MAR 20010009: PELICAN MOUNTAINS

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NTS 83P11/12

ASSESSMENT REPORT
PERMITS 9396020002 AND 9396020005
PELICAN MOUNTAINS, CENTRAL ALBERTA

Company Name:	**Shear Minerals Ltd.**
Permits:	**9396020002 and 9396020005**
Nature of Report:	**Drilling program**
Work Conducted During:	**Winter 2001**
Location of Permits:	**Pelican Mountains, Central Alberta**
	NTS 83P11/12

APEX Geoscience Ltd.

May, 2001
Edmonton, Alberta

A.K. Noyes
D.J. Besserer

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EXECUTIVE SUMMARY

The Pelican Mountains Property is located south of Wabasca Lake, approximately 75km northeast of the town of Slave Lake. Permits 9396020002 and 9396020005 encompass a total area of 8704 hectares. The area is easily accessible by all weather roads, dry weather gravel roads, seismic and/or cut lines which cross the permits.

The Pelican Mountains Property lies within the Western Canadian Sedimentary Basin along the southern flanks of the Peace River Arch. The Buffalo Head terrane, which is host to the Buffalo Head kimberlites, underlies the Peace River Arch. Overlying the basement in the Pelican Mountain region is a thick sequence of Phanerozoic rocks comprised mainly of cretaceous sandstones and shales. In general, the Cretaceous strata underlying the Pelican Mountains Property is composed of alternating units of marine and non-marine sandstone, shale, siltstone, mudstone and bentonite. The Pelican Mountains area has been influenced by at least one stage of continental glaciation associated with the Laurentide ice sheet. As a result, the bedrock within the Pelican Mountains area is covered by a veneer of till. The glacial sediments are generally thin (<7m) at higher elevations with occasional bedrock exposures.

A total of 15 stream and 3 auger drill hole samples have been collected by APEX Geoscience Ltd. and by a prospector, Mr. MacGougan. Fourteen kimberlite indicator minerals were confirmed by microprobe analyses yielding chemistries indicative of a kimberlite or alkaline related intrusion source. One sample alone (PM001), contained two pyrope garnets, two eclogitic garnets, one chrome diopside, and two chromites. sample and requires follow-up sampling.

Two ground geophysical surveys were conducted over some prospective airborne geophysical anomalies. One of the targets, Anomaly 10, was selected for follow-up drilling using a water well drill. Kimberlite was not intersected and the magnetic anomaly has been explained as being heavy minerals concentrated in gravel.

A three-stage program is recommended at this time. **Stage 1:** Further ground checking of picked airborne geophysical anomalies and sample collecting in the vicinity of these targets. An extensive sampling program should also be done to cover the Pelican Mountains Property using conventional sampling methods. A more in-depth sampling procedure of prospective geophysical targets should also be done, collecting till samples down-ice of targets in a fence-like manner using an auger drill; **Stage 2:** Ground geophysical surveying; **Stage 3:** Based on the results obtained from stages 1 and 2, an appropriate drilling program will be recommended. Therefore, the estimated cost to complete stages 1 and 2 is about **$100,000** not including provisions for GST.

INTRODUCTION

Terms of Reference

APEX Geoscience Ltd. (APEX) was retained to conduct exploration involving till and stream sampling, ground geophysics and drilling as consultants on behalf of Shear Minerals Ltd. (Shear) within the Pelican Mountain Property. This evaluation has been based on published and unpublished material. The authors have both visited the property.

Property Description and Location

The Pelican Mountain permits are located south of South Wabasca Lake in the Pelican Mountains area and are approximately 75km northeast of the town of Slave Lake, Alberta. Slave Lake is located 200 km north-northwest of Edmonton and can be reached via Provincial Highways 2 and 44. Slave Lake is also accessible by air or rail, with daily air passenger service (Figure 1). The Pelican Mountain permits are geographically centered at about latitude 55°35' N and longitude 113°35' W, and are within 1:50,000 National Topographic System (NTS) map areas 83P/11 and 83P/12. The diamond rights to the mineral permits (9396020002 and 939602005) are owned 100% by Shear Minerals Ltd. and consist of 8704 hectares in partial or full townships. Legal permit descriptions are outlined in Table 1 and are shown on Figure 2.

The Pelican Mountain area comprises a number of extensively forested topographic peaks surrounded by flat prairie and muskeg. The elevation of Pelican Mountain is up to 3000 m above sea level (asl) and the average elevation of the surrounding area is approximately 2200 m asl.

TABLE 1
LEGAL PERMIT DESCRIPTIONS, PELICAN MOUNTAINS

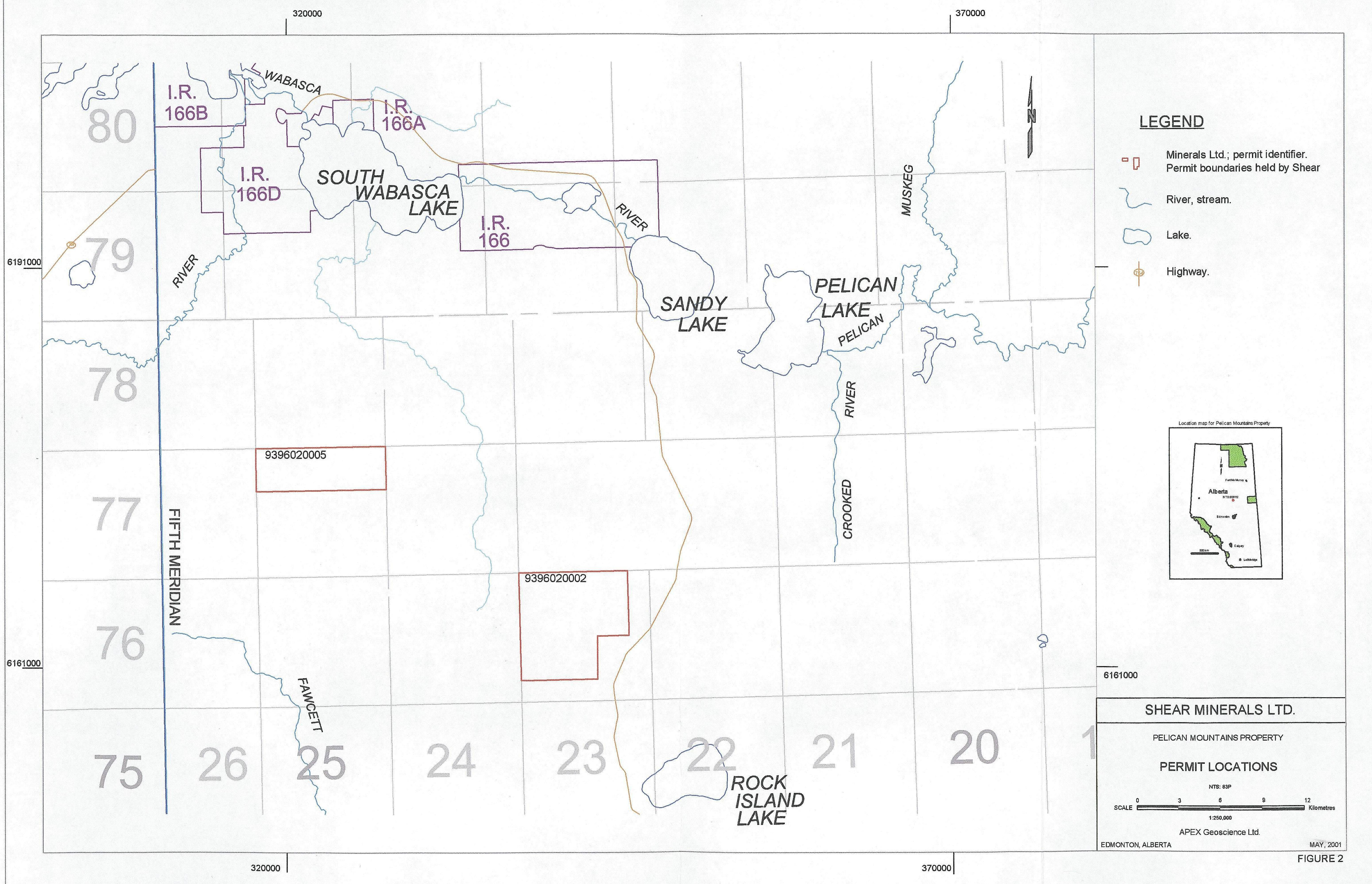
Permit Identifier	Date issued	Expiry Date	Size (ha)	Location (M-RG-TWP-SC) Legal Description
9396020002	1996/02/13	2006/02/13	5632	**4-23-076**: 7-9,10W,15W,16-23,26-35
9396020005	1996/02/13	2006/02/13	3072	**4-25-077**: 25-36
TOTAL AREAL EXTENT			**8704**	

Accessibility, Climate and Local Resources

A number of all weather roads, which come within 10 km of the permits, can be accessed from Slave Lake via Secondary Highways 67 and 813. There are a number of gravel roads crossing the permits, which can be accessed by truck or all terrain vehicles year round. In addition, a number of seismic or cut lines cross the permits and can be accessed using all-terrain vehicles. The closest serviced airstrip is just north of Calling Lake, about 25km southeast of the permits, which is suitable for helicopter or small aircraft. Accommodation, food, fuel and supplies are readily accessible in the town of Slave Lake. Annual temperatures range from -40°C in January to 25°C in July.


Bistcho Lake
Lake Athabasca
N
High Level
Manning
Fort McMurray
Lesser Slave Lake
Shear's Mineral Permits
Grande Prairie
High Prairie
Slave Lake
Edmonton
Calgary
Lethbridge
Legend
Provincial and/or National Parks
Provincial Highway
Cities
Rivers
Mineral Permits held by Shear Minerals Ltd.; Identifier
SHEAR MINERALS LTD.
PELICAN MOUNTAIN PERMIT
LOCATION
0 100 200
Scale Kilometres
APEX Geoscience Ltd.
EDMONTON, ALBERTA
MAY, 2001

FIGURE 1



320000
370000
6191000
6161000
80
79
78
77
76
75
26
25
24
23
22
21
20
I.R. 166B
I.R. 166A
I.R. 166D
I.R. 166
WABASCA
SOUTH WABASCA LAKE
RIVER
SANDY LAKE
PELICAN LAKE
PELICAN
MUSKEG
RIVER
CROOKED
FIFTH MERIDIAN
FAWCETT
ROCK ISLAND LAKE
9396020005
9396020002
N
LEGEND
Minerals Ltd.; permit identifier. Permit boundaries held by Shear
River, stream.
Lake.
Highway.
Location map for Pelican Mountains Property
Alberta
SHEAR MINERALS LTD.
PELICAN MOUNTAINS PROPERTY
PERMIT LOCATIONS
NTS: 83P
SCALE 0 3 6 9 12 Kilometres
1:250,000
APEX Geoscience Ltd.
EDMONTON, ALBERTA
MAY, 2001

FIGURE 2

GEOLOGICAL SETTING

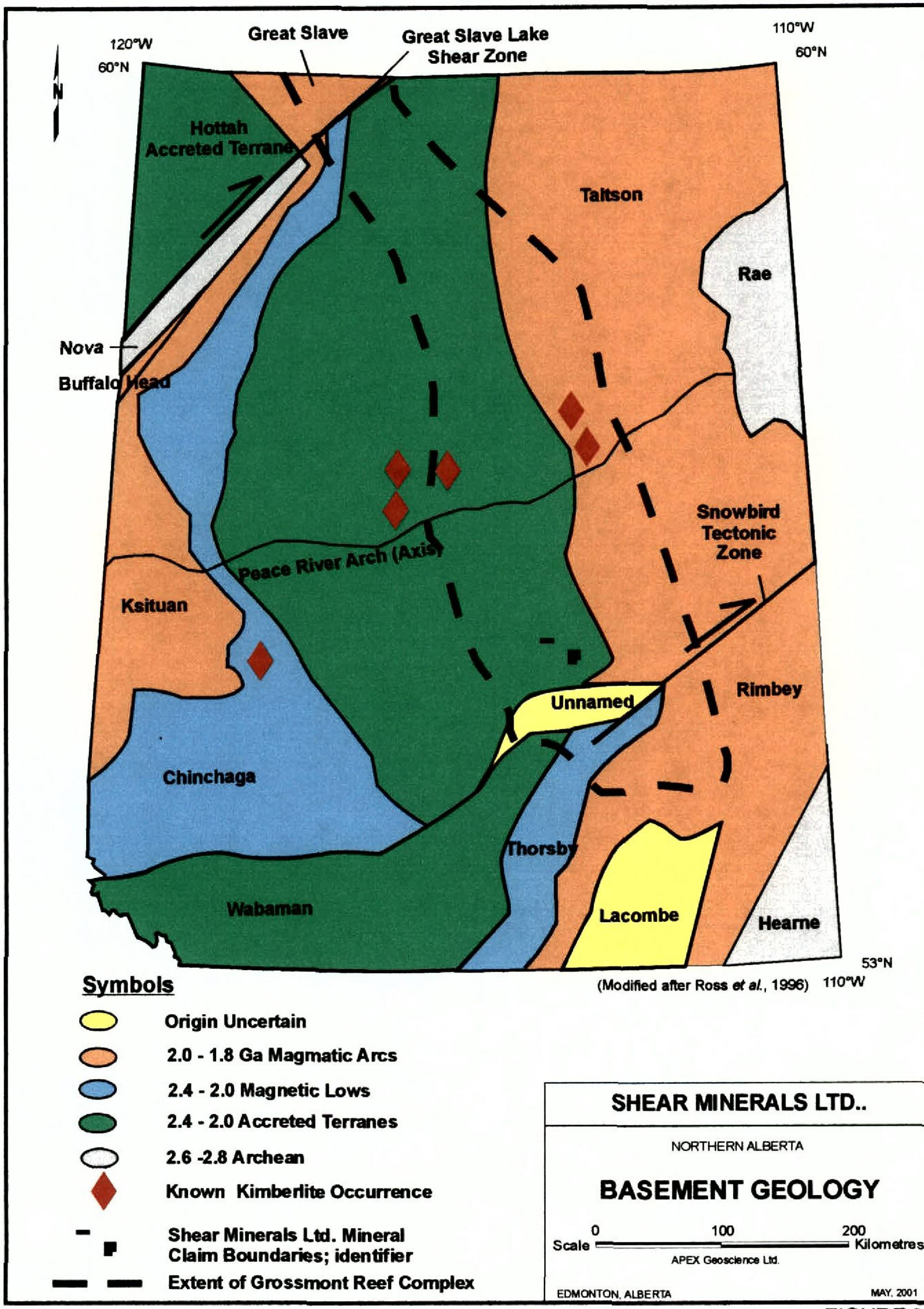
Regional Geology

The Pelican Mountains Property lies within the Western Canadian Sedimentary Basin along the southern flanks of the Peace River Arch. Although Precambrian rocks are not exposed within the Pelican River region (NTS 1:250,000 map sheet 83P), the basement underlying the Peace River Arch is comprised of several terranes including the Buffalo Head and the Chinchaga (Figure 3), which collectively form the Buffalo Head Craton. The Buffalo Head Craton was accreted to the western edge of the Churchill Structural Province approximately 2.0 to 2.4 billion years ago. Due to their relatively stable history since accretion, the Buffalo Head and Chinchaga terranes are currently the focus of extensive diamond exploration in northern Alberta. Seismic and gravity data indicate crustal thickness is likely around 35 to 40 km in the vicinity of the Peace River Arch, a characteristic favourable for the preservation and formation of diamonds in the upper mantle. The Pelican Mountain Property lies within an area with an intermediate to high residual gravity signature (Villeneuve *et al.*, 1993).

Overlying the basement in the Pelican Mountain region is a thick sequence of Phanerozoic rocks comprised mainly of Cretaceous sandstones and shales and Mississippian to Devonian carbonates and salts (Glass, 1990). Several of the Devonian carbonate units are part of the Grosmont Reef Complex, a large structure that extends in a northwesterly direction from the Pelican Mountain area to the Northwest Territories (Bloy and Hadley, 1990). The Grosmont Reef Complex is likely the result of tectonic uplift during the Devonian along this trend. This structure in conjunction with the Peace River Arch could have played a significant role in the localisation of faults and other structures that could have provided favourable pathways for kimberlite volcanism. Table 2 is a generalized outline of the stratigraphy in the Pelican Mountains permit area.

In general, the Cretaceous strata underlying the Pelican Mountain Property is composed of alternating units of marine and non-marine sandstones, shales, siltstones, mudstones and bentonites. The oldest documented units exposed in the permit area belong to the Smoky Group, a sequence of Upper Cretaceous calcareous and non-calcareous shales (Figure 4). However, older units from the top of the Fort St. John and/or the base of the Colorado groups may be exposed in river and stream cuts.

The time span of deposition of the Upper Cretaceous rocks exposed within the area is chronologically correlative with the deposition of the Crowsnest Formation volcanics of southwest Alberta (Olson *et al.*, 1994; Dufresne *et al.*, 1995), the Mountain Lake Kimberlite and with kimberlitic volcanism near Fort à la Corne in Saskatchewan (Lehnert-Thiel *et al.*, 1992; Scott Smith *et al.*, 1994). In addition, there is documented igneous activity associated with the Steen River Anomaly, a possible impact structure, which formed in northwestern Alberta about this time (Carrigy, 1968; Dufresne *et al.*, 1995).



120°W
60°N
Great Slave
Great Slave Lake
Shear Zone
110°W
60°N
N
Hottah
Accreted Terrane
Taltson
Rae
Nova
Buffalo Head
Snowbird
Tectonic
Zone
Peace River Arch (Axis)
Ksituan
Rimbey
Unnamed
Chinchaga
Thorsby
Wabaman
Lacombe
Hearne
53°N
110°W
(Modified after Ross et al., 1996)
Symbols
Origin Uncertain
2.0 - 1.8 Ga Magmatic Arcs
2.4 - 2.0 Magnetic Lows
2.4 - 2.0 Accreted Terranes
2.6 -2.8 Archean
Known Kimberlite Occurrence
Shear Minerals Ltd. Mineral
Claim Boundaries; identifier
Extent of Grossmont Reef Complex
SHEAR MINERALS LTD..
NORTHERN ALBERTA
BASEMENT GEOLOGY
0
100
200
Scale
Kilometres
APEX Geoscience Ltd.
EDMONTON, ALBERTA
MAY, 2001

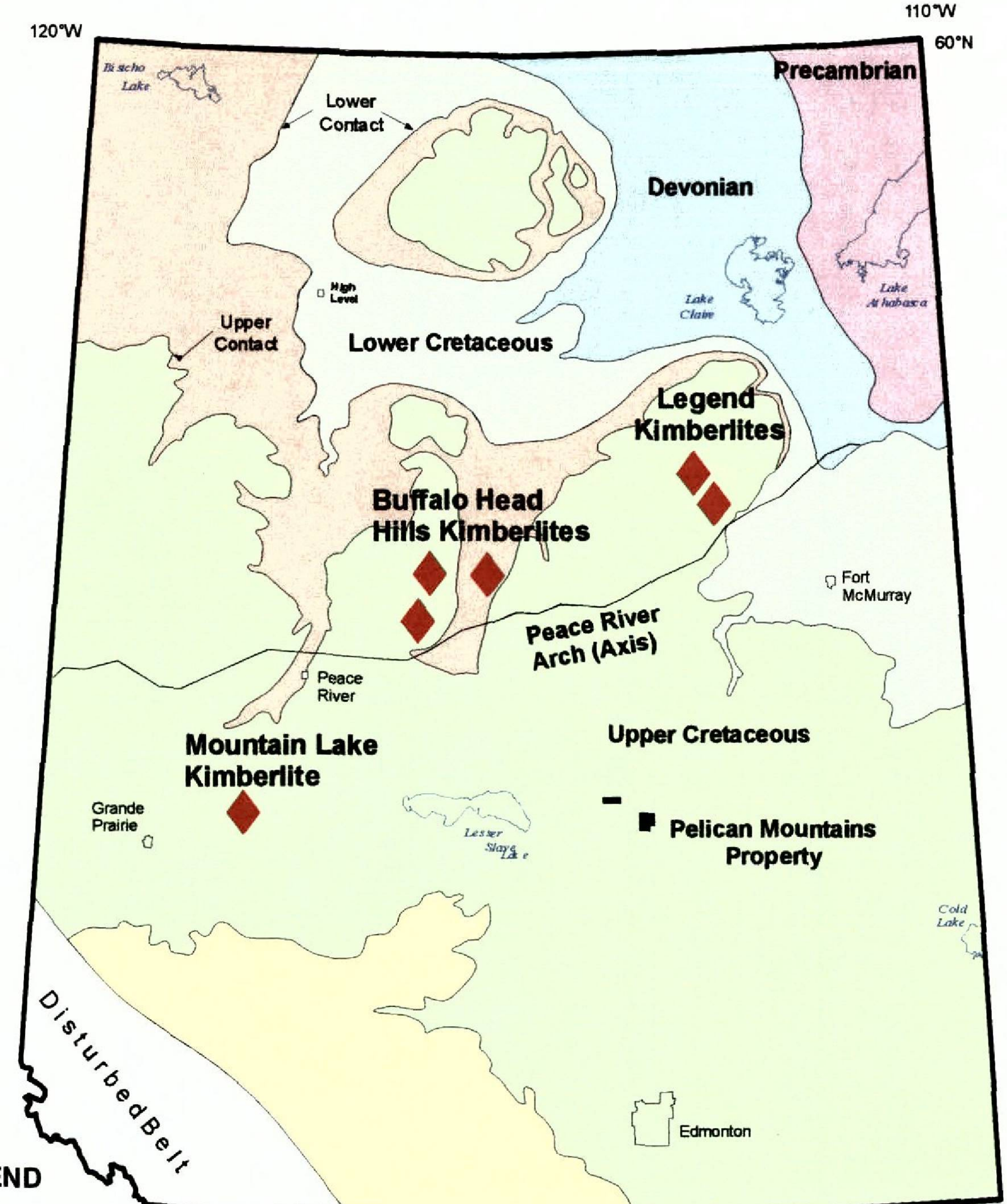
FIGURE 3.

TABLE 2

GENERALIZED STRATIGRAPHY PELICAN MOUNTAIN PROPERTY

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

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



(Modified after Dufresne *et al.*, 1996)

LEGEND

Tertiary
- *Paskapoo Formation*

Cretaceous
- Undifferentiated (includes the Smoky Group, Edmonton Group and Wapiti Formation)
- Shaftesbury Formation
- Loon River Formation

Devonian
- Undifferentiated formations

Precambrian
- Undifferentiated Precambrian formations
- Geological contact (approximate)
- High Level — City, town; identifier
- Shear Minerals Ltd. Permit block; identifier
- Known kimberlite occurrence

SHEAR MINERALS LTD.

NORTHERN ALBERTA

REGIONAL GEOLOGY

Scale 0 100 200 Kilometres

APEX Geoscience Ltd.

EDMONTON, ALBERTA MAY, 2001

FIGURE 4

In north-central Alberta, the Peace River Arch 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 Peace River Arch was emergent during this period resulting in the reactivation of many prominent basement faults (Dufresne *et al.,* 1996).

The Phanerozoic rocks beneath the Pelican Mountains Property lies within the southeastern edge of the Peace River Arch and are underlain by and proximal to basement faults related to the Snowbird Tectonic Zone and the underlying Grosmont Reef Complex (Bloy and Hadley, 1990; Dufresne *et al.*, 1996). Basement faults may have controlled the emplacement of the Mountain Lake Kimberlite and the Buffalo Head Hills kimberlites northwest of the Pelican Mountains permits (Dufresne *et al.*, 1996; Leckie *et al.*, 1997). The permits lie in proximity to the eastern and southern boundaries of the Buffalo Head Terrane and the Snowbird Tectonic Zone to the south, and are therefore structurally complex (Vernet and Dufresne, 1998).

The Pelican Mountains area has been influenced by at least one stage of continental glaciation associated with the Laurentide ice sheet. As a result, the bedrock within the Pelican Mountains area is covered by a veneer of till. The glacial sediments are generally thin (<7 m) at higher elevations within the permit area with occasional bedrock exposures (Vernet and Dufresne, 1998).

SUMMARY OF PREVIOUS EXPLORATION

Airborne and Ground Geophysical Surveys

In early 1998, a high resolution (200 metre line spacing) fixed-wing airborne magnetic survey was conducted on the Pelican Mountains Property on behalf of Ellesmere Minerals Ltd. The survey was flown by Spectra Aviation Services and processed by Spectra Exploration Geoscience Corp (Spectra). Figure 5 show the outline of the airborne geophysical survey that was flown. In late January 1998, APEX received digital airborne geophysical data, the raw data line profiles, and a number of filtered magnetic maps processed from the data. The raw and processed data was then used by APEX to evaluate the data for the presence of possible near-surface kimberlite or related intrusions.

Twenty-eight magnetic shallow-source anomalies were identified that display magnetic characteristics that could be indicative of near surface intrusive pipes. Appendix 1 is a list of prioritized anomalies. Seven anomalies were classified as either medium or high priority near surface anomalies, which require follow-up exploration for kimberlites or related intrusions (Figure 5). The initial inspection of the shallow target enhancement maps and the first vertical derivative map indicate that there are no apparent targets which are not culture related of the quality of the magnetic targets that have yielded kimberlites in the Buffalo Head Hills. The more prospective magnetic anomalies include 3, 4, 10, 12, 26, 27 and 28

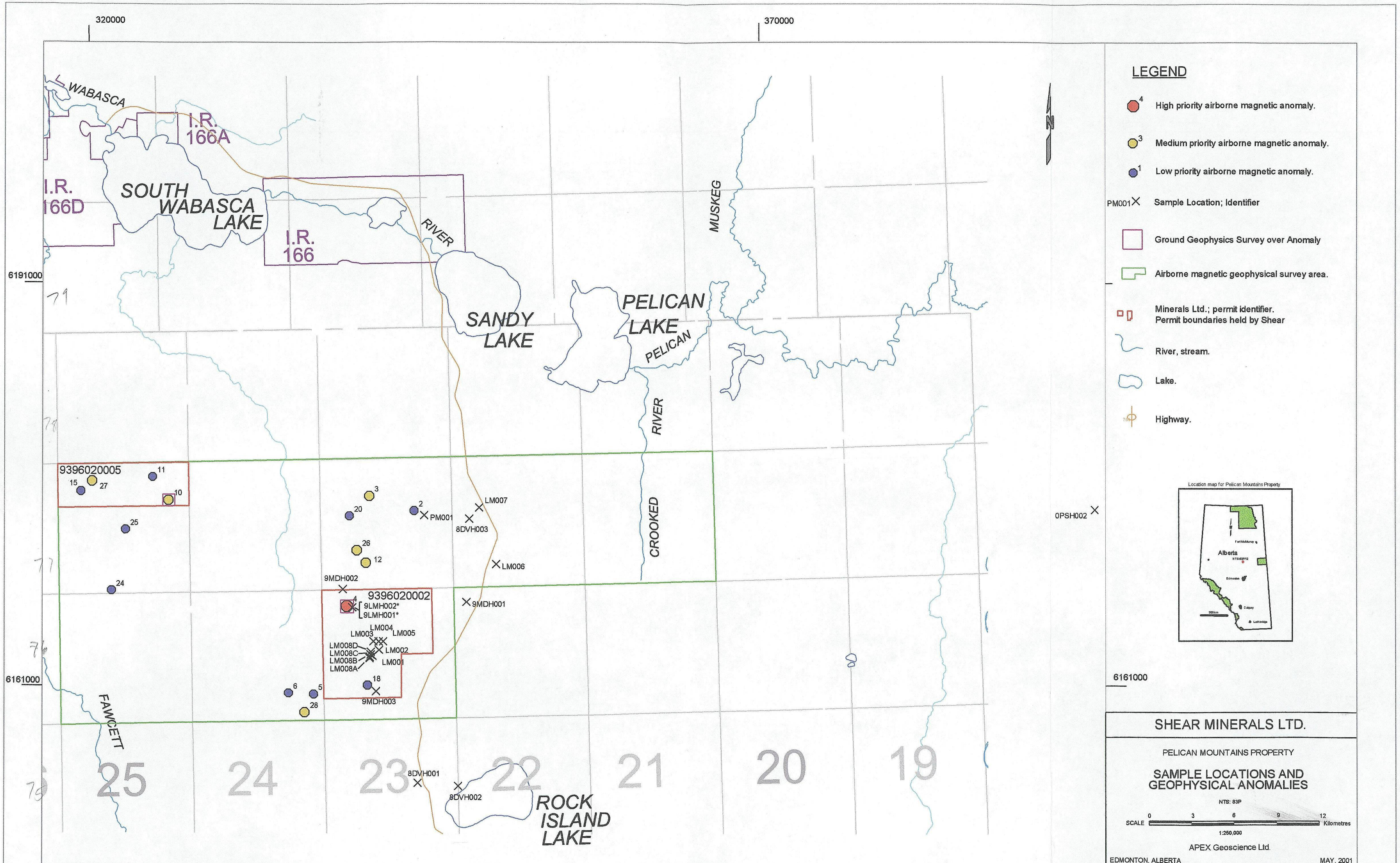

LEGEND
High priority airborne magnetic anomaly.
Medium priority airborne magnetic anomaly.
Low priority airborne magnetic anomaly.
PM001 Sample Location; Identifier
Ground Geophysics Survey over Anomaly
Airborne magnetic geophysical survey area.
Minerals Ltd.; permit identifier.
Permit boundaries held by Shear
River, stream.
Lake.
Highway.
Location map for Pelican Mountains Property
Alberta
320000
370000
6191000
6161000
WABASCA
I.R. 166A
I.R. 166D
I.R. 166
SOUTH WABASCA LAKE
RIVER
SANDY LAKE
PELICAN LAKE
PELICAN
MUSKEG
RIVER
CROOKED
FAWCETT
ROCK ISLAND LAKE
9396020005
9396020002
9LMH002*
9LMH001*
9MDH002
9MDH001
9MDH003
PM001
8DVH003
8DVH001
8DVH002
LM001
LM002
LM003
LM004
LM005
LM006
LM007
LM008A
LM008B
LM008C
LM008D
0PSH002
25
24
23
22
21
20
19
SHEAR MINERALS LTD.
PELICAN MOUNTAINS PROPERTY
SAMPLE LOCATIONS AND GEOPHYSICAL ANOMALIES
NTS: 83P
SCALE 0 3 6 9 12 Kilometres
1:250,000
APEX Geoscience Ltd.
EDMONTON, ALBERTA
MAY, 2001

FIGURE 5

could be indicative of kimberlite or lamproite-related intrusions warranting further exploration.

Two anomalies of interest were selected after ground checking for potential culture, A4 and A10. The outline of the ground geophysical grids are also shown on Figure 5 and the magnetic plots for these anomalies are in Appendix 2. During February 2000, a seven-day ground geophysical program was conducted over the two high priority airborne targets. These anomalies are between 200 and 300m in diameter and have intensities of approximately 40 nT above background magnetic susceptibility (Appendix 1). These magnetic anomalies are located on existing seismic lines, with excellent winter access for drilling. The surveys confirmed the airborne magnetic anomalies and have signatures similar to other kimberlite diatremes discovered to date in Alberta.

Sampling

During September 1998, two APEX geologists visited the Pelican Mountain Property on behalf of Ellesmere Minerals Ltd. and collected three stream sediment samples for diamond indicator minerals (8DVH001 to 8DVH003). In 1999, Ellesmere optioned the diamond rights to Shear for the Pelican Mountain Property. During the 1999 exploration season, a total of 11 stream and 3 auger drill hole samples were collected by APEX (9MDH001 to 9MDH003) and the prospector, Larry MacGougan (9LMH001, 9LMH002, PM001 and LM001 to LM008). The auger drill hole samples were collected at 3 to 4.5m below the surface. During the 2000 exploration season, Mr. MacGougan collected one stream sample, 0PSH002. All of these samples were sent to the Saskatchewan Research Council (SRC) in Saskatoon for Diamond Indicator Mineral processing and analysis. During 2000, Mr. L. MacGougan collected 23 auger drill, till and stream sediment samples. The data for these samples is shown in Appendix 10. As well, Mr. MacGougans credentials are shown in Appendix 11.

Sample locations and a brief description are listed in Appendix 3 and are shown on Figure 5. Locations for samples 9LMH001 and 9LMH002 were described as being collected 200m apart from each other, however only one Universal Transverse Mercator (UTM) coordinate was provided.

Results

All samples collected in 1998, 1999 and 2000 were sent to the SRC in Saskatoon for diamond indicator analyses. The mineral pick results are listed in Appendix 4. Out of the 18 samples, the minerals picked were two possible pyrope garnets, one possible chrome diopside, one possible eclogite and one possible other silicate. There were numerous oxides picked approximately 140 grains that are either picroilmenite or chromite. Microprobe analyses were done on a select few grains to confirm the mineral picks, which are presented in Appendix 5 along with chemistry plots in Appendix 6. Microprobe analyses confirmed four pyrope garnets, three chrome diopsides, three eclogite garnets, four ilmenites (three of which are picroilmenites) and 29 chromites.

All four pyrope garnets are G9's and plot within the garnet lherzolite field according to the classification scheme by Gurney (1984). TiO_2 contents are low, ranging from 0 to 0.2 wt% and have moderate Cr_2O_3 contents (3.4 to 6.8 wt%). Two of the pyrope garnets were recovered from sample PM001. The G9 lherzolitic pyropes are of little use in qualifying the diamond potential of a prospective source kimberlite, however they are a strong indication that kimberlites exist in the region. Two 'other' grains were confirmed by microprobe analyses to be grossular garnet. The high Cr_2O_3 (11.0 and 16.1 wt%) and CaO (34.3 and 34.9 wt%) concentrations accompanied with very low FeO (1.5 and 3.3 wt%) and MgO (0.1 and 0.3 wt%) concentrations, suggest that they are not eclogite or pyrope garnets in composition.

Three eclogitic garnets were recovered from the Pelican Mountain samples. Two eclogitic garnets from sample PM001 have lower FeO contents (< 22.5 wt%) compared to the eclogitic garnet found in sample 0PSH002, which has 29.0 wt% FeO. This grain also has very low MgO contents (3.0 wt%) in comparison to the other two grains. These eclogitic garnets have similar compositions as the Northern Alberta eclogitic garnets.

Three chrome diopside grains were recovered from the Pelican Mountain samples. Two of the grains belong to the Cr-rich megacryst suite, having slightly > 0.8 wt% Cr_2O_3. These two grains fall intermediately between the low Cr-diopsides and Cr-diopsides from Lac de Gras. The third, low Cr-diopside is comparable with the majority of the Northern Alberta Cr-diopside analyses (Appendix 6). One of the grains is from sample PM001.

Four ilmenite grains were recovered from the Pelican Mountain samples, three of which are picroilmenites (i.e. > 10 wt% MgO). The TiO_2 contents (50.2 to 52.4 wt%) and Cr_2O_3 contents (0.07 to 1.18 wt%) fall within the ranges outlined by Mitchell (1986) for typical picroilmenites derived from kimberlite or closely related alkaline intrusions (Appendix 5). The ilmenite grain with low MgO (0.3 wt%) is crustal in origin. The picroilmenite compositions are similar to picroilmenites found in the Jack kimberlite in British Columbia as well as those found in Northern Alberta till samples (Appendix 6).

Twenty nine chromite grains were selected for microprobe analyses. Only one grain has Cr_2O_3 contents > 60 wt%, however the MgO contents are too low (4.4 wt%), therefore the grain does not fall within the Diamond Inclusion Field for chromites (MgO-Cr_2O_3 plot, Appendix 6). However, on the TiO_2-Cr_2O_3 plot, the same grain does fall within the Diamond Inclusion Field for chromites due to its low TiO_2 content of 0.0 wt%. The majority of the grains fall within the crustal composition for chromites having < 50 wt% Cr_2O_3. There is significant scatter within the data therefore no trends were identified. Two of the chromite grains were from sample PM001.

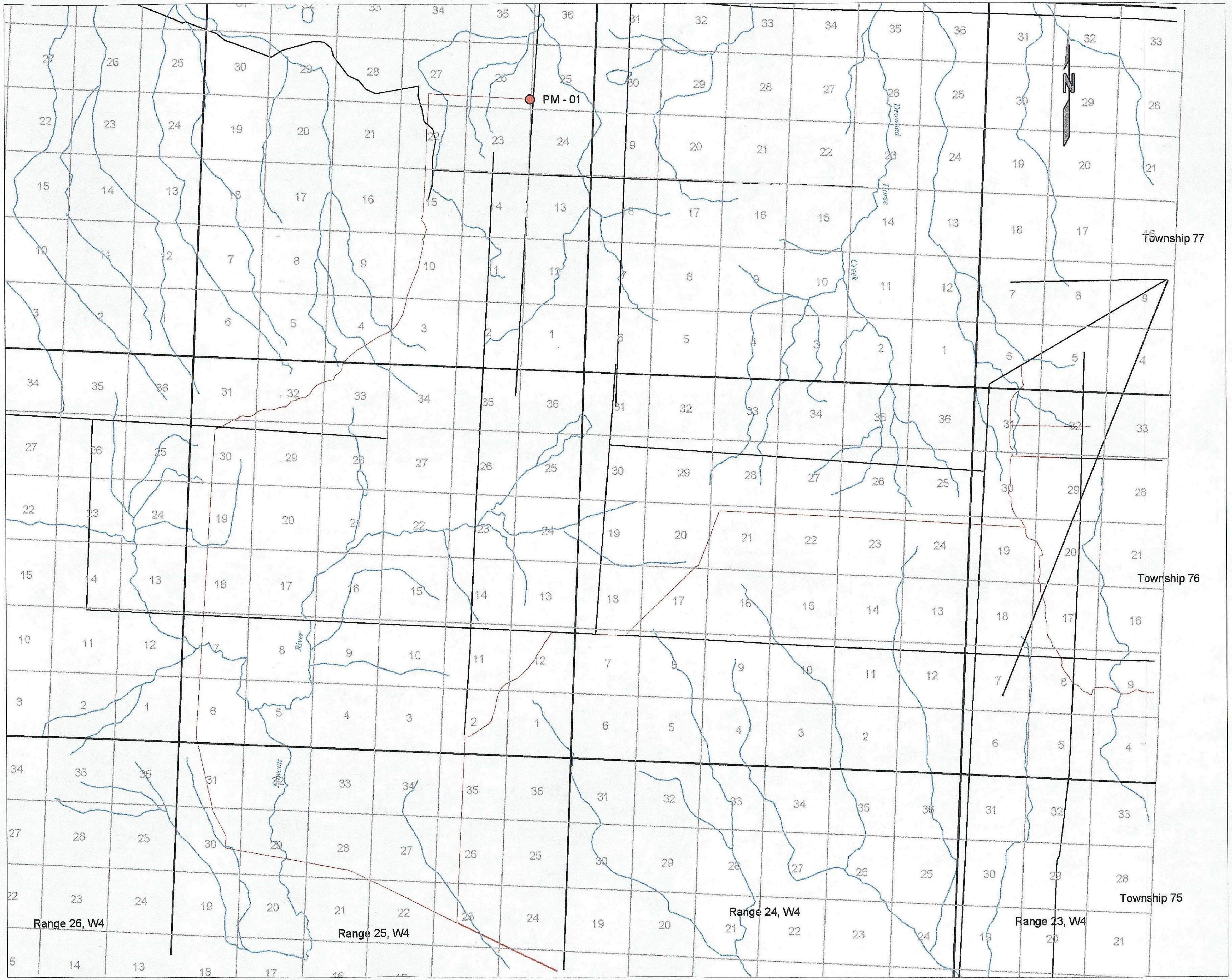
2001 EXPLORATION

Personnel and Logistics

During winter 2001 two APEX geologists mobilized to the town of Slave Lake in preparation for water well drilling at Anomaly 10 within the Pelican Mountains Property. A total of 10 man-days were spent within the Pelican Mountains Property. The drilling company contracted was M&S Water Wells of Thorfield, Alberta.

Water Well Drilling

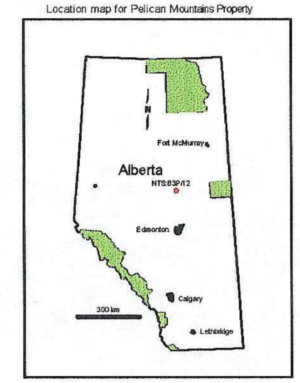
The location of the drill hole for Anomaly 10 is M: W4, RG: 77, TWP: 25, SEC: 26,1 (Figure 6). A total of 140 feet were drilled, drilling through lithologies of consolidated clay, fine to medium grained sand and a gravel unit towards the bottom of the hole. Angular clasts of sandstone and carbonate were found throughout the lithologies and sub-rounded gravel was abundant in a matrix of clay. The lowermost unit of gravel was unconsolidated and contained well rounded and medium to coarse-grained clasts. All these units are overburden. At a depth of 115 feet, an artesian well was intersected. This created



LEGEND

- PM - 01 Drill Hole Location
- Existing access
- Seismic line, trail, cutline
- Water bodies
- Water courses

Location map for Pelican Mountains Property



SHEAR MINERALS LTD.

Pelican Mountains Property

Final Drill Location and Access

NTS: 83 P/12

SCALE 0 — 2,000 — 4,000 Metres

1:100,000

APEX Geoscience Ltd.

EDMONTON, ALBERTA

May, 2001

FIGURE 6

problems in drilling as the drill hole began to collapse with gravel in filling the hole. Some photos of the drilling program are included in Appendix 7. Samples were collected every 10 feet during drilling and a final sample 1CSH101 of approximately 15kg was collected off of the shaker table, consisting of sand and gravel. No samples have been sent for analysis and still remain in the possession of APEX. Kimberlite was not intersected during this drill program and the source for the magnetic anomaly has been explained as being the result of heavy mineral concentrations in the gravel.

EXPLORATION EXPENDITURES

A total of $62,650.75 was spent on exploration since 1999 within Pelican Mountains Property. This covers the cost of exploration crews, drilling contractors, sample analyses, rental equipment and expenses. A complete breakdown of the expenditures is listed in *Appendix 8.*

CONCLUSIONS AND RECOMMENDATIONS

To date 14 kimberlite indicator minerals have been recovered from a total of 18 samples collected by APEX and Mr. MacGougan. All minerals have promising chemistry suggesting a kimberlite or alkaline intrusion origin for these minerals. One sample in particular, PM001, yielded seven indicator minerals (pyrope garnet, eclogitic garnet, chrome diopside and chromite). A three-stage program is recommended at this time. **Stage 1:** Further ground checking of picked airborne geophysical anomalies and sample collecting in the vicinity of these targets. An extensive sampling program should also be done to cover the Pelican Mountains Property using conventional sampling methods. A more in-depth sampling procedure of prospective geophysical targets should also be done, collecting till samples down-ice of targets in a fence-like manner using an auger drill; **Stage 2:** Ground geophysical surveying; **Stage 3:** Based on the results obtained from stages 1 and 2, an appropriate drilling program will be recommended. Therefore, the estimated cost to complete stages 1 and 2 is about **$100,000** not including provisions for GST.

APEX Geoscience Ltd.

PERMIT TO PRACTICE
APEX Geoscience Ltd.
Signature Dean Besserer
Date June 12, 2001
PERMIT NUMBER: P-5824
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Andrea K. Noyes M.Sc.

Dean J. Besserer B.Sc. P. Geol.

PROFESSIONAL GEOLOGIST DEAN J. BESSERER ALBERTA

May, 2001
Edmonton, Alberta

APPENDIX 6
CHEMISTRY PLOTS

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CERTIFICATION

I, A.K. NOYES OF [redacted], EDMONTON, ALBERTA, CERTIFY AND DECLARE THAT I AM A GRADUATE OF THE UNIVERSITY OF WESTERN ONTARIO WITH A B.SC. DEGREE IN GEOLOGY (1997) AND A GRADUATE OF THE UNIVERSITY OF ALBERTA WITH AN M.SC. DEGREE IN GEOLOGY (2000).

MY EXPERIENCE INCLUDES SERVICE AS A GEOLOGICAL ASSISTANT WITH MONOPROS LTD., YELLOWKNIFE, NORTHWEST TERRITORIES DURING THE SUMMERS OF 1996 TO 1999. SINCE JUNE 2000, I HAVE BEEN EMPLOYED BY APEX GEOSCIENCE LTD. AS AN EXPLORATION GEOLOGIST.

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A.K. NOYES, M.SC.

May, 2001
EDMONTON, ALBERTA

CERTIFICATION

I, D.J. BESSERER OF [redacted] EDMONTON, 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. FROM 1994 TO 1999, I HAVE CONDUCTED AND DIRECTED PERMIT EXAMINATIONS 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.

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I HEREBY GRANT SHEAR MINERALS LTD. OF EDMONTON, ALBERTA, CANADA PERMISSION TO USE THIS REPORT.

PROFESSIONAL GEOLOGIST OF ALBERTA — DEAN J. BESSERER

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

MAY, 2001
EDMONTON, ALBERTA

APPENDIX 1
MAGNETIC ANOMALIES FOR THE PELICAN MOUNTAINS PROPERTY

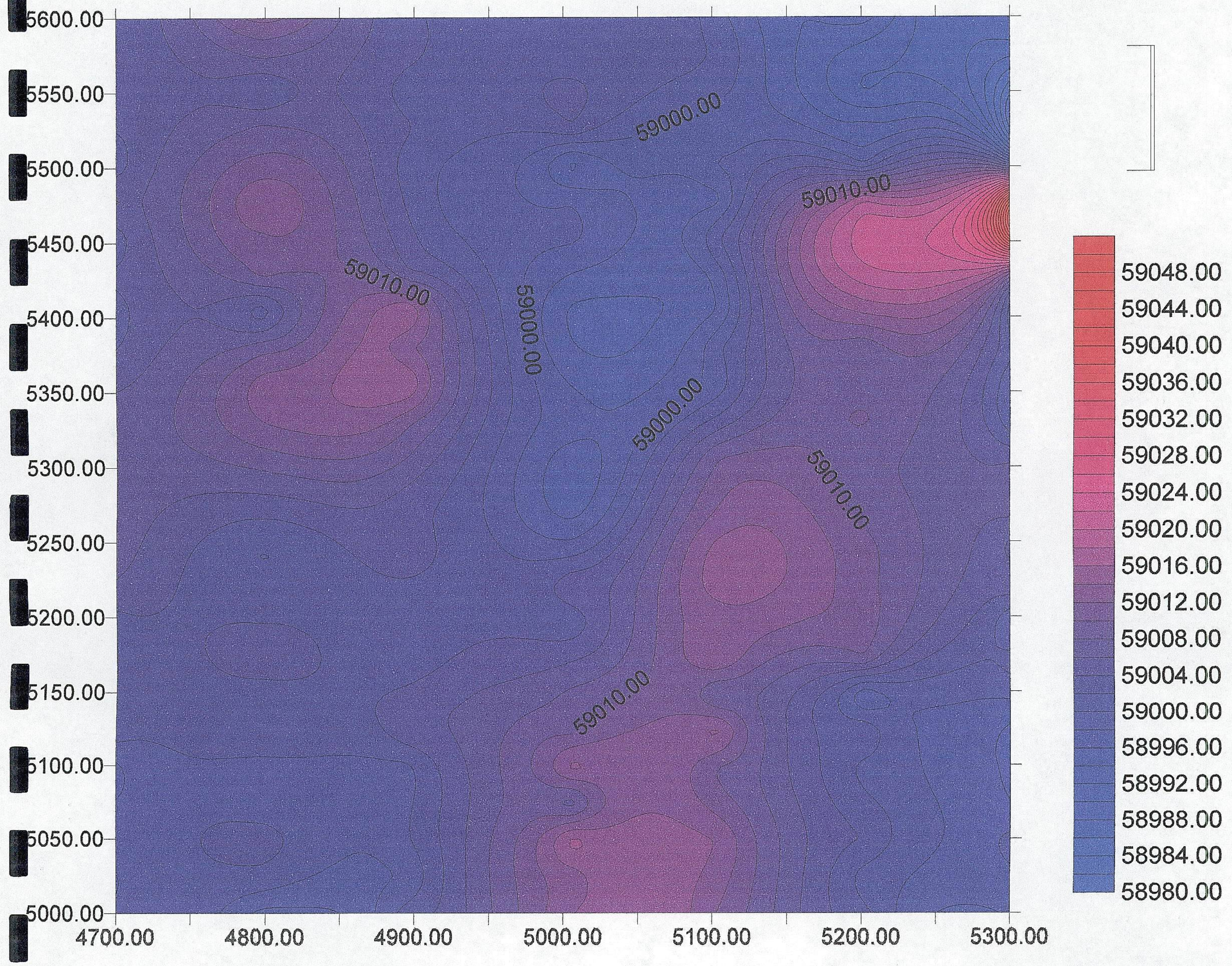
APPENDIX 1

MAGNETIC ANOMALIES FOR THE PELICAN MOUNTAINS PROPERTY

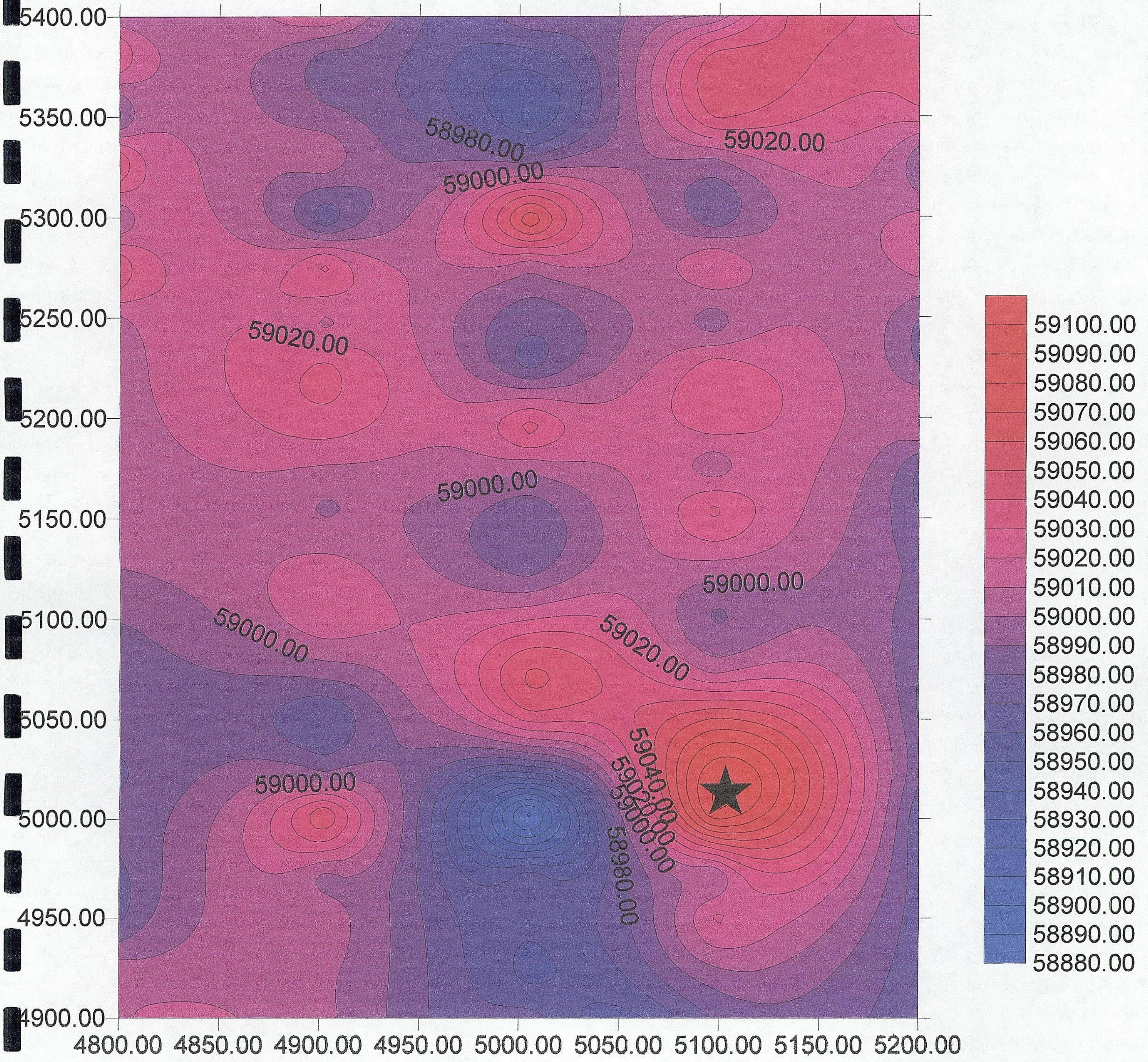
Anomaly	Line	Fiducial	Easting	Northing	Priority	Description
1	27	6640	347031	6173307	very low	8-9 nT peak; very noisy; about 290m diameter; likely culture related to drillpad.
2	24	6772	345063	6173874	very low	1 nT weak shoulder; about 250m diameter; likely related to bridge.
3	18	3453	341844	6175094	medium	1.5 to 2.0 nT peak, about 210m diameter; low topography; low noise; near river.
4	59	8023	339625	6166973	high	6 to 7 nT strong shoulder; about 550m diameter anomaly halo; in topographic low; possibly forestry clearing; 4 line anomaly on 163 at 8812 and 8820.
5	91	11085	336805	6160692	very low	10 nT peak; very noisy; about 250m diameter; likely related to drillpad.
6	90	10620	334943	6160866	very low	4 nT peak; very noisy; well.
7	40	2807	333476	6171072	high	2 to 3 nT peak; about 290m diameter; associated swamp or vegetation anomaly.
8	39	2391	332977	6171359	high	2 nT peak, low noise; about 340m diameter; vegetation anomaly; topographic high.
9	17	2412	330248	6175452	high	5 to 6 nT peak; moderate noise; about 510m diameter; slight topographic high.
10	16	1406	326904	6175648	medium	7 to 8 nT peak; very noisy; about 380m diameter; anomaly centered on seismic line; possibly culture.
11	7	1370	325848	6177450	very low	12 nT peak; about 300m diameter; well.
12	42	4224	332977	6171359	medium	2 to 3 nT broad shoulder; low noise; about 500m diameter.
13	49	2108	354269	6169080	low	1 nT moderate shoulder; low noise; low topography; possibly paleochannel.
14	74	3168	322481	6164046	high	3.5 nT rounded peak; low noise; moderate topography; 2 line naomaly on 174 at 3307.
15	10	3528	320450	6176735	low	2 nT sharp peak; moderte noise; in valley; possibly topographic effect.
16	24	6969	361377	6174103	low	very weak deflection; low noise; topographic high.
17	45	5060	356071	6169645	high	1.5 nT peak; moderate noise; low topography.
18	90	10553	340764	6161008	low	8 nT sharp peak; moderate noise; low topography.
19	30	242	337470	6172897	low	10 nT peak; very noisy; likely a well.
20	26	8004	340148	6173673	low	5 nT peak; very noisy; low topography; likely a well.
21	17	2340	335706	6174225	low	9 nT peak; very noisy; topographic low; likely culture.
22	86	5526	326861	6161543	low	nothing in profile.
23	55	6404	322165	6167898	high	5 nT peak; low noise; low topography.
24	50	2667	321782	6168086	low	weak deflection; low noise; low topography.
25	26	7805	323569	6173604	low	7.5 nT peak; very noisy; likely a well.
26	39	2290	340026	6171107	medium	1 nT rounded peak; low noise; anomaly centered on topographic high.
27	8	1283	320329	6168086	med-high	2 nT good shoulder; low noise; low to level topography.
28	99	1037	336150	6159000	medium	3 nT rounded peak; low noise; slight topographic high; part of large > 1km linear anomaly; possibly fault or dyke.

APPENDIX 2
GROUND GEOPHYSICAL TOTAL FIELD MAGNETIC MAPS

Shear Minerals Ltd. - anomaly 4 - Pelican Mountains



Shear Minerals Ltd. - Anomaly 10 - Pelican Mountains



★ PM-01 Drill Hole Location

APPENDIX 3
SAMPLE LOCATIONS

APPENDIX 3

SAMPLE LOCATIONS

Sample Name	Easting	Northing	Descriptions
8DVH001	344330	6154125	N/A
8DVH002	347045	6154125	N/A
8DVH003	349307	6174468	N/A
9MDH001	348160	6167250	N/A
9MDH002	338994	6168194	N/A
9MDH003	341456	6160593	N/A
9LMH001*	339704	6166837	200m away from 9LMH002
9LMH002*	339704	6166837	200m away from 9LMH001
LM001	341029	6162941	N/A
LM002	341942	6164118	Rusty, very clay-rich, near to silica-sand unit
LM003A	341856	6164647	Clay-rich
LM003B	341698	6164693	small sample size
LM004A	341341	6164762	very small sample size, combined with sample LM004B
LM004B	340977	6163548	very small sample size, combined with sample LM004A
LM006	350368	6170069	N/A
LM007	349113	6174280	N/A
LM008A	340987	6163048	All of sample LM008 combined
LM008B	340990	6163124	All of sample LM008 combined
LM008C	341056	6163329	All of sample LM008 combined
LM008D	341070	6163513	All of sample LM008 combined
PM001	345025	6173700	N/A
0PSH002	394959	6174138	N/A

N/A=not available

* *Location of sample is approximate only.*

APPENDIX 4
MINERAL PICK RESULTS

APPENDIX 4

MINERAL PICK RESULTS

Sample Name	Sample Type	Pyrope Garnet DEF	Pyrope Garnet POS	Cr-Diopside DEF	Cr-Diopside POS	Eclogite POS	Olivine POS	Other POS	% Picked	Picroilmenite DEF	Picroilmenite POS	Chromite DEF	Chromite POS	Others POS	% Picked
1998 Apex Sampling															
8DVH001	Stream	1	0	0	0	0	0	0	100	0	13	0	0	0	15
8DVH002	Stream	0	0	0	1	0	0	0	100	0	0	0	0	0	20
8DVH003	Stream	1	0	0	0	0	0	0	100	0	13	0	5	0	7
1999 Apex Sampling															
9MDH001	Stream	0	0	0	0	0	0	0	100	0	2	0	12	11 CH/MG	25
9MDH002	Stream	0	0	0	0	0	0	0	100	0	9	0	2	1 CH/MG	18
9MDH003	Stream	0	0	0	0	0	0	0	100	0	4	0	0	1 CH/MG	12
9MDH002 (repick)	Stream	0	0	0	0	0	0	0	100	0	1	0	0	0	18
9LMH001	A.D.H.	0	0	0	0	0	0	0	100	0	0	0	0	0	33
9LMH002	A.D.H.	0	0	0	0	0	0	1	100	0	0	0	0	0	33
9LMH001 (repick)	A.D.H.	0	0	0	0	0	0	0	100	0	0	0	0	0	33
1999 Larry MacGougan Sampling															
LM001	Stream	0	0	0	0	0	0	0	100	0	0	0	11	20 spinel	20
LM002	A.D.H.	0	0	0	0	0	0	0	100	0	10	0	1	0	50
LM003	Stream	0	0	0	0	0	0	0	100	0	2	0	0	0	100
LM004	Stream	0	0	0	0	0	0	0	100	0	4	0	0	0	100
LM005	Stream	0	0	0	0	0	0	0	100	0	7	0	0	0	100
LM006	Stream	0	0	0	0	0	0	0	100	0	2	0	0	0	100
LM007	Stream	0	0	0	0	0	0	0	100	0	8	0	1	0	15
LM008	Stream	0	0	0	0	0	0	0	100	0	2	0	0	0	50
PM-001	Stream	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2000 Larry MacGougan Sampling															
0PSH002	Stream	1	0	0	0	1	0	0	100	0	0	0	0	0	45
0PSH002 (repick)	Stream	0	0	0	0	0	0	0	100	0	0	0	0	0	45

DEF=definite; POS=possible
A.D.H.=auger drill hole
N/A=not available
CH/MG=chromite/magnetite

APPENDIX 5
MICROPROBE ANALYSES FOR THE PELICAN MOUNTAINS PROPERTY

APPENDIX 5

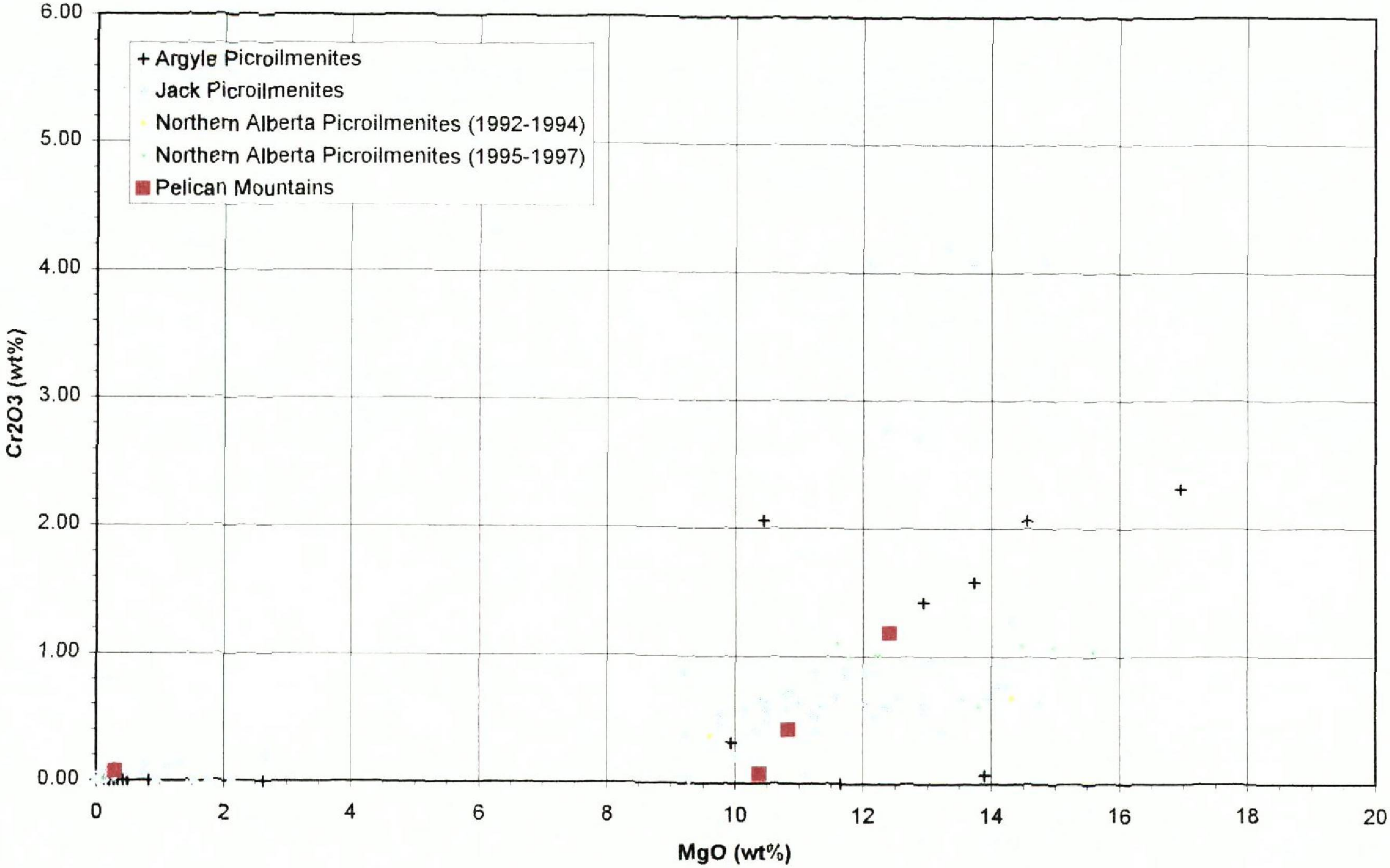
MICROPROBE ANALYSES FOR THE PELICAN MOUNTAINS PROPERTY

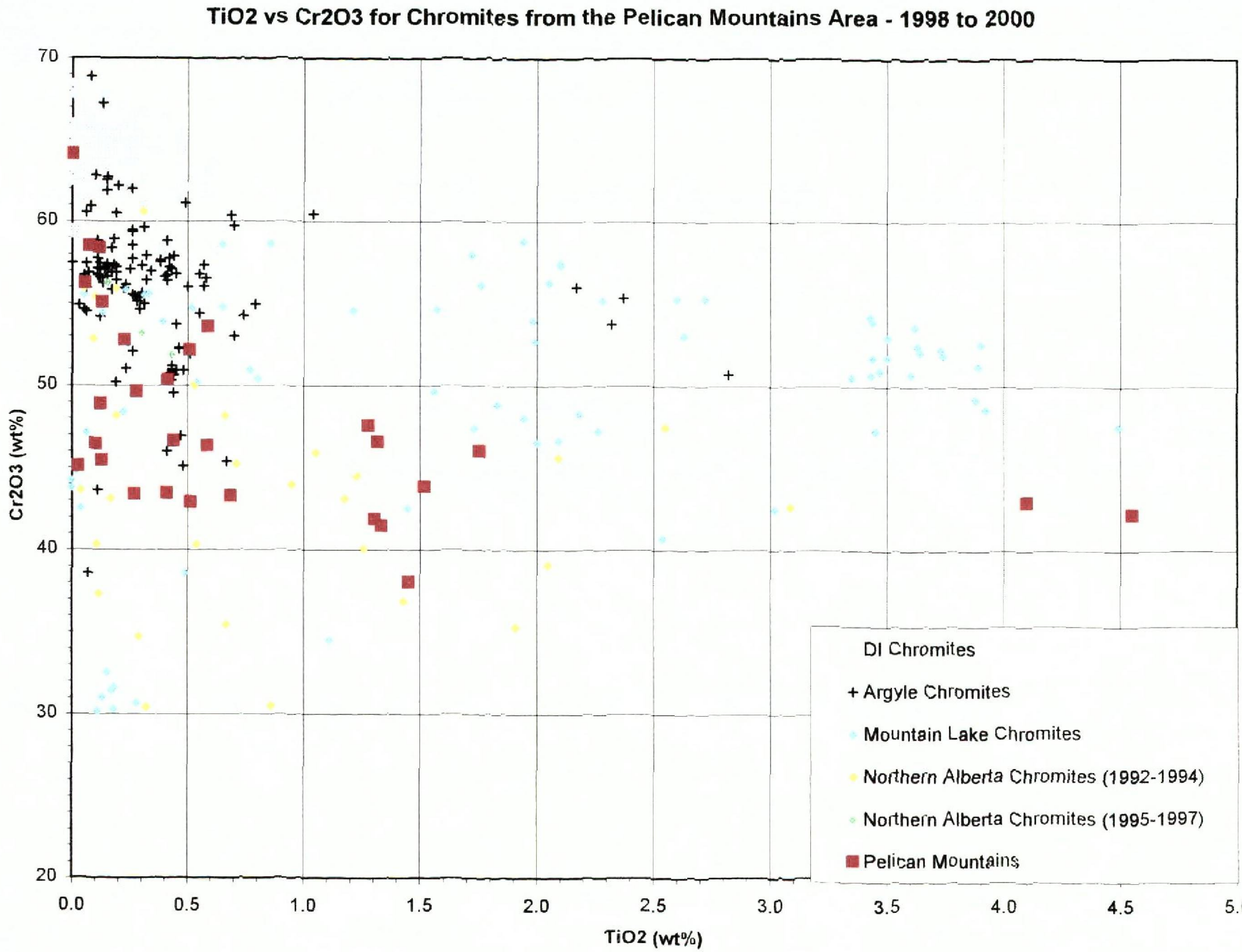
Sample	Mineral ID (Dawson and Stephens (1975))	TiO2	Cr2O3	FeO	MgO	CaO	SiO2	Al2O3	Na2O	MnO	Total
1998 APEX Sampling											
8DVH001	G 09 CHROME PYROPE	0.04	3.36	8.51	19.12	5.29	42.34	20.64	0.04	0.35	99.68
8DVH002	CPX 05 UNKNOWN	0.00	0.82	2.43	17.78	22.63	54.14	1.80	0.17	0.05	99.94
8DVH003	G 10 LOW CALCIUM CHROME PYROPE	0.22	6.75	7.95	19.07	5.88	41.90	17.19	0.07	0.33	99.36
8DVH003	PICRO ILMENITE	52.42	0.07	36.97	10.38	0.00	0.00	0.21	0.00	0.49	100.76
8DVH003	PICRO ILMENITE	51.09	1.18	34.25	12.41	0.00	0.11	0.46	0.00	0.30	100.17
8DVH003	PICRO CHROMITE	1.52	43.85	27.87	11.15	0.00	0.03	13.35	0.00	0.34	98.43
8DVH003	CHROMITE	0.28	49.64	34.39	5.25	0.00	0.00	8.75	0.00	0.43	99.07
1999 APEX Sampling											
9MDH001	PICRO CHROMITE	0.69	43.29	34.18	13.14	0.00	0.00	7.85	0.00	0.29	99.77
9MDH001	PICRO CHROMITE	1.28	47.58	20.27	15.98	0.00	0.11	15.47	0.00	0.27	101.27
9MDH001	PICRO CHROMITE	0.03	45.09	17.04	14.63	0.00	0.02	23.46	0.00	0.26	100.80
9MDH001	PICRO CHROMITE	0.27	43.39	26.08	11.32	0.00	0.00	18.53	0.00	0.24	100.14
9MDH001	ILMENITE	51.07	0.07	31.97	0.30	0.00	0.08	0.04	0.00	17.05	100.85
9MDH001	PICRO CHROMITE	0.13	45.46	23.61	10.20	0.00	0.00	19.65	0.00	0.39	99.86
9MDH001	PICRO CHROMITE	0.51	52.16	19.47	14.02	0.00	0.00	13.39	0.00	0.27	100.82
9MDH001	PICRO CHROMITE	0.12	48.88	17.71	13.55	0.00	0.02	19.73	0.00	0.28	100.47
9MDH001	PICRO CHROMITE	0.59	53.59	23.29	12.93	0.00	0.03	9.32	0.00	0.36	100.44
9MDH001	PICRO CHROMITE	0.41	43.45	23.53	12.84	0.00	0.02	19.62	0.00	0.29	100.81
9MDH001	PICRO CHROMITE	1.30	41.89	24.84	13.47	0.00	0.04	17.42	0.00	0.30	99.58
9MDH001	PICRO CHROMITE	0.12	58.36	21.33	12.03	0.00	0.14	7.96	0.00	0.33	100.60
9MDH001	PICRO CHROMITE	0.07	58.49	24.68	8.52	0.00	0.00	8.04	0.00	0.55	100.45
9MDH001	PICRO CHROMITE	0.59	46.33	29.91	12.86	0.00	0.27	9.58	0.00	0.36	100.07
9MDH001	SUB PICRO CHROMITE	0.10	46.45	28.59	6.07	0.00	0.11	16.78	0.00	0.46	99.24
9MDH001	PICRO CHROMITE	0.41	50.36	26.64	12.14	0.00	0.00	9.70	0.00	0.48	100.09
9MDH001	SUB PICRO CHROMITE	0.13	55.07	28.17	7.43	0.00	0.00	7.44	0.00	0.45	98.99
9MDH001	PICRO CHROMITE	1.33	41.49	20.47	15.47	0.00	0.21	19.50	0.00	0.19	99.37
9MDH001	PICRO CHROMITE	0.22	52.76	28.54	10.05	0.00	0.00	7.24	0.00	0.32	99.34
9MDH001	PICRO CHROMITE	0.05	56.22	21.36	10.90	0.00	0.04	10.38	0.00	0.31	99.45
9MDH002	CHROMITE	0.00	64.13	24.40	4.44	0.00	0.00	5.33	0.00	0.44	99.10
9MDH002	PICRO CHROMITE	1.32	46.58	24.62	10.20	0.00	0.13	15.58	0.00	0.23	98.98
9MDH002	PICRO CHROMITE	4.10	42.94	26.95	16.60	0.00	0.10	8.32	0.00	0.23	99.54

Sample	Mineral ID (Dawson and Stephens (1975))	TiO2	Cr2O3	FeO	MgO	CaO	SiO2	Al2O3	Na2O	MnO	Total
1999 APEX Sampling											
9MDH003	PICRO ILMENITE	50.19	0.42	36.58	10.84	0.00	0.00	0.34	0.00	0.30	99.19
9MDH003	CHROMITE	0.44	46.64	40.54	1.20	0.00	0.10	7.95	0.00	1.17	98.99
9MDH001	G 07 FERRO-MAGNESIAN UVAROVITE GROSSULAR	0.22	16.12	1.55	0.10	34.31	37.67	9.72	0.13	0.88	100.70
1999 Larry MacGougan Sampling											
9LM001	SUB PICRO CHROMITE	1.45	38.06	37.46	10.91	0.00	0.04	11.18	0.00	0.29	99.62
9LM002	G 07 FERRO-MAGNESIAN UVAROVITE GROSSULAR	0.54	10.99	3.35	0.29	34.86	38.36	9.45	0.00	0.37	98.21
9LM004	PICRO CHROMITE	4.55	42.23	28.55	16.87	0.00	0.04	8.01	0.00	0.25	100.93
PM001	G 09 CHROME PYROPE	0.00	5.20	8.78	17.96	5.97	41.50	20.38	0.08	0.49	100.38
PM001	G 09 CHROME PYROPE	0.19	5.45	7.85	18.84	5.31	41.76	20.14	0.08	0.31	99.92
PM001	G 03 CALCIC PYROPE ALMANDINE	0.15	0.00	21.40	7.55	8.89	39.22	22.81	0.06	0.52	100.61
PM001	G 03 CALCIC PYROPE ALMANDINE	0.25	0.06	22.13	7.33	8.34	39.19	22.21	0.07	0.61	100.18
PM001	CPX 05 UNKNOWN	0.04	0.81	3.02	17.98	22.81	53.24	1.07	0.16	0.09	99.21
PM001	PICRO CHROMITE	1.75	46.02	21.35	14.58	0.06	0.04	14.17	0.00	0.23	98.44
PM001	UNKNOWN	1.06	23.73	29.92	13.30	0.02	0.02	30.01	0.00	0.18	98.47
PM001	SUB PICRO CHROMITE	0.51	42.89	29.32	7.50	0.00	0.00	17.16	0.00	0.48	98.38
2000 Larry MacGougan Sampling											
0PSH002	G 05 MAGNESIAN ALMANDINE	0.08	0.00	28.99	2.97	7.22	37.70	21.82	0.00	1.57	100.35
0PSH002	CPX 04 UNKNOWN	0.19	0.05	6.38	14.26	23.13	52.54	2.47	0.39	0.60	100.02

Mineral classification from the program by Quirt (1992a, b).

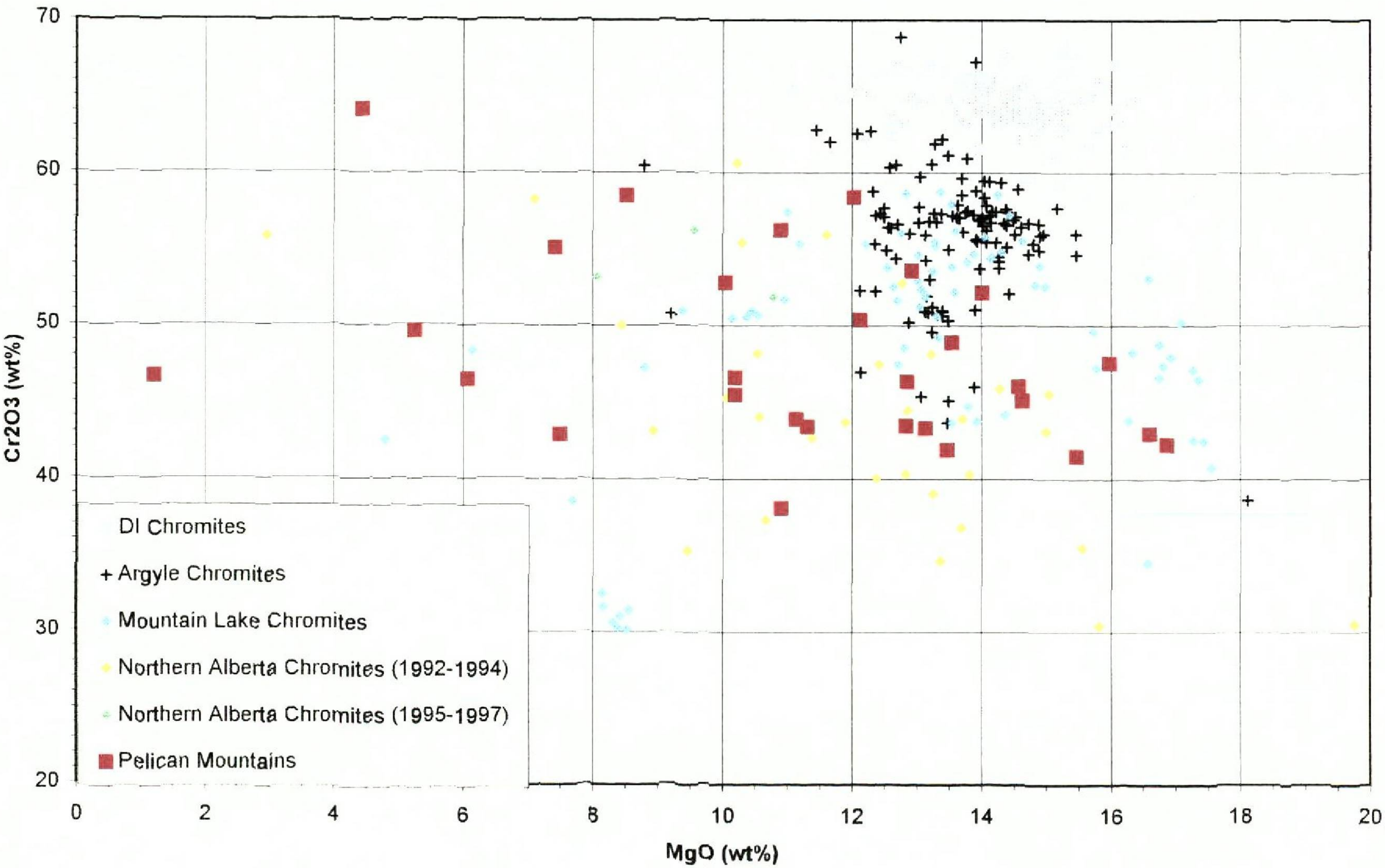
MgO vs Cr2O3 for Picroilmenites from the Pelican Mountains Area 1998-2000

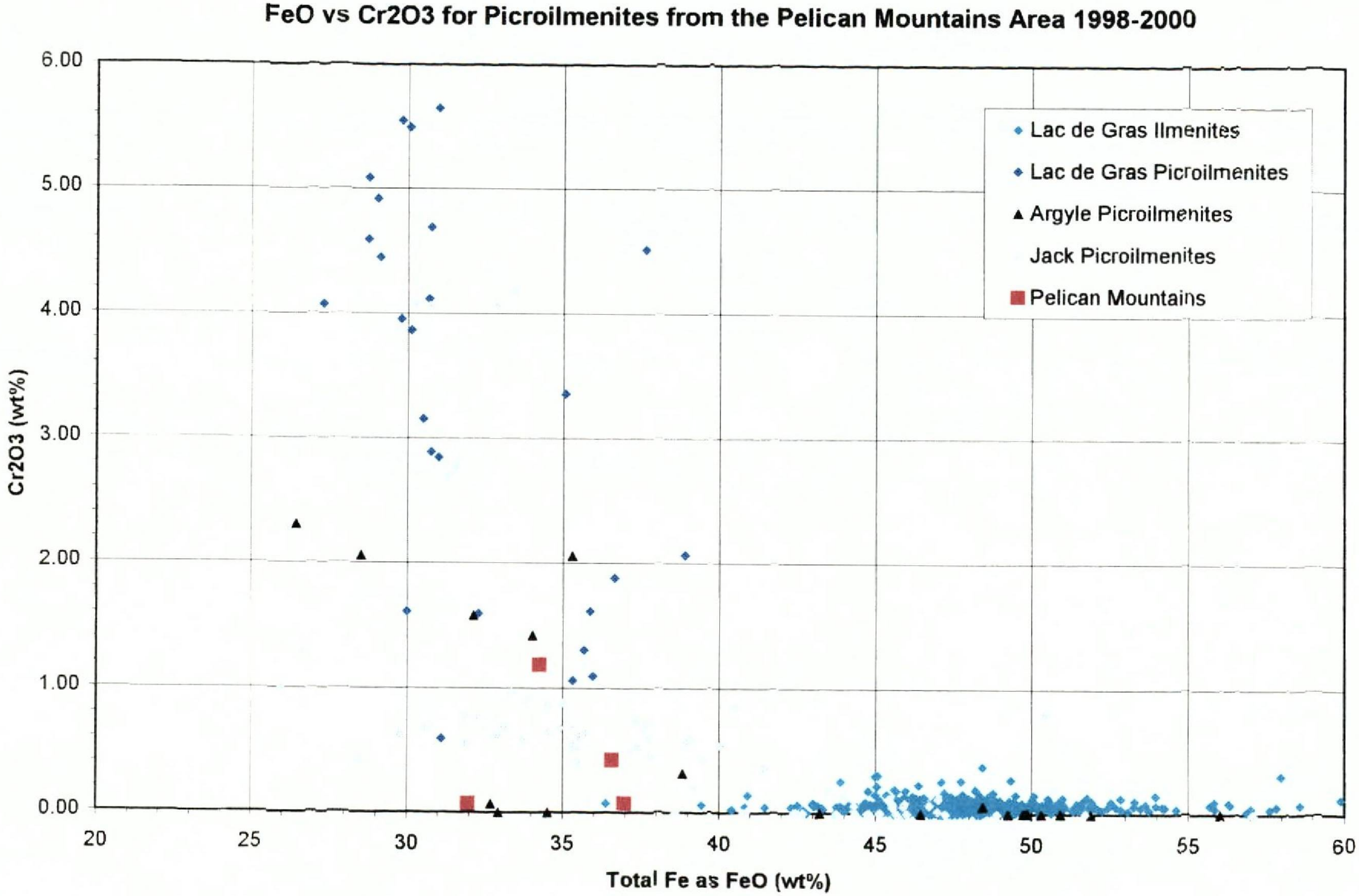


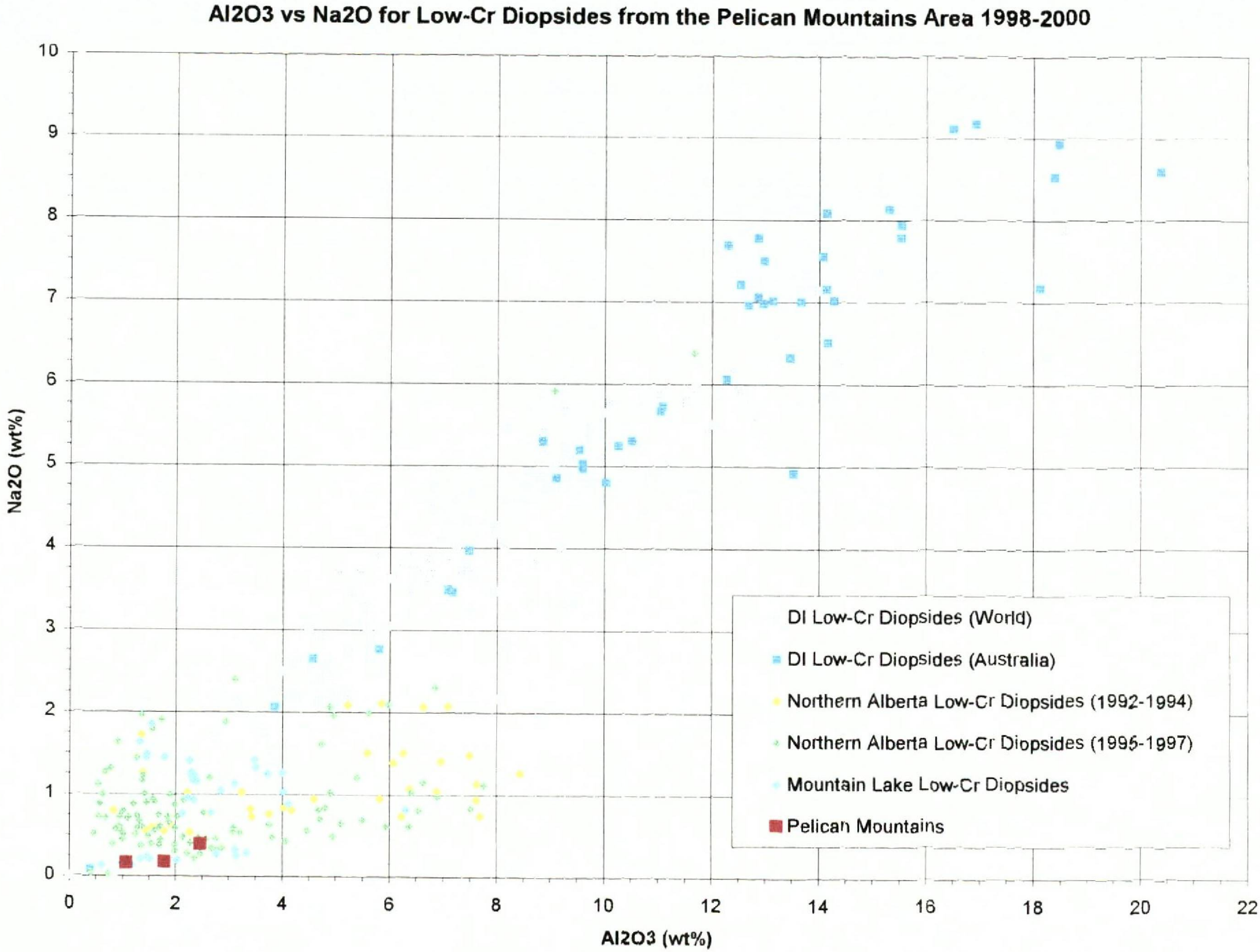


TiO2 vs Cr2O3 for Chromites from the Pelican Mountains Area - 1998 to 2000
70
60
50
40
30
20
Cr2O3 (wt%)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
TiO2 (wt%)
DI Chromites
Argyle Chromites
Mountain Lake Chromites
Northern Alberta Chromites (1992-1994)
Northern Alberta Chromites (1995-1997)
Pelican Mountains

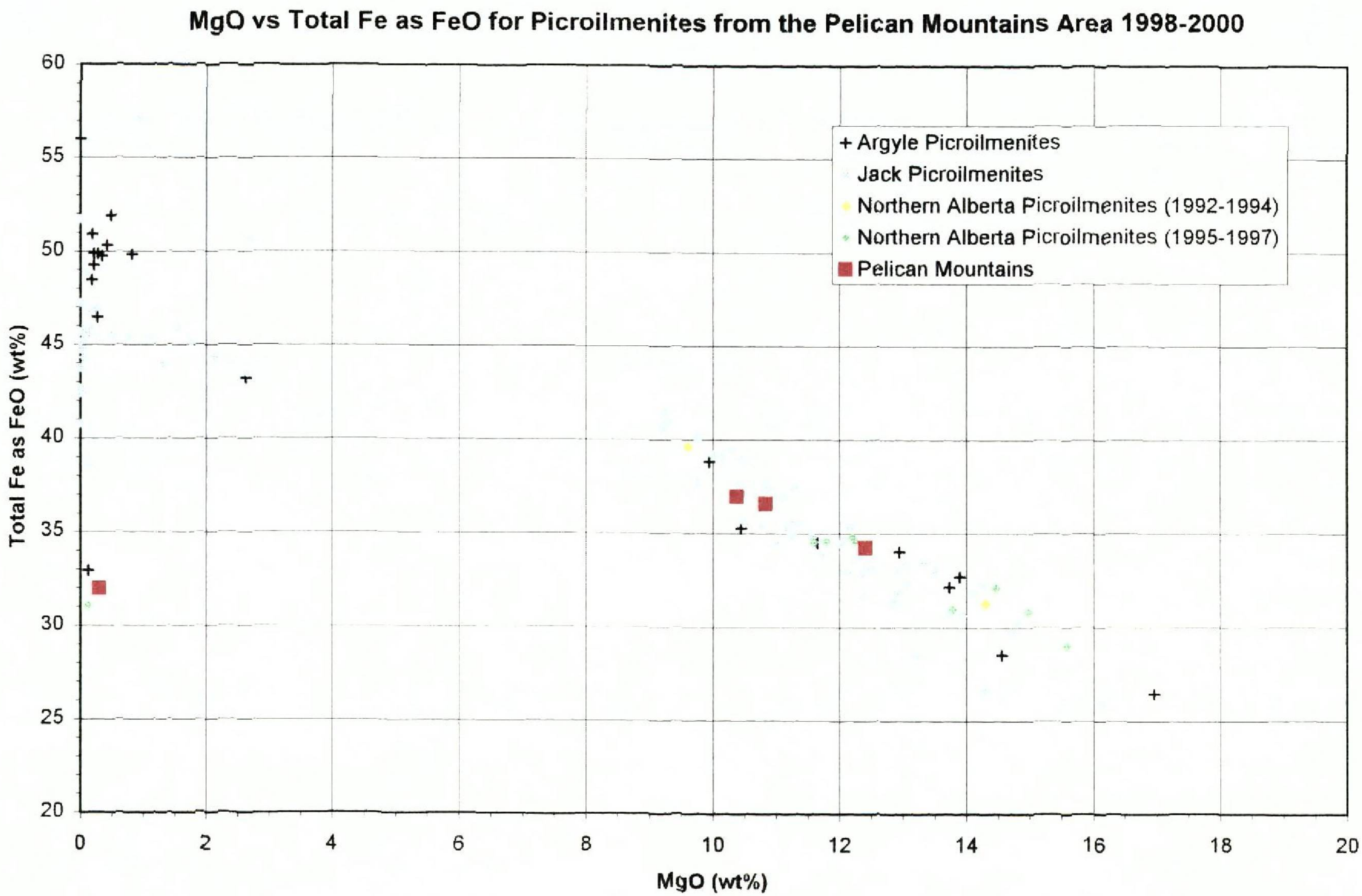
MgO vs Cr2O3 for Chromites from the Pelican Mountains Area 1998-2000

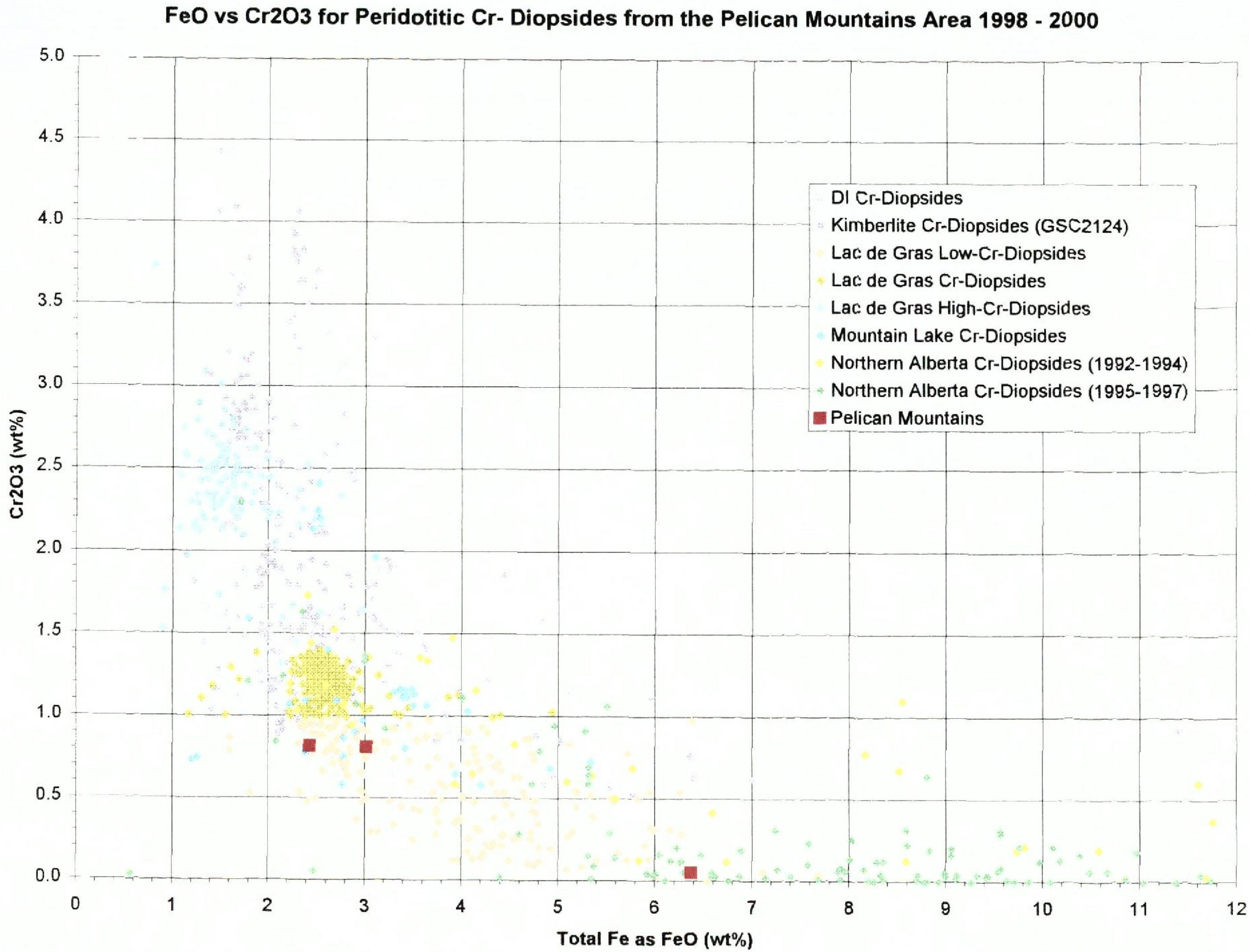


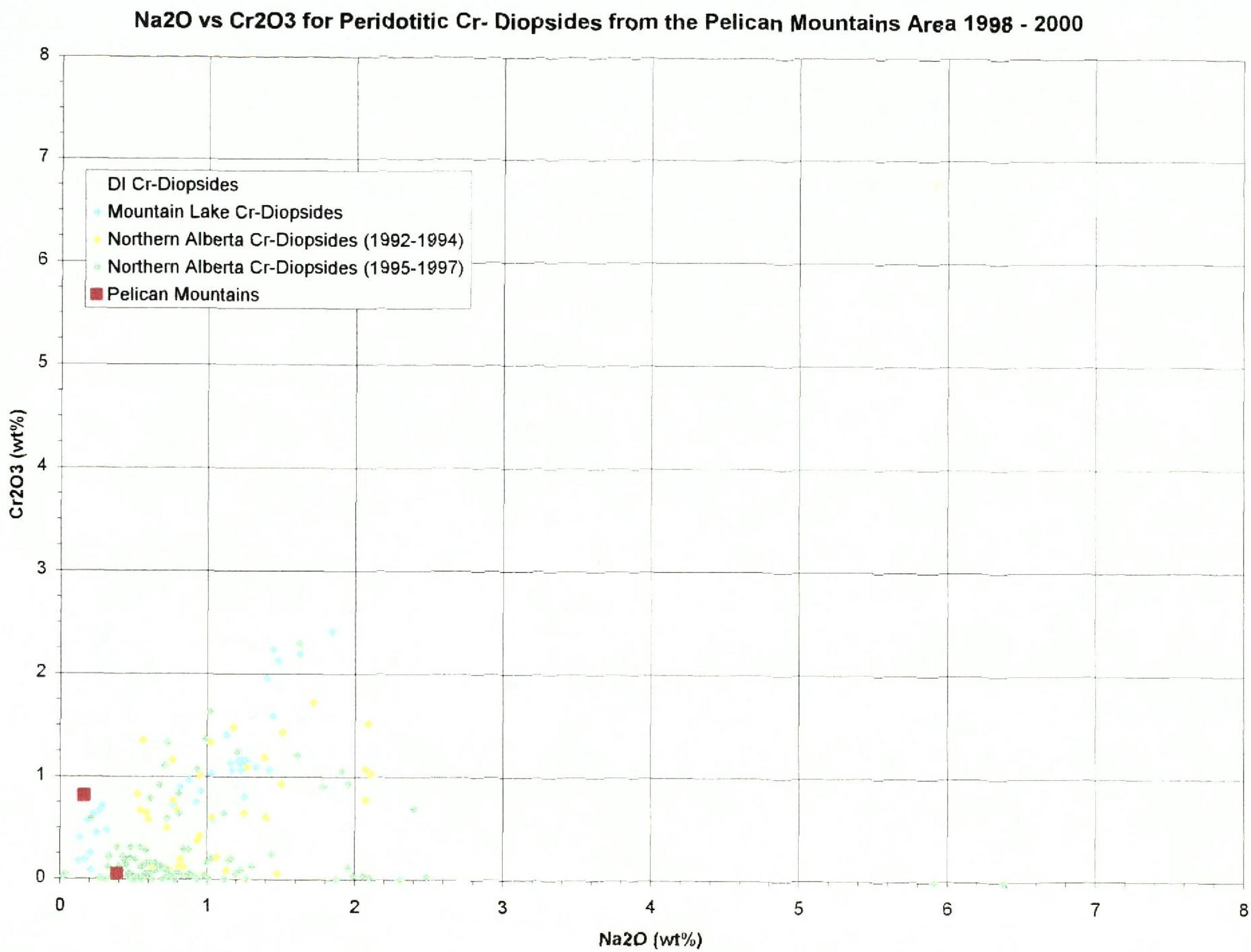

FeO vs Cr2O3 for Picroilmenites from the Pelican Mountains Area 1998-2000
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Cr2O3 (wt%)
20
25
30
35
40
45
50
55
60
Total Fe as FeO (wt%)
Lac de Gras Ilmenites
Lac de Gras Picroilmenites
Argyle Picroilmenites
Jack Picroilmenites
Pelican Mountains

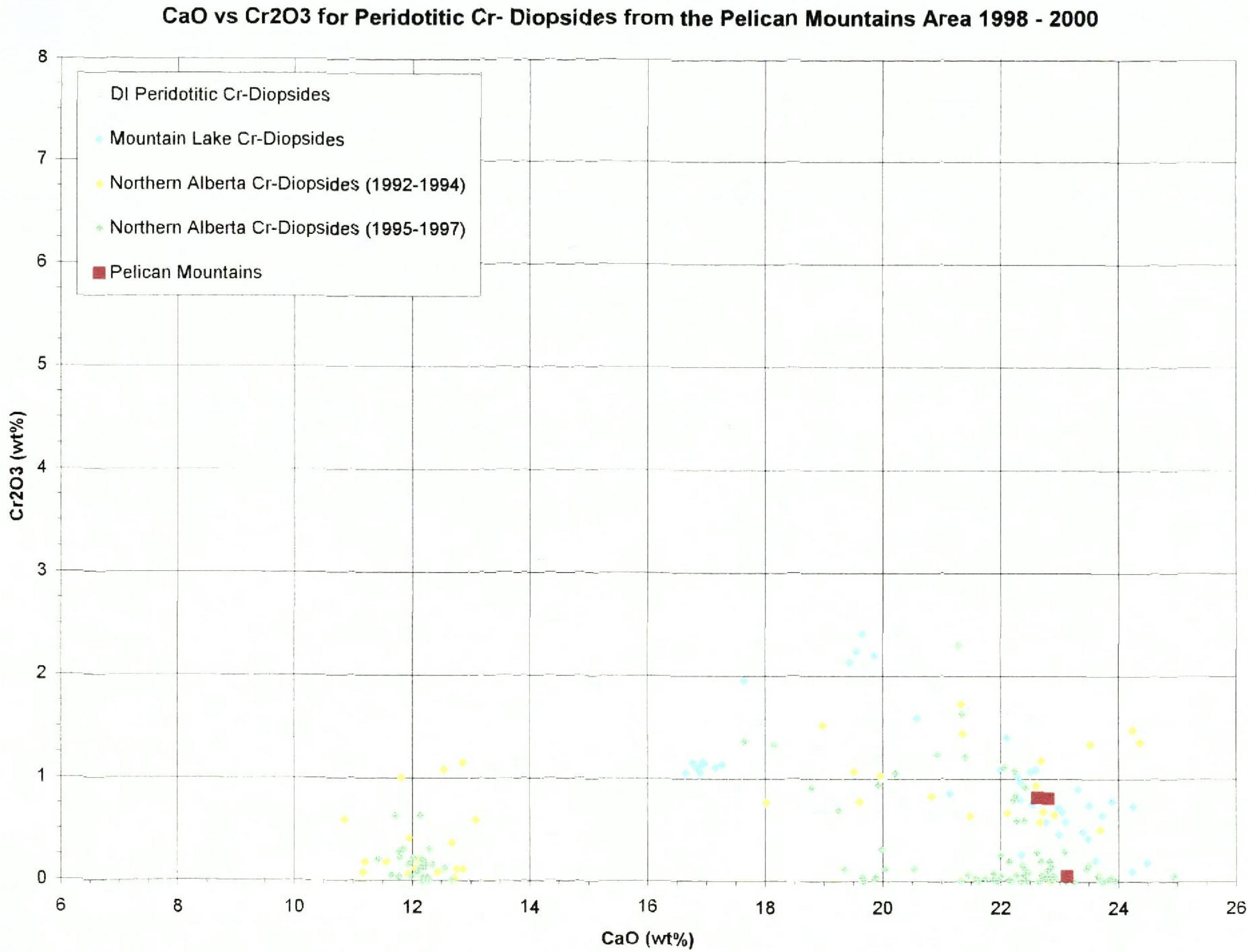


Al2O3 vs Na2O for Low-Cr Diopsides from the Pelican Mountains Area 1998-2000
Na2O (wt%)
Al2O3 (wt%)
0
1
2
3
4
5
6
7
8
9
10
0
2
4
6
8
10
12
14
16
18
20
22
DI Low-Cr Diopsides (World)
DI Low-Cr Diopsides (Australia)
Northern Alberta Low-Cr Diopsides (1992-1994)
Northern Alberta Low-Cr Diopsides (1995-1997)
Mountain Lake Low-Cr Diopsides
Pelican Mountains

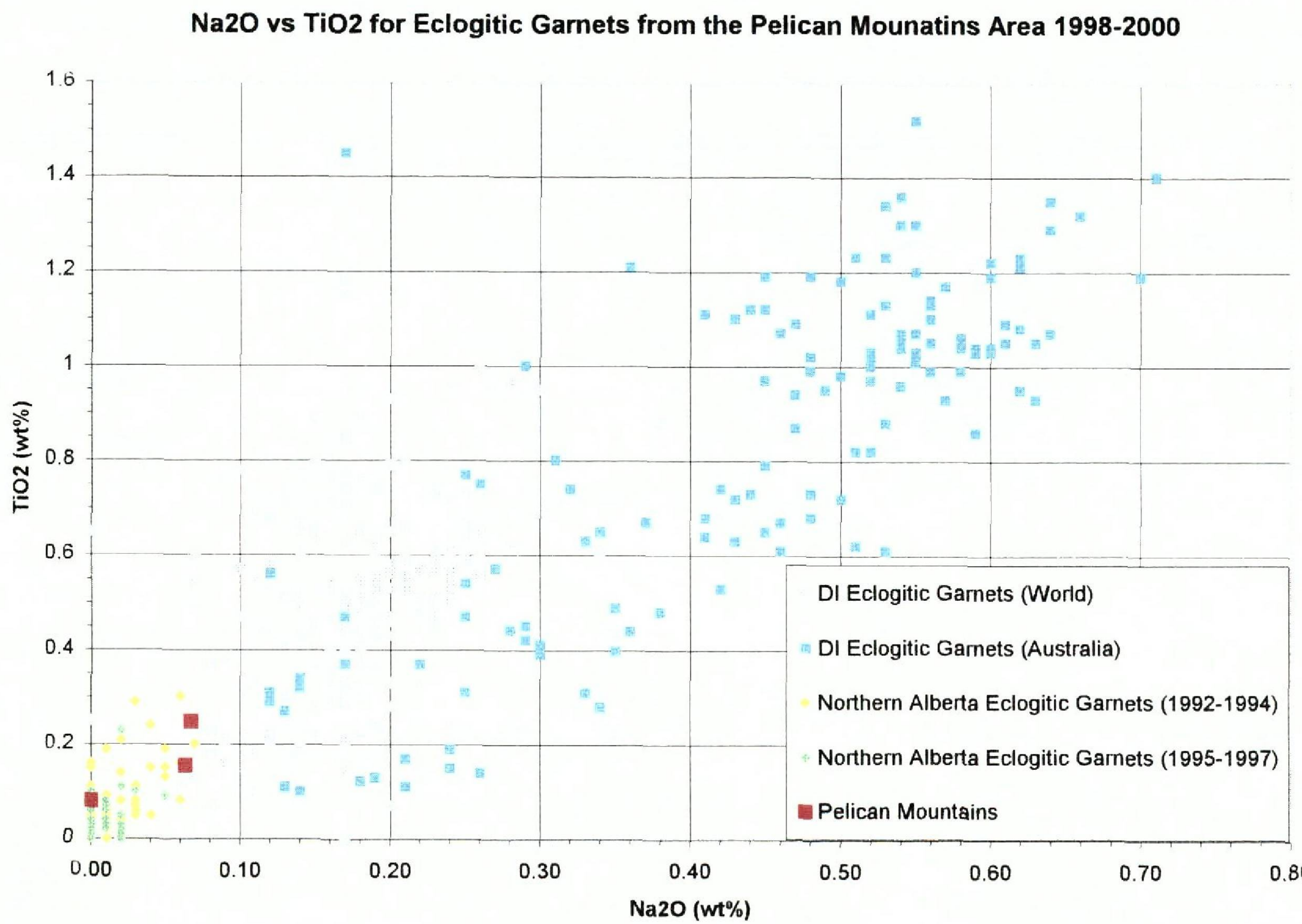

MgO vs Total Fe as FeO for Picroilmenites from the Pelican Mountains Area 1998-2000
Argyle Picroilmenites
Jack Picroilmenites
Northern Alberta Picroilmenites (1992-1994)
Northern Alberta Picroilmenites (1995-1997)
Pelican Mountains
Total Fe as FeO (wt%)
MgO (wt%)
60
55
50
45
40
35
30
25
20
0
2
4
6
8
10
12
14
16
18
20


FeO vs Cr2O3 for Peridotitic Cr- Diopsides from the Pelican Mountains Area 1998 - 2000
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)
Pelican Mountains

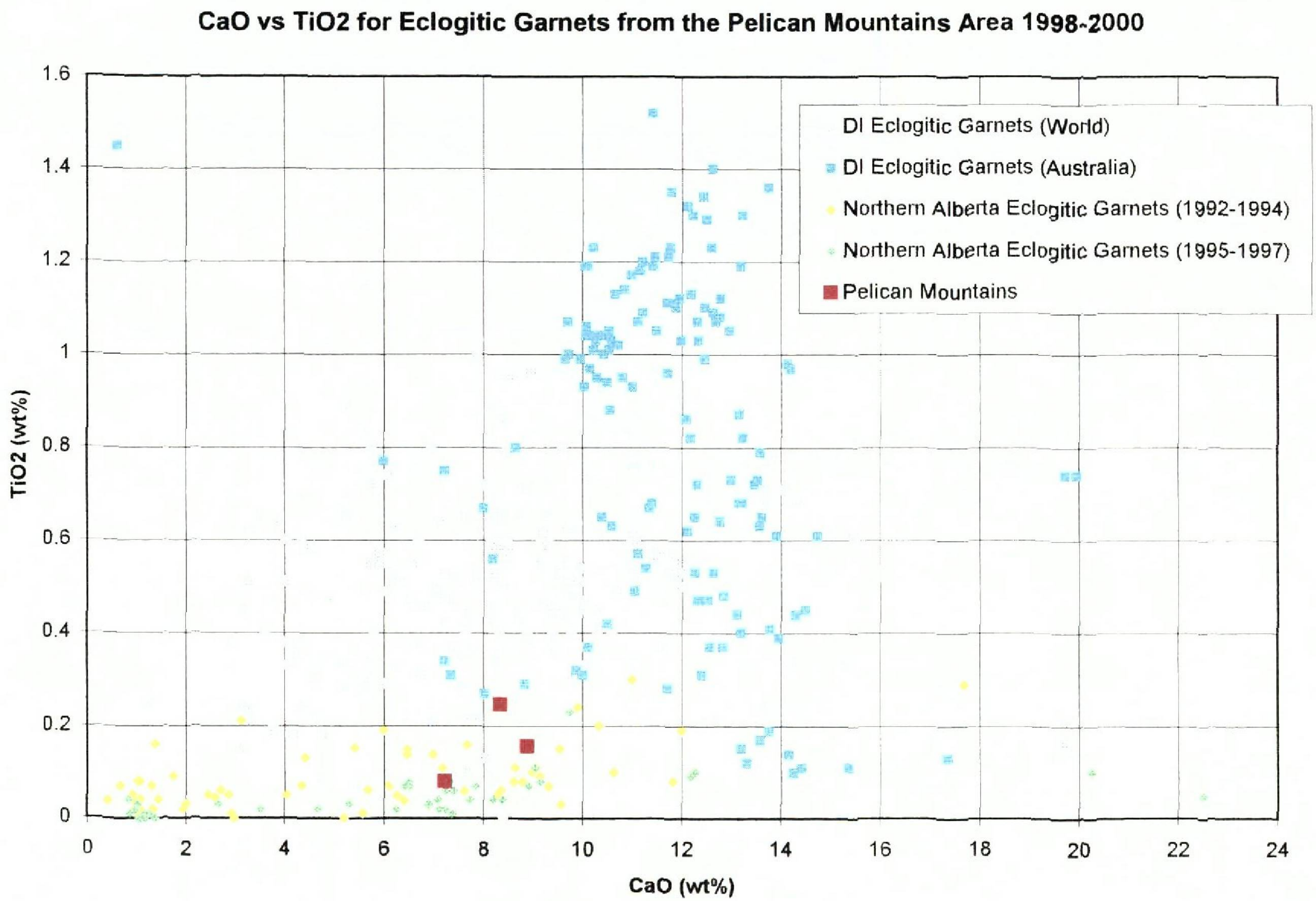

Na2O vs Cr2O3 for Peridotitic Cr- Diopsides from the Pelican Mountains Area 1998 - 2000
DI Cr-Diopsides
Mountain Lake Cr-Diopsides
Northern Alberta Cr-Diopsides (1992-1994)
Northern Alberta Cr-Diopsides (1995-1997)
Pelican Mountains
Cr2O3 (wt%)
Na2O (wt%)
0
1
2
3
4
5
6
7
8



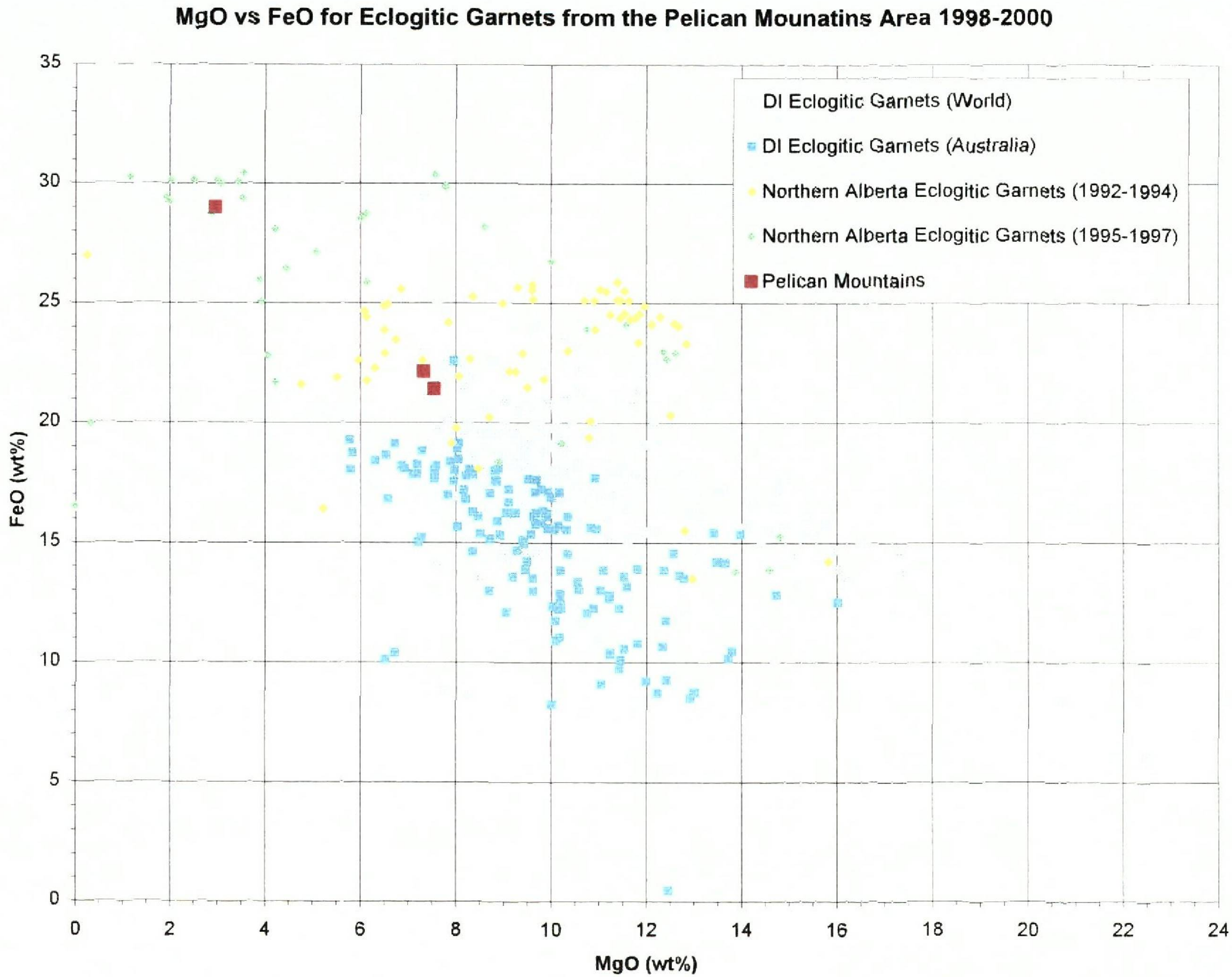
CaO vs Cr2O3 for Peridotitic Cr- Diopsides from the Pelican Mountains Area 1998 - 2000
DI Peridotitic Cr-Diopsides
Mountain Lake Cr-Diopsides
Northern Alberta Cr-Diopsides (1992-1994)
Northern Alberta Cr-Diopsides (1995-1997)
Pelican Mountains
Cr2O3 (wt%)
CaO (wt%)
0
1
2
3
4
5
6
7
8
6
8
10
12
14
16
18
20
22
24
26

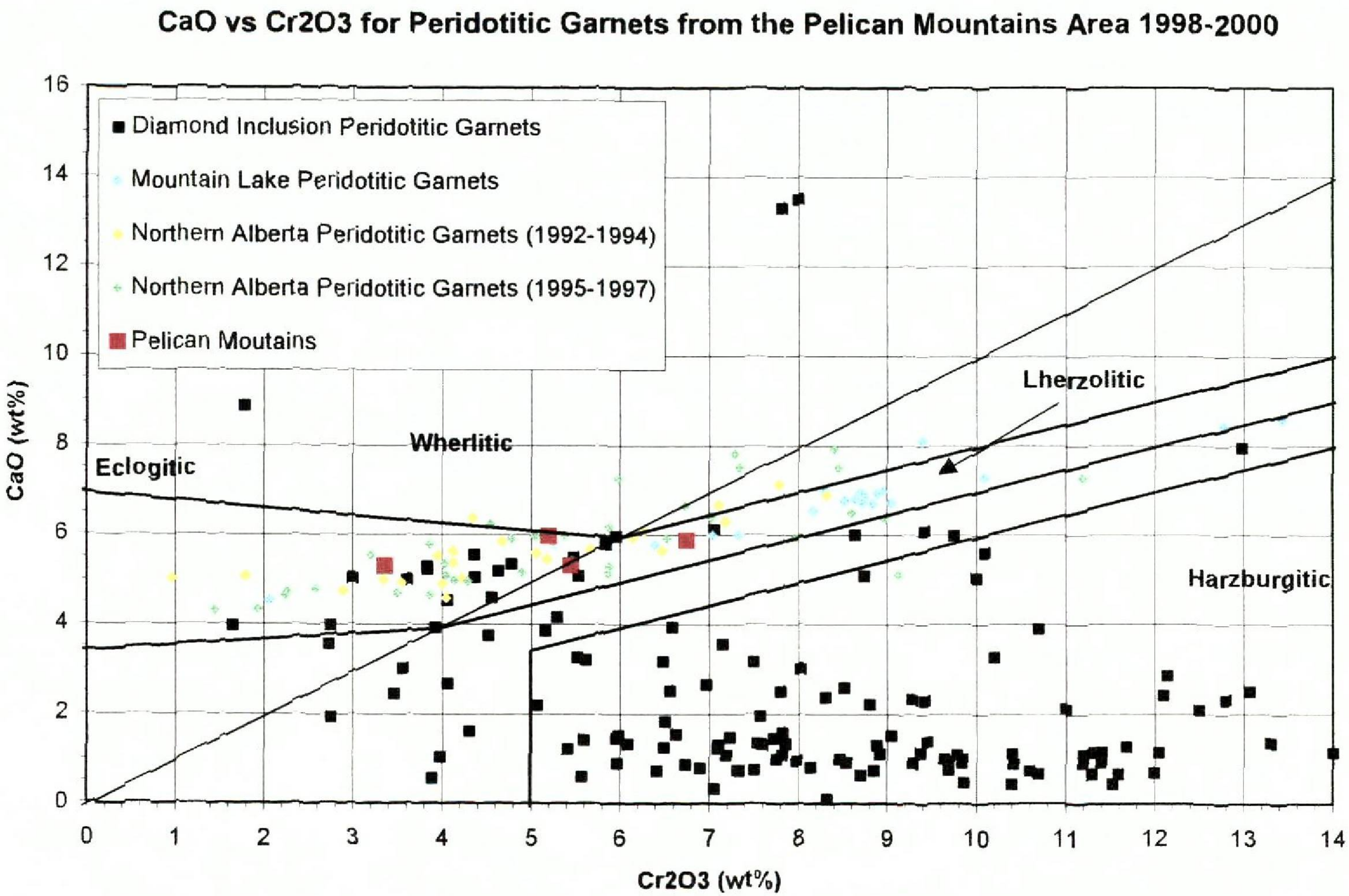


Na2O vs TiO2 for Eclogitic Garnets from the Pelican Mounatins Area 1998-2000
TiO2 (wt%)
Na2O (wt%)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
DI Eclogitic Garnets (World)
DI Eclogitic Garnets (Australia)
Northern Alberta Eclogitic Garnets (1992-1994)
Northern Alberta Eclogitic Garnets (1995-1997)
Pelican Mountains

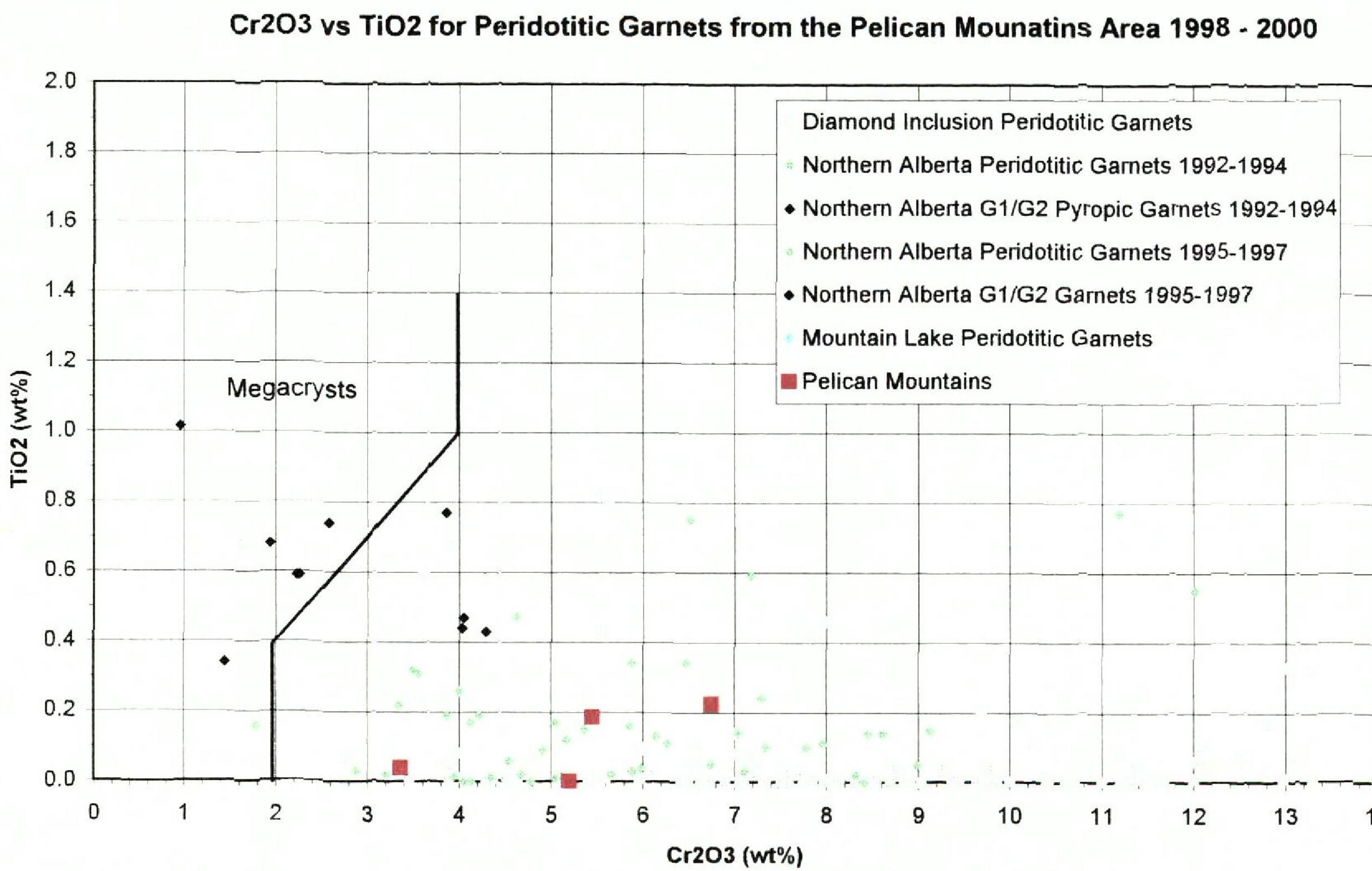


CaO vs TiO2 for Eclogitic Garnets from the Pelican Mountains Area 1998-2000
TiO2 (wt%)
CaO (wt%)
DI Eclogitic Garnets (World)
DI Eclogitic Garnets (Australia)
Northern Alberta Eclogitic Garnets (1992-1994)
Northern Alberta Eclogitic Garnets (1995-1997)
Pelican Mountains
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
0
2
4
6
8
10
12
14
16
18
20
22
24


MgO vs FeO for Eclogitic Garnets from the Pelican Mounatins Area 1998-2000
DI Eclogitic Garnets (World)
DI Eclogitic Garnets (Australia)
Northern Alberta Eclogitic Garnets (1992-1994)
Northern Alberta Eclogitic Garnets (1995-1997)
Pelican Mountains
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

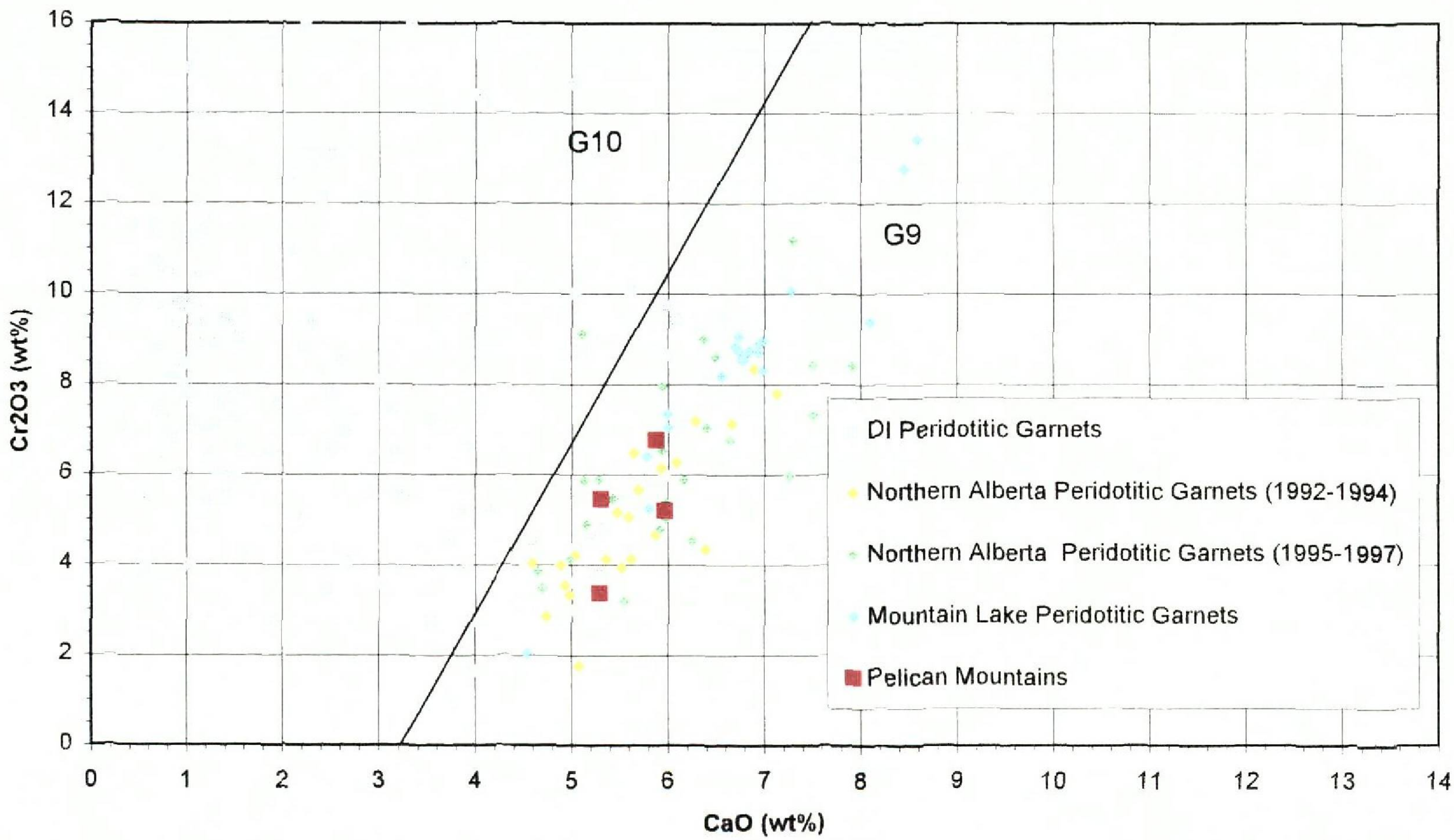


CaO vs Cr2O3 for Peridotitic Garnets from the Pelican Mountains Area 1998-2000
Diamond Inclusion Peridotitic Garnets
Mountain Lake Peridotitic Garnets
Northern Alberta Peridotitic Garnets (1992-1994)
Northern Alberta Peridotitic Garnets (1995-1997)
Pelican Moutains
Eclogitic
Wherlitic
Lherzolitic
Harzburgitic
CaO (wt%)
Cr2O3 (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



Cr2O3 vs TiO2 for Peridotitic Garnets from the Pelican Mounatins Area 1998 - 2000
Diamond Inclusion 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
Mountain Lake Peridotitic Garnets
Pelican Mountains
Megacrysts
TiO2 (wt%)
Cr2O3 (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

CaO vs Cr2O3 for Peridotitic Garnets from the Pelican Mountains Area 1998 - 2000



APPENDIX 8
EXPLORATION EXPENDITURES

APPENDIX 8

EXPLORATION EXPENDITURES

ITEM	ACTUAL COST
Salaries	
Salaries for APEX Geologists	$8,783.90
Salary for Prospector and assistant	$16,800.00
ACAD time for figures	$320.00
Sub-Total	**$25,903.90**
Field Related Costs	
Equipment Rentals	$4,787.61
Contractors	$23,250.40
Food	$426.05
Accommodation	$1,237.75
Fuel/Mileage	$4,155.63
Field Supplies	$479.40
Sample Analyses	$2,009.10
Sub-Total	**$36,345.94**
Non-Field Expenses	
Communication/Shipping	$166.39
Misc. Reporting charges	$119.00
Map purchases	$115.52
Sub-Total	**$400.91**
Total Project Costs	**$62,650.75**

ANGELA SHAVER
A Commissioner for Oaths
in and for the Province
of Alberta. My commission
expires on the 26th day of
March, 20 03

A. Shaver

June 13, 2001

APPENDIX 7
PHOTOS

Photograph of the Anomaly 10 drill site.

Photograph of the water well drilling operations and crew.

APPENDIX 9
PROPOSED BUDGET

APPENDIX 9

PROPOSED BUDGET

Stages 1 and 2; Sampling and Auger Drilling

ITEM	ACTUAL COST
Salaries	
30 man-days-geologists sampling	$9,000.00
Salary for Prospector and assistant	$5,000.00
15 man-days geologist drilling	$4,500.00
Senior Supervision	4000
ACAD/ Drafting	$1,000.00
Sub-Total	**$23,500.00**
Field Related Costs	
Equipment Rentals	$5,000.00
Auger Drilling	$45,000.00
Food	$1,500.00
Accommodation	$1,500.00
Fuel/Mileage	$2,000.00
Field Supplies	$500.00
Sample Analyses	$15,000.00
Sub-Total	**$70,500.00**
Non-Field Expenses	
Communication/Shipping	$500.00
Misc. Reporting charges	$5,000.00
Map purchases	$500.00
Sub-Total	**$6,000.00**
Total Project Costs	**$100,000.00**

APPENDIX 10
L. MACGOUGAN SAMPLES

(7.) Stream - Grab samples G.P.S. reading: 6174556 m. N. 349099 m. E.		Lots of black sand
(8.) Drill hole G.P.S reading: 6164720 m. N. 343199 m. E.	0 - .1 metre .1 - .9 metres .9 - 2 metres	Organic material Sand Dark clay & organic material
(9.) Drill hole G.P.S reading: 6162810 m. N. 344862 m. E.	0 - .1 metre .1 - .5 metres .5 - 2.1 metres	Organic material, roots Gravel Dark grey clay sand
(10.) Drill hole G.P.S. reading: 6162820 m. N. 344892 m. E.	0 - 1 metre 1 - 1.5 metres 1.5 - 2.4 metres	Organic material, roots, sticks Dark grey clay sand - Sand - (water) coal chunks - clean sand
(11.) Drill hole G.P.S. reading: 6160585 m. N. 344410 m. E.	0 - .1 metre .1 - .5 metres .5 - 1.7 metres	Organic material, roots Rusty grey clay (sulfur odor) Dark grey clay with lots of pyrite (colorful pyrite)
(12.) Drill hole G.P.S. reading: 6173810 m. N. 345020 m. E.	0 - .3 metres .3 - 1.5 metres	Organic material, roots, etc. - Sand (soft) little black sand

Map #1

(1.) Drill hole

0 - .3 metres	Organic material (roots, etc.)
.3 - 2 metres	Dark grey clay

G.P.S. reading: 6164210 m. N.
343420 m. E.

(2.) Drill hole

0 - .3 metres	Organic material (roots, etc.)
.3 - 1 metre	Rusty clay
1 -	Rocks

G.P.S. reading: 6165350 m. N.
342640 m. E.

(3.) Stream Cut (banks) — Sticky clay-like material with mica flakes

G.P.S. reading: 6164212 m. N
343720 m. E.

(4.) Stream Rocks — Ironstone mud; oxidized; purple, red & grey inside 17% iron or metal

G.P.S. reading: 6164220 m. N.
343590 m. E.

(5.) Drill hole - 10 metres from stream

0 - 1.2 metres	mud (coal chunks)
1.2 - 3 metres	sand water level

G.P.S. reading: 0344080 m. N.
6164011 m. E.

(6.) Drill hole - cutline

- cemented black sand
- broken rocks
- .3 metres thick or more
- maybe till slab

G.P.S. reading: 0348033 m. N.
6167877 m. E.

AUGER HOLES

&

GRAB SAMPLES

Map 1 - Sample points 1 - 14

Map 2 - Sample points 15 - 23

Map #2

(15.) Drill hole	0 - .3 metres	Organic material
	.3 - 1.5 metres	Soft sand
	1.5 - 3 metres	Dark grey clay sand with some pyrite
	3 metres	Coal (black organic) water
G.P.S. reading: 6166901 m. N.		
340510 m. E.		

(16.) Drill hole	0 - .2 metres	Organic material
	.2 - 1.3 metres	Dark grey clay sand
	1.3 - 2.1 metres	Sand; gravel on bottom
G.P.S reading: 6166421 m. N.		
339682 m. E.		

(17.) Drill hole	0 - .2 metres	Organic material
	.2 - 1.2 metres	Rusty grey clay sand
	1.2 - 1.3 metres	Hard clay; rust
	1.3 - 2 metres	Sandy; soft clay water
G.P.S reading: 6166950 m. N.		
338791 m. E.		

(18.) Drill hole	0 - .5 metres	Rocks; tanned clay
	.5 - 1 metre	Sand tanned color
G.P.S reading: 6163495 m. N.		
339485 m. E.		

(19.) Drill hole	0 - .3 metres	Organic material; roots
	.3 - .75 metres	Tanned clay sand
	.75 - 3.1 metres	Grey mud sand; organic (blacks) or coal specks through out
G.P.S. reading: 6161380 m. N.		
341501 m. E.		

(20.) Till sample — Lots of cemented black sand in clay gravel pipeline. (Road)
G.P.S reading: 6169028 m. N.
328020 m. E.

(21.) Stream or spring sample — Lots of bog iron (iron precipitate) (hillside).
G.P.S. reading: 6170150 m. N.
326810 m. E.

(22.) Drill hole

0 - .4 metres	Bog iron mud
.4 - 1.5 metres	Mud
1.5 - 2 metres	Sand
2 - 1.2 metres	Gravel

G.P.S. reading: 6167449 m. N.
326731 m. E.

(23.) Till sample — Cemented ironstone & gravel; black sand; mica-looking leaflets.
G.PS. reading: 6167261 m. N.
325785 m. E.

(13.) Drill hole	0 - .5 metres .5 - 1 metre	Organic material, roots Soft sand
G.P.S. reading: 6172810 m. N. 344380 m. E.		

(14.) Shovel hole	0 - .2 metres .2 - 2 metres	Organic material Rocks with very iron rich clay colors.
G.P.S. reading: 6173590 m. N 350781 m. E.		

APPENDIX 11
L. MACGOUGAN CREDENTIALS

AUTHOR INFORMATION

1.) Larry MacGougan- Full-time prospector and recognized as such through Revenue Canada. He has over 15 years of experience in metal and mineral exploration and diamond core drilling for gold. Services rendered out at [redacted] per day.

[redacted] [redacted]

Larry MacGougan

2.) Chris Puckett - Part-time prospector and part-time oilfield worker. Has assisted Larry on other prospecting trips in the last four years, involved in the sampling, mapping and data collection under his supervision. Services rendered out at [redacted] per day.

[redacted] [redacted]

Chris Puckett