Cr2O3 For Chromites From Bohautu's Athabasca Property, 1999




TiO2 vs Cr2O3 For Chromites From Bohautu's Athabasca Property, 1999
Cr2O3 (wt%)
TiO2 (wt%)
70
60
50
40
30
20
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
DI Chromites
Argyle Chromites
Mountain Lake Chromites
Northern Alberta Chromites (1992-1994)
Northern Alberta Chromites (1995-1997)
NAT95-134 & 96-216 Chromites
Bohautu Chromites

APPENDIX 4

PETROGRAPHIC DESCRIPTIONS

APPENDIX 4

PETROGRAPHIC DESCRIPTIONS

MD-03	Volcanic pumice characterised by large, open vesicles.
MD-04	Calcareous volcanic ash with preserved small vesicles.
MD-05	Altered andesite with gabbroic breccia. The main constituents are plagioclase, pyroxene epidote ad chlorite.
MD-06	Chert breccia with fractures infilled by silica.
MD-07	Chert breccia with fractures infilled by silica. Large amounts of quartz are present.

APPENDIX 5

CLAY SAMPLE GEOCHEMICAL RESULTS

APPENDIX 5

CLAY SAMPLE GEOCHEMICAL RESULTS

Technique used = HF/HNO3/HCLO4 ICP

Sample ID#	Al2O3 wt %	Fe2O3 wt %	CaO wt %	MgO wt %	K2O wt %	NaO2 wt %	P2O5 wt %	MnO wt %	TiO2 wt %
CG509	11.2	3.13	2.68	1.21	2.32	2.75	0.208	0.05	0.401
Sample 1	9.2	3.68	2.25	1.35	1.68	0.99	0.161	0.04	0.415

Sample ID#	Pb ppm	Li ppm	U ppm	Mo ppm	Cd ppm	Cr ppm	V ppm	Be ppm	Zr ppm	Y ppm	La ppm	Th ppm	Sr ppm	Ba ppm	W ppm	Sn ppm
CG509	10	17	2	2	0.2	189	56	1.5	195	14	40	9	346	888	4	2
Sample 1	13	28	2	1	0.2	47	92	1.1	107	19	29	8	142	707	1	1

Sample ID#	Sc ppm	Nb ppm	Ga ppm	Ta ppm	Pr ppm	Nd ppm	Sm ppm	Eu ppm	Gd ppm	Tb ppm	Dy ppm	Ho ppm	Er ppm	Hf ppm	Yb ppm	Lu ppm
CG509	5	5	12	1	7	29	4.8	1	4.2	0.4	2.8	0.8	1.5	4.6	1.6	0.2
Sample 1	7	7	10	1	6	23	4.2	0.9	4.7	0.5	3.3	1.4	2.1	3.3	1.8	0.3

Sample ID#	Ce ppm	Tm ppm	Cu ppm	Zn ppm	Co ppm	Ni ppm	Ag ppm
CG509	76	0.2	3	25	8	19	0.2
Sample 1	52	0.3	17	72	7	28	0.2

Technique used = HNO3/HCL ICP

Sample ID#	Cu ppm	Ni ppm	Pb ppm	Zn ppm	Co ppm	Mo ppm	Ag ppm	Ge ppm	As ppm	Sb ppm	Bi ppm	Se ppm	Te ppm	Hg ppm	U ppm	V ppm
LS3	50.8	49.8	16.6	210	36.8	16.9	0.1	0.2	10	0.2	0.2	0.5	0.2	0.03	35.6	97.3
Sample 1	16.3	20.3	7.73	61.2	7.4	1.1	0.1	0.2	8.4	0.2	0.2	0.3	0.3	0.03	0.5	17.9

APPENDIX 6

DRILL HOLE LOG DESCRIPTIONS

APPENDIX 6
BOHAUTU DIAMONDS LTD.
DRILLING RECORD AND LITHOLOGIC DESCRIPTION

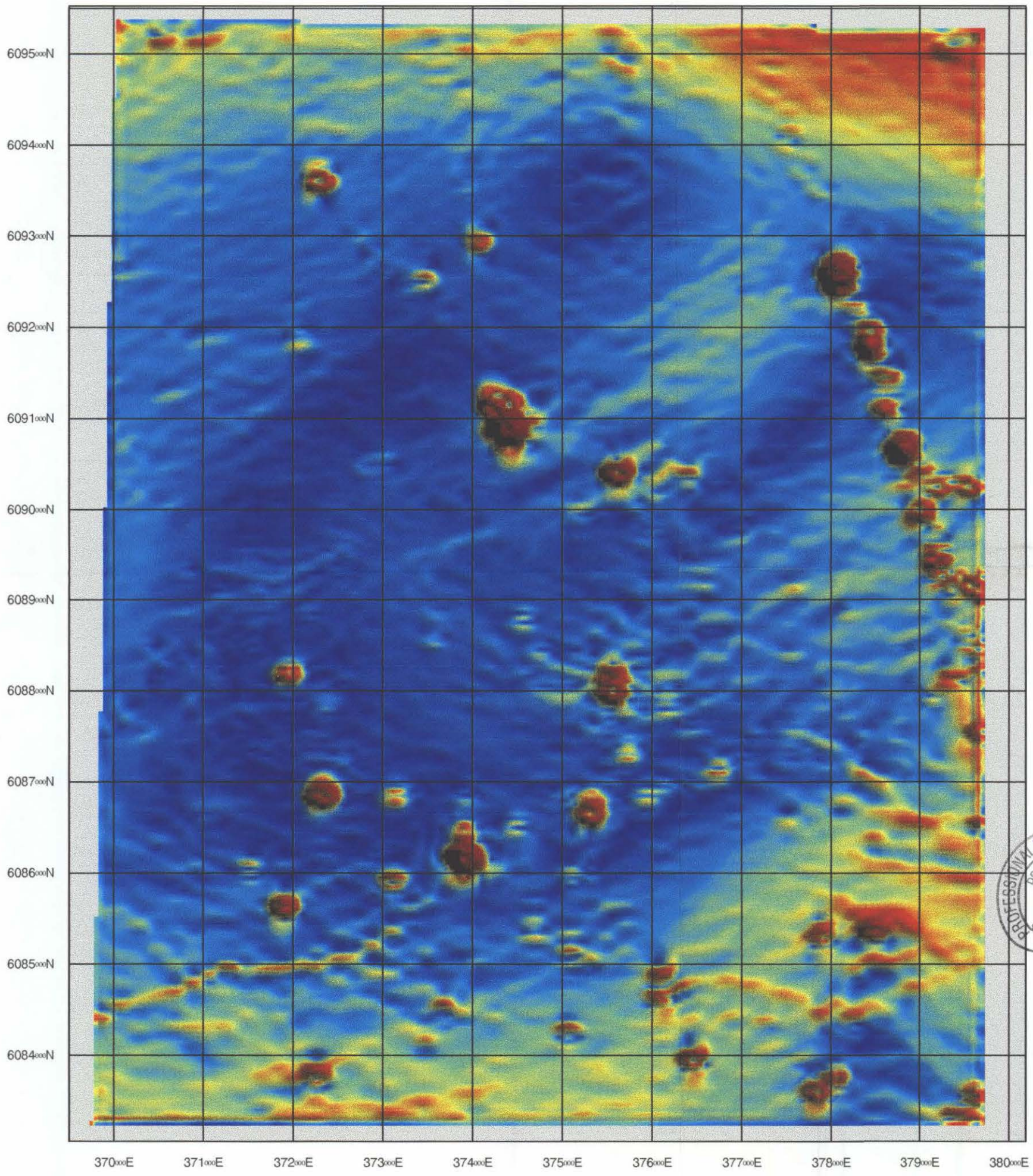
PROJECT	Athabasca Property	HOLE NUMBER	DH-1		Page 1 of 1
LOCATION		DESCRIPTION		DATE	
Permit Number:	MME-991053	Hole Depth:	91.44 m (300 ft.)	Started:	17-Jan-00
LSD:	1-35-28-20-W4	Inclination:	-90	Completed:	18-Jan-00
UTM:	376206E 6087709N	Azimuth:	n/a	Logged By:	D.B.

From (ft.)	To (ft.)	Description
0	18	Unconsolidated sand; large rock at 15 ft.
18	40	Shalely till; abundant granite pebbles
40	60	Shalely to sandy till
60	80	Sand and gravel
80	90	Gravel
90	140	Shalely to clayey till
140	150	Shalely till with sand lenses
150	170	Shalely till
170	220	Shale; some pebble lags with sand; bedrock contact around 170 ft.
220	230	Medium grained sand and gravel
230	300	Silty shale
300		E.O.H.

APPENDIX 6
BOHAUTU DIAMONDS LTD.
DRILLING RECORD AND LITHOLOGIC DESCRIPTION

PROJECT	Athabasca Property	HOLE NUMBER	DH-2		Page 1 of 1
LOCATION		DESCRIPTION		DATE	
Permit Number:	MME-991053	Hole Depth:	79.25 m (260 ft.)	Started:	19-Jan-00
LSD:	1-35-28-20-W4	Inclination:	-90	Completed:	20-Jan-00
UTM:	376287E 6087710N	Azimuth:	n/a	Logged By:	D.B.

From (ft.)	To (ft.)	Description
0	60	Casing
60	100	Shalely till; sand and gravel lens at 80 ft.
100	130	No core recovery
130	160	Unconsolidated light brown sand; well sorted
160	190	Sand; large rock at 160 ft. and 170 ft.
190	200	Gradual contact from sand to shale
200	260	Shale with silty sand lenses/laminae
260		E.O.H.



PERMIT TO PRACTICE
APEX Geoscience Ltd.
Signature
Date July 8/00
PERMIT NUMBER: P-5824
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

BOHAUTU DIAMONDS LTD.

ATHABASCA PROPERTY

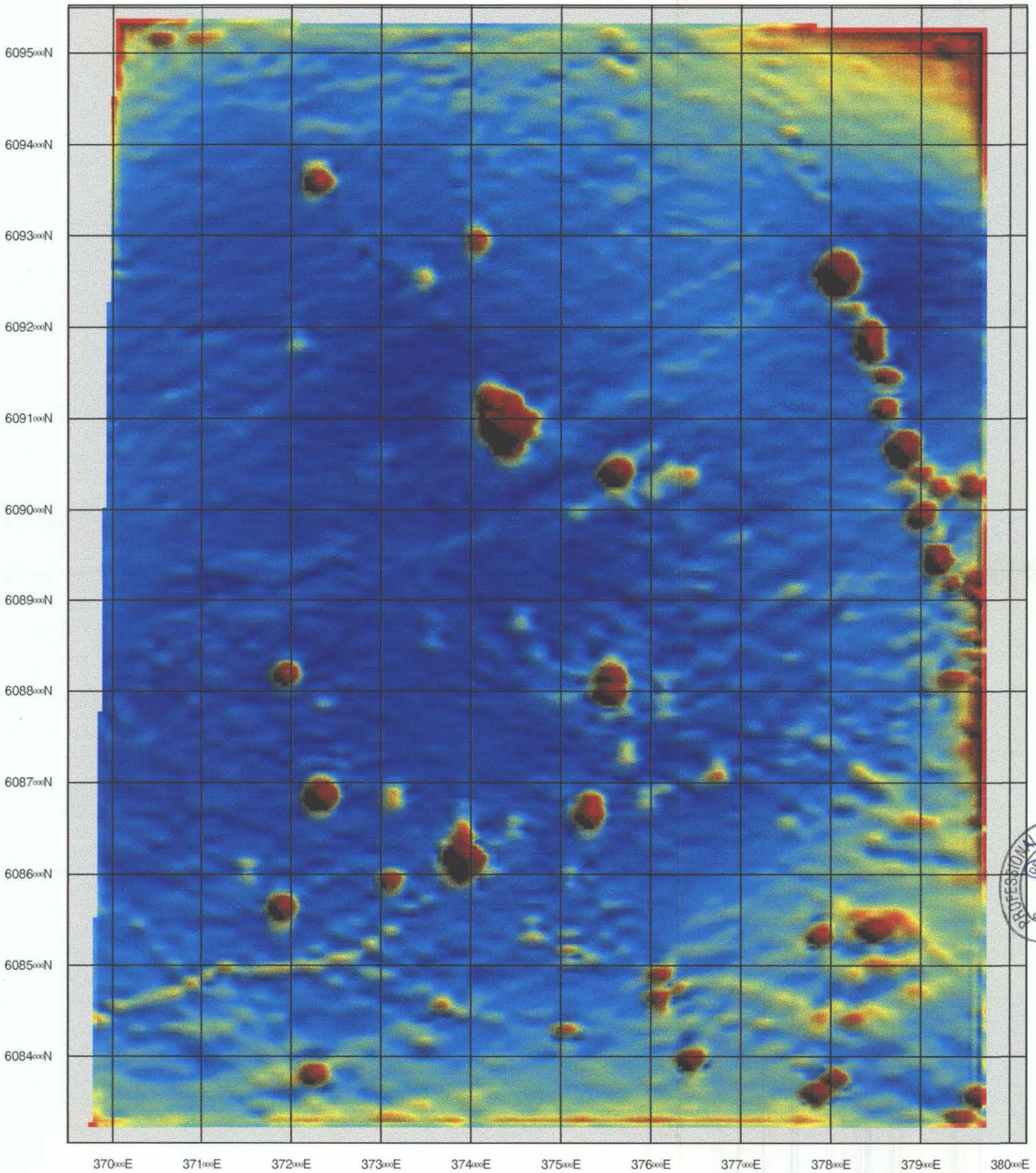
Horizontal Gradient Of TMI

0 1 NTS: 83I 2 3

1:50,000
APEX Geoscience Ltd.

Edmonton, AB June, 1999

Figure 7.



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APEX Geoscience Ltd.
Signature
Date July 8/00
PERMIT NUMBER: P-5824
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

PROFESSIONAL GEOLOGIST OF ALBERTA
DENNIS BESSER

BOHAUTU DIAMONDS LTD.

ATHABASCA PROPERTY

Analytical Signal Of TMI

NTS: 83I

0 1 2 3

1:50,000

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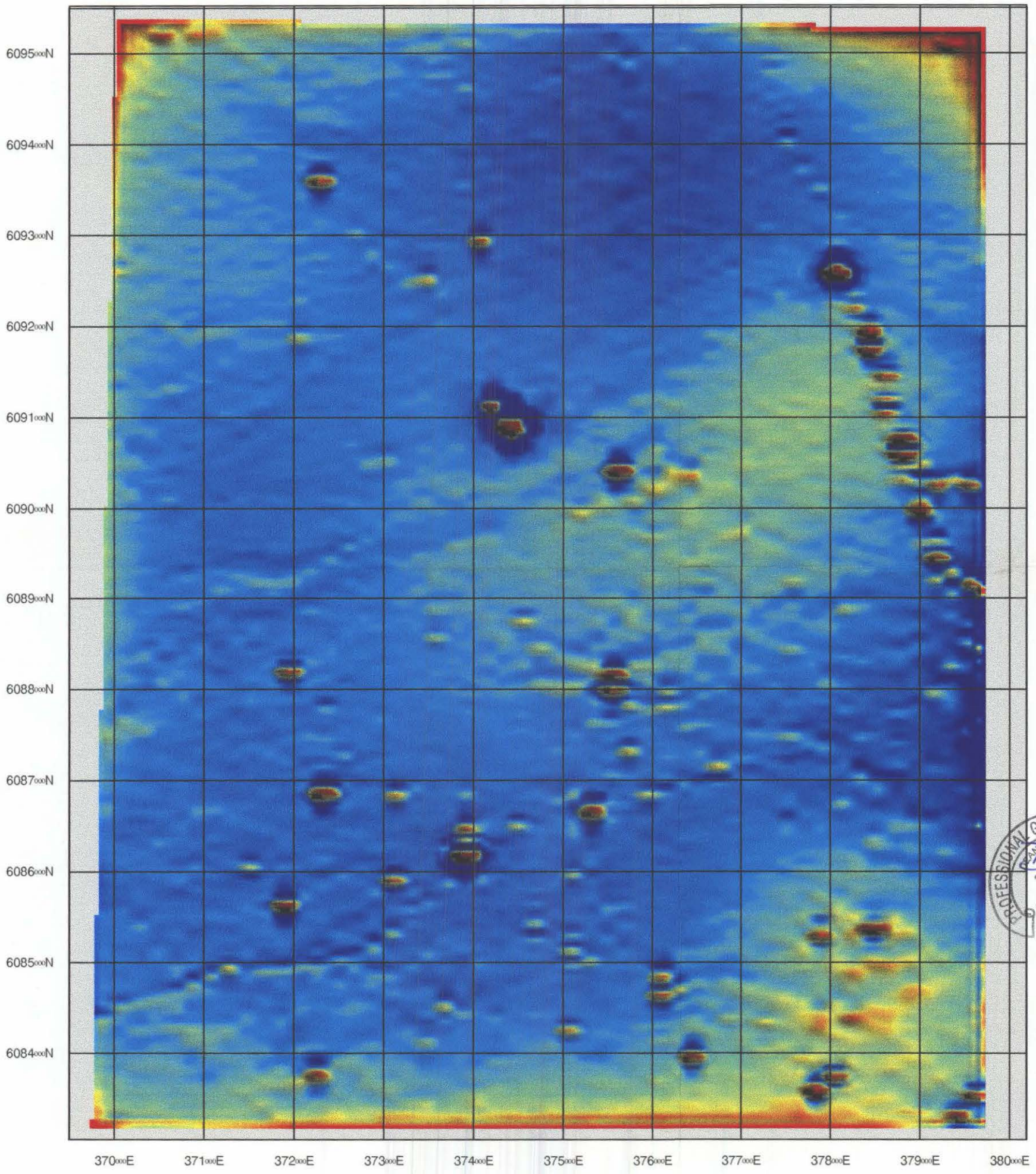
Edmonton, AB June, 1999

Figure 6.



PROFESSIONAL GEOLOGIST OF ALBERTA
DANIEL BESSERER

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BOHAUTU DIAMONDS LTD.

ATHABASCA PROPERTY

First Vertical Derivative Of TMI

0 1 NTS: 83I 2 3

1:50,000
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Edmonton, AB June, 1999

Figure 8

Range 20

Range 19

Township 69

Township 68

368000 E
370000 E
372000 E
374000 E
376000 E
378000 E
380000 E
382000 E
384000

6096
6094000 N
6092000 N
6090000 N
6088000 N
6086000 N
6084000 N
6082000 N
6080000 N

TP.69 - R.20

TP.69 - R.19

TP.68 - R.20

TP.68 - R.19

River

Athabasca

DH-1
DH-2

Swamp Area

Permit No. 9398030076

LEGEND

- Actual Drill Hole Location
- Claim Boundary
- Roads
- Pipe Lines
- Water Bodies
- Water Courses
- Gravel Pits
- Wells

Location map for Bohautu Property

BOHAUTU LIMITED

ATHABASCA PROPERTY

FINAL DRILL HOLE LOCATIONS

SCALE 0 NTS: 83I 2,000 Metres
1:25,000

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EDMONTON, ALBERTA JULY, 2000

Range 20 | Range 19

Township 69 | Township 68

368000 E | 370000 E | 372000 E | 374000 E | 376000 E | 378000 E | 380000 E | 382000 E | 384000 E

6094000 N | 6092000 N | 6090000 N | 6088000 N | 6086000 N | 6084000 N | 6082000 N | 6080000 N

9DCT206

River

Athabasca

01AB
05AB
06AB
LS3
MD-04
MD-05
MD-06
MD-07

02AL
04AL

DH-1
DH-2
9DCT208
9DCT207

Slough Grid
600 x 800 m

MD-03

CG509

Swamp Area

8LCT701

8LCT702

9DCT201

9DCT205

9DCT202

9DCT203

9DCT204

23-1-2-T

8LCT704

8LCT703

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PROFESSIONAL GEOLOGIST OF ALBERTA
DEAN J. BESSERER

LEGEND

- Claim Boundary
- Roads
- Pipe Lines
- Water Bodies
- Water Courses
- Gravel Pits
- Wells
- DH-1 — 2000 Drill Hole; Identifier
- 2000 Ground Geophysical Survey
- Terraquest 1999 HRAM Survey
- 9DCT208 — APEX Till Sample; Identifier
- 9DCT207 — APEX Gravel Sample; Identifier
- 23-1-2-T — Geological Survey of Canada Till Sample; Identifier
- MD-03 — Bohautu samples (rock grab, clay and gravel); identifier (position is approximate)

Location map for Bohautu Property

BOHAUTU DIAMONDS LTD.

ATHABASCA PROPERTY

SUMMARY OF EXPLORATION 1998 - 2000

SCALE 0 — NTS: 83I — 2,000 Metres
1:25,000

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EDMONTON, ALBERTA — JUNE, 2000

FIGURE 4

Range 20 | Range 19

Township 69 | Township 68

368000 E | 370000 E | 372000 E | 374000 E | 376000 E | 378000 E | 380000 E | 382000 E | 3840(

6096000 N | 6094000 N | 6092000 N | 6090000 N | 6088000 N | 6086000 N | 6084000 N | 6082000 N | 6080000 N

Athabasca River

2 G8 Gros
G8 Gros

G1 Pyrope, G7 Gros,
G8 Gros,
3 G9 Cr-pyrope

Chmt

Swamp Area

G10 Cr-pyrope

G7 Gros

4 CD

2 Gros

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PROFESSIONAL GEOLOGIST OF ALBERTA
DEAN J. BESSERER

LEGEND

- Claim Boundary
- Roads
- Pipe Lines
- Water Bodies
- Water Courses
- Gravel Pits
- Wells
- APEX Till Sample
- APEX Gravel Sample
- Geological Survey of Canada Till Sample
- Bohautu samples (rock grab, clay and gravel); identifier (positions are approximate)

Abbreviations:

Chmt = Chromite
CD = Chrome Diopside
Cr = Chrome
Gros = Grossular Garnet

Location map for Bohautu Property

BOHAUTU DIAMONDS LTD.

ATHABASCA PROPERTY

DIAMOND INDICATOR MINERALS SUMMARY

SCALE 0 NTS: 83I 2,000 Metres
1:25,000

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EDMONTON, ALBERTA JUNE, 2000

FIGURE 5