MAR 19960018: CALLING LAKE

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1996 ASSESSMENT REPORT

PREPARED FOR

RAYMOND HAIMILA of Canmore, AB.

Holder of
Metallic and Industrial Mineral Permits

Nos:9394020021 to 9394020023
and Permit No: 9394030001

ACKNOWLEDGEMENTS

Consultant and Scientific Authority

Dr. Norman Haimila, President of Aurora Projects International Inc., British Virgin Islands and Houston, Texas.

Exploration Research and Program Co-ordination

Dr. N. Haimila, Houston, Texas; Raymond Haimila, Canmore, AB.
and Dr. T. Yoshida, Calgary, AB.

Contributions and assistance from the following are acknowledged:

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Ashton Mining of Canada Inc., Jeff Ward, Project Geologist
Marcel R. Labonte, Geomathematician, Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada, Calgary, AB.
Dr. David Boerner, Research Scientist, Siesmology and Electromagnetism Section, Continental Geoscience Division, Geological Survey of Canada, Ottawa, Ont.
Dr. J. Cox and Mike Clark, Department of Geology, Mount Royal College, Calgary, AB.
Beth Haverslew, Petrologist, Calgary, AB.
Loring Laboratories, Calgary,AB.
Staff at Earth Sciences Bldg. and Library at the University of Calgary
C.F.Minerals, Kelowna, BC., C. Fipke

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Born: [redacted]

Citizenship:

Social Insurance:

EDUCATION

Primary through High School, Canmore Alberta.
B.A. Sc (1960) University of British Columbia
Ph.D. (1974 Michigan State University

AREAS OF EXPERTISE

PROSPECT GENERATION, INTERNATIONAL AND FRONTIER PROSPECT EVALUATIONS, REGIONAL STUDIES, RESOURCE ASSESSMENT, STRUCTURAL GEOLOGY, REMOTE SENSING, GEOPHYSICAL INTERPRETATIONS, BASINAL STRATIGRAPHY.

PROFESSIONAL EXPERIENCE

1994 to Present — President of AURORA PROJECTS INTERNATIONAL INC.

Generated drillable prospects in Argentina and the Middle East. Of three prospects generated, one is producing oil, one was a dry hole with shows and one remains to be drilled in the winter of 1995-1996.

1980 - 1994 — President of ZI CONSULTING LIMITED, Cochrane, Alberta

Consulted for the oil and mineral industries and government agencies.

From 1991 to 1994 consulted for an independent oil company in Canada. On my recommendation this company acquired two exploration blocks and two exploitation blocks in Argentina. Prospects have been generated on these and other subsequently acquired blocks. To date, four wells with various levels of hydrocarbon recoveries and four dry wells have been drilled. Outside Argentina blocks have been evaluated for their hydrocarbon potential in Venezuela, Colombia, Ecuador, Peru, Bolivia, Europe and Asia.

From 1987 to 1991 was the Senior Geologist on the Sub-Andean Cooperative Hydrocarbon Studies Project managed by Meneley Enterprises, Ltd. and directed by Petro Canada International Assistance Corporation, the World Bank and Assistance Reciproca Petrolera Estatal Latin America. This project consisted of basin analyses and hydrocarbon endowment studies in Colombia, Ecuador, Peru, Bolivia, Paraguay, Argentina and [illegible] ll the pertinent data held by [illegible] companies.

From 1980 to 19[illegible] consulted for independent and major oil compan[illegible] addition to governmental agencies and research institutes. Evaluated the hydrocarbon potential for areas throughout Canada and other international areas.

1978 - 1980 — CDC Oil and Gas Ltd. (renamed Canterra and now part of Husky Oil and Nova Corp.) Calgary, Alberta.

Held the positions of Geological Specialist and Consultant responsible for prospect generation, structural analyses and regional studies in the Canadian Foothills Belt from latitudes 49°N to 60°N.

1974 - 1978 — Energy Subdivision (Petroleum Resource Appraisal Secretarial) of the Institute of Sedimentary and Petroleum Geology (GSC). Calgary Alberta.

Responsible for evaluating hydrocarbon endowment in Canada, especially in the Arctic, the Western Canada Basin and the Foothills Belt.

1967-1974 Atlantic Richfield Company. Dallas, Texas
Held the position of Senior Research Geologist in the Geosciences Section. Worked in applied research in remote sensing, structural analysis, regional and basinal studies, in addition to engineering and petrological problems related to the oil and mineral industries.

1966-1967 Consulted for small independent oil and mining companies in Michigan and Indiana.

1964-1967 Michigan State University. East Lansing, Michigan.
Graduate Assistant and Assistance Instructor.
Taught Introductory Geology and Mineralogy at the undergraduate level.

1963-1966 British Columbia Department of Mines and Petroleum Resources. Victoria, British Columbia. Worked on special mineral projects. Mapped geology and mineral occurrences in Central Vancouver Island and in the Stewart Area of British Columbia.

1961-1963 External Aid Office (CIDA). Ottawa, Ontario
Technical Advisor to the Ministry of Industries in Ghana under the Special Commonwealth Africa Assistance Program. Part of a two man team mapping and evaluating mineral projects throughout Ghana including gold mining, placer diamond exploitation, manganese occurrences, and aluminum and limestone prospects.

1960-1961 Geological Survey of Canada. Ottawa, Ontario
Technical Officer - assisted in field mapping in Northern Manitoba and Ellesmere Island Northwest Territories. Conducted laboratory work on material from the ultrabasic Muskox Intrusive Complex of the Northwest Territories.

1955-1959 Summer employment with government agencies, mining and oil industries in Canada.

PROFESSIONAL ASSOCIATIONS - Canadian Society of Petroleum Geology
- American Association of Petroleum Geologists #0132516
- Association of Professional Engineers, Geologist and Geophysicists of Alberta #28333
- American Institute of Professional Geologists #4293.

RESEARCH AND REPORTS

Gold Distribution, Structure and Sedimentology of the Banket Deposit in the Vicinity of the Fanti Gold Mine.

Demonstration Equipment and Procedures for Exploiting Small Scale Alluvial Diamond Workings.

The Asuboni Limestone.

Structure and Oil Potential of the Trenton Limestone, Wabash County, Indiana.

Structure and Oil Potential of the Trenton Limestone, Eaton County, Michigan.

Secondary Recovery from the Trenton Limestone of the Lima-Indiana Trend.

Structure and Oil Prospects of the Canadian Maritime Provinces and Offshore Areas.

Gravity Interpretation of a Salt Dome, Offshore Texas.

Gravity and Magnetic Interpretation of a Concession in Libya.

Structural and Seismic Interpretation of a Hydrocarbon Prospect in Nevada.

Gravity, Magnetic, Seismic and Structural Analysis of West Texas and the Permian Basin including Hydrocarbon Prospects.

Review and Training Manual for Gravity and Magnetic Interpretation.

Structural Interpretation of the Laguna Madre Field, South Texas.

Structural Analysis and Hydrocarbon Prospects in the Montana Thrust Belt.

Structural Analysis of the Eastern Brooks Range of Alaska.

Permafrost in the Subsurface of the Northslope of Alaska.

Permafrost and Pleistocene Stratigraphy of Copper River Basin, Alaska for Routing of the Trans Alaska Pipeline.

Fracture Analysis Utilizing Fourier Transforms.

Structural Analysis of the Eastern Arctic Islands, Canada.

Borehole Fracture Analysis for Secondary Recovery Projects.

Fracture Analysis for Massive Hydraulic Fracturing in Low Productivity Gas Sands.

Side Looking Radar Study of East Kalimantan, Indonesia.

Remote Sensing Applicability to Exploration in Alaska, Eastern Canada, Arizona, Peru and Indonesia.

Miscellaneous Petrographic and Mineralogical Investigations.

Hydrocarbon Potential of the Mackenzie Valley and the Great Bear Basin in the Vicinity of Norman Wells, Northwest Territories.

Hydrocarbon Potential of the Sverdrup Basin of the Arctic Islands.

Hydrocarbon Potential of the Arctic Islands Fold Belt.

Hydrocarbon Potential of the Stable Platform of the Arctic Islands.

Hydrocarbon Potential of the Lower Mannville Interval in Alberta.

Hydrocarbon Potential Reviews of East Coast Offshore Areas.

Research and Reports
(Cont'd)

Hydrocarbon Potential of the British Columbia Offshore Areas.

Hydrocarbon Potential of Third World Countries.

Structural Style and Hydrocarbon Potential of the Alberta and British Columbia Foothills.

Review and Training Manual of Structural Styles in Canadian Petroleum Provinces.

Geology and Hydrocarbon Potential of the Canadian Beaufort Sea and Environs.

Hydrocarbon Potential of Arctic North America and Greenland.

Hydrocarbon Potential, Geology and Exploration History of Selected Third World Countries.

Hydrocarbon Potential and Undiscovered Prospects of Several Hydrocarbon Exploration Plays in Alberta and Northeastern British Columbia.

Deltas of the World and Their Potential for Containing Giant Hydrocarbon Accumulations.

Characteristics of Hydrocarbon Accumulations in Four North Sea Sub-basins.

Characteristics of Hydrocarbon Accumulations for Typical Exploration Plays in West Texas and Offshore Louisiana.

Hydrogen Sulphide and Sulphur Occurrences in Petroleum Accumulations of Western Canada.

Sedimentary Basins and Petroleum Resource Potential of the Arctic Ocean Region.

Geology and Hydrocarbon Potential of the Sub-Andean Basins of Colombia, Ecuador, Peru, Bolivia, Paraguay and Argentina.

Geology and Hydrocarbon Potential of the Neuquen Basin of Argentina.

General review of the Gulfo San Jorge Basin.

Geology and Hydrocarbon Potential of the Chaco-Parana and Loma Del Omeda regions of Argentina.

TABLE OF CONTENTS

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LIST 0F FIGURES

INTRODUCTION

The block of diamond claims that are the subject of this assessment report constitutes slightly less than 4 townships. They are registered as Metallic and Indusrial Mineral Permits Nos. 9394020021 to 9394020023 inclusive and Permit No. 9394030001. The holder of said permits is Raymond Haimila of Canmore, Alberta.

The Metallic and Industrial Mineral Permits Nos. 9394020021 to 9394020023 inclusive and Permit No. 9394030001 are located in and around Calling Lake (approximately 200km north of the city of Edmonton). They consist of the following lands:

Twp 71 R21 W4M
Twp 72 R21 W4M
Twp 72 R23 W4M

and portions of: Twp 72 R22 W4M, Twp 71 R22 W4M, and Twp 70 R22 W4M.

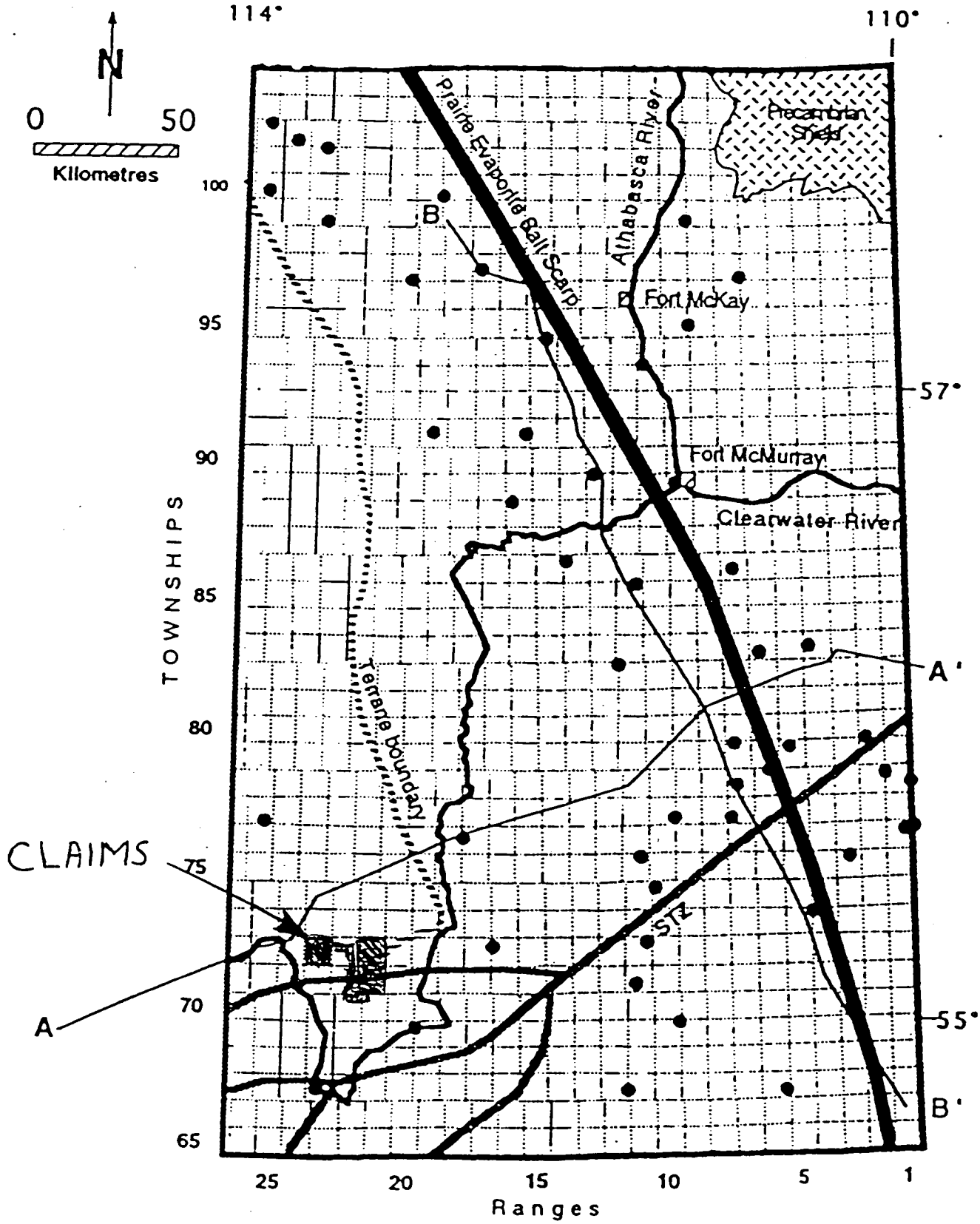
Soil in the area consists of Grey Luvisoils and Organics.The shore of Calling lake itself is very sandy and quite rocky in places. There are large concentrations of garnets in and around the shoreline. Many of the rocks on the shore and in the surface drift are quite angular and consist of high grade metamophics, meta-volcanics, and volcanics.(44 thin sections were prepared from some of these surface samples).

Numerous diamond indicator minerals have been found including diamond inclusion clinopyroxenes, pyrope garnets,chromite and picroilmenites.Many of the clinopyroxenes are angular and posses some kelphetic overgrowth. These characteristics indicate the grains did not travel far from their host rock.

A ground magnetic survey was begun in the fall of 1995. Initial work seems to indicate the presence of near surface magnetic anomalies around Calling Lake.

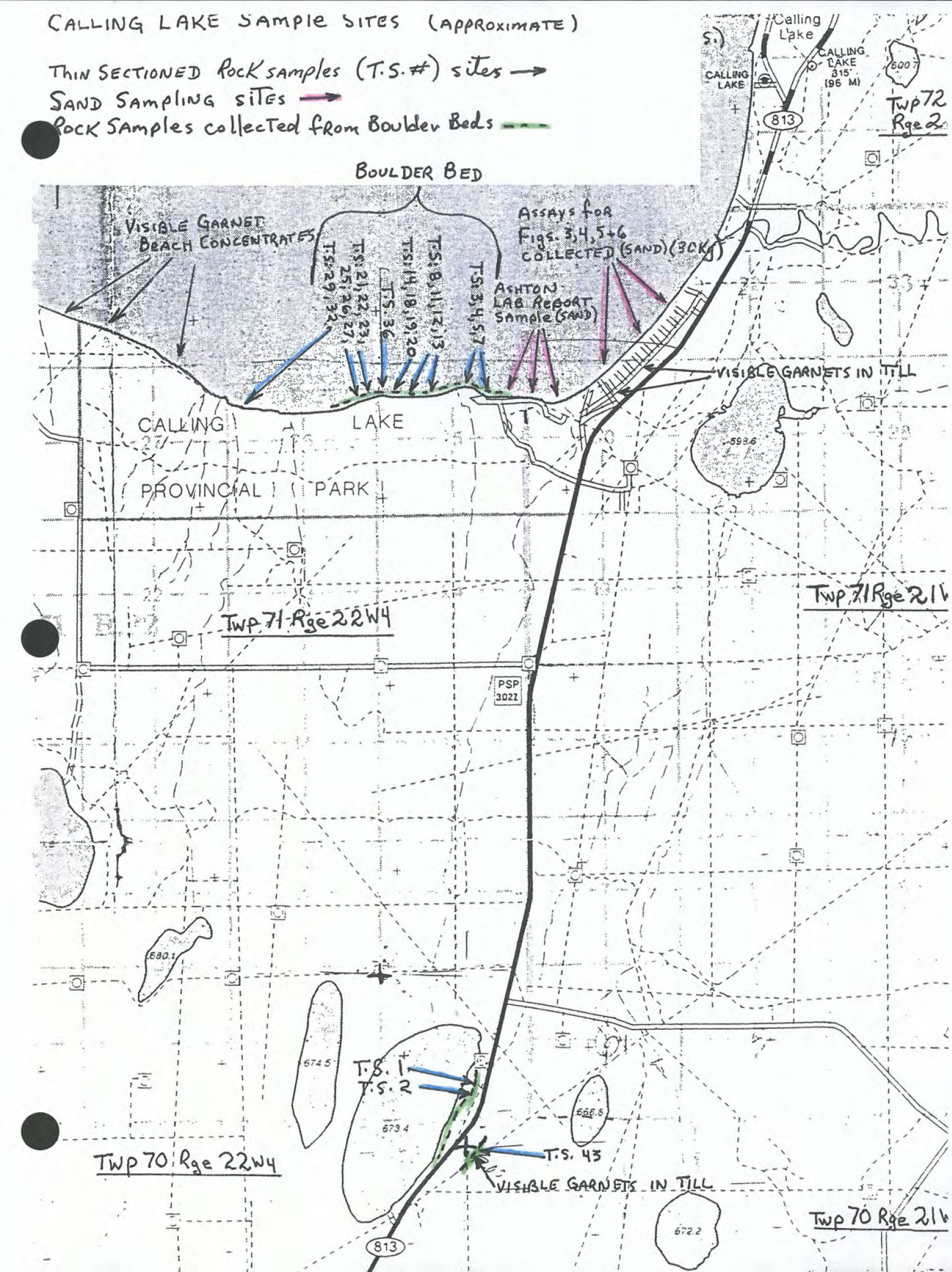
Research of this area's basement geology shows the existence of a deep mantle root proximal to this area (an important factor in determining diamond potential).Another important factor is the proximity of these mineral permits to the Snowbird Tectonic Zone (STZ). The STZ is part of a complex transcontinental shear zone of late **ARCHEAN AGE.** (Hanmer et el. 1994)

CALLING LAKE DIAMOND CLAIMS
LOCATION MAP



Reprinted From Canada-Alberta Partnership on Minerals 1992-1995 (Program Summary)

FIG·1


CALLING LAKE SAMPLE SITES (APPROXIMATE)
THIN SECTIONED ROCK SAMPLES (T.S.#) SITES
SAND SAMPLING SITES
ROCK SAMPLES COLLECTED FROM BOULDER BEDS
BOULDER BED
VISIBLE GARNET BEACH CONCENTRATES
T.S. 21, 22, 23, 25, 26, 27, 32
T.S. 36
T.S. 14, 18, 19, 20
T.S. 8, 11, 12, 13
T.S. 3, 4, 5, 7
ASSAYS FOR FIGS. 3, 4, 5 + 6 COLLECTED (SAND) (30 KG)
ASHTON LAB REPORT SAMPLE (SAND)
VISIBLE GARNETS IN TILL
CALLING LAKE PROVINCIAL PARK
Calling Lake
CALLING LAKE
CALLING LAKE 315' (96 M)
813
600
Twp 72 Rge 2
593.6
Twp 71 Rge 22W4
Twp 71 Rge 21
PSP 3022
680.1
674.5
673.4
T.S. 1
T.S. 2
666.6
T.S. 43
VISIBLE GARNETS IN TILL
672.2
Twp 70 Rge 22W4
Twp 70 Rge 21
813

CLAIM
LOCATION MAP

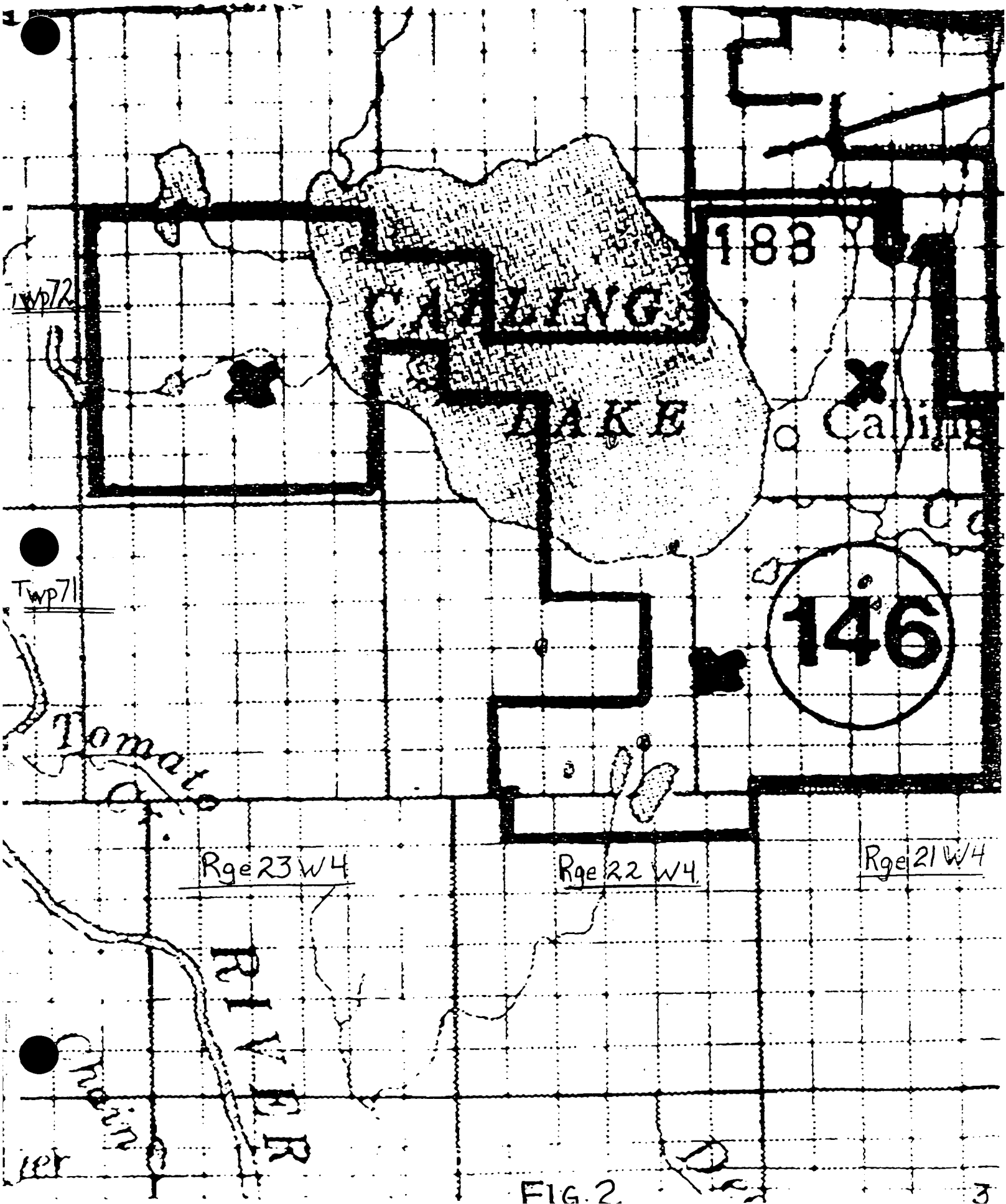


FIG. 2

STAKING

The Calling Lake diamond claims were initially applied for because of their location specific to the Tectonic domains of the Alberta basin. There is an undefined Tectonic zone in north-central Alberta that is bounded by 6 Tectonic zones including the complex transcontinental shear zone of late Archean age-the Snowbird Tectonic Zone. This block of diamond claims is located in the north portion of this undefined zone.(see location figures 7,8,&9 in this report).

EXPLORATION PROGRAM

The exploration program was based on : Remote Sensing (air photos)
Prospecting for diamond indicators and related rocks
Geotectonic Research
Research of Aeromagnetic Maps
Ground Magnetic Survey

REMOTE SENSING

Comparing air photos with areomagnetic maps was used to find surface features such as depressions or vegetation changes that coincided with magnetic highs and lows. The air photos also provided a tool for area orientation. (see figures 15&16).

PROSPECTING

Four trips were made to Calling Lake. Three trips were to prospect for diamond indicator minerals and associated rocks. The fourth trip was to begin a ground magnetic survey.

The first reconnaissance of the Calling Lake area showed that there was an abundance of garnet concentrations (see enclosed photo) in and around Calling Lake.A single bucket of sand (30kg) yielded 9kg of table concentrate. This concentrate consisted mainly of garnets and many diamond indicator minerals (see assay results).

Rock samples were collected , examined and many prepared for thin sections. These thin sections were photographed and descibed. Some of the photomicrgraphs and their petrological descriptions appear in this report.

ANALYSIS

Many of the rock samples collected were prepared for thin section, described and photographed. Many are presented in this report.

Sand was sent to Loring Labs and to Ashton Mining Canada Ltd. for analysis. The samples were weighed, wet seived and sized, concentrated on a shaker table, and then recombined for a heavy liquid separation (3.3 S.G.) The resultant heavies were then further separated magnetically. Approximately 50 grains were mounted and probed. Some quantitative and others qualitative. This was only a small representation of diamond indicator minerals present in the magnetic separations.
Loring Labs assays are presented in this report as are some of the findings of Ashton Mining. The qualitative analysis was done on approximately 40 grains by petrologist Beth Haverslew of Calgary. Qualitative Graphs representative of the chrome pyropes (10 grains) and chrome diopsides that were probed by Beth Haverslew are also presented in this report in the analysis section. .

RESULTS

Many of the petrological discriptions of some of the rock samples and their photographs are included herein.

Analysis of the sand has confirmed the presence of an abundance of diamond indicator minerals.Only a small number of grains were picked for analysis.The results of these analysis include: G1, G5, G7, G9, G11 garnets; eclogitic garnets, diamond inclusion clinopyroxenes, significant chromite and significant picroilmenites. There were also high aluminum spinels, similar in composition to the pleonastes found in the Pleonaste Reaction Trend as decribed by Mitchell in KIMBERLITES (1989) page 233.

ROCK SAMPLES and THIN SECTIONS

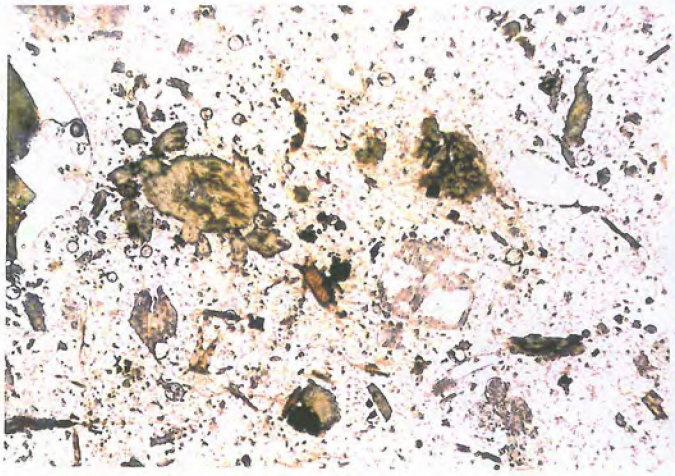
The photographs and descriptions that are contained herein are self-explanatory.The rocks that they represent are: high grade metamorphics, meta-volcanics, volcanics, explosive volcanics and possible tuff.

THIN SECTIONS

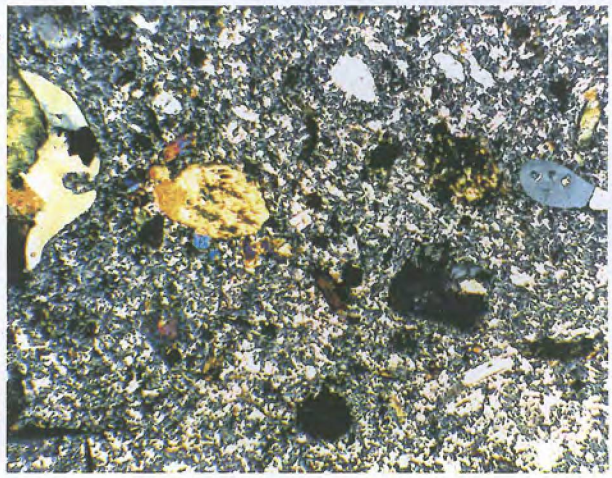
PHOTOMICROGRAPHS AND DESCRIPTIONS

and

PHOTOGRAPHS OF SOME ROCK SAMPLES

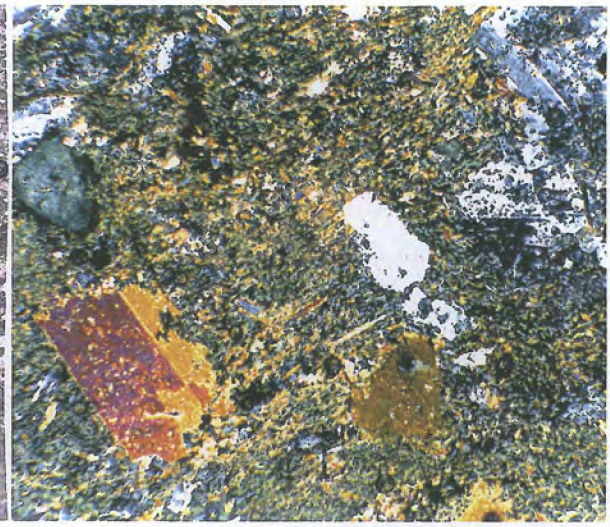


TS.1. x2.5 objective lens
porphyritic volcanic-horneblende, quartz,
potassium feldspar and plagioclase

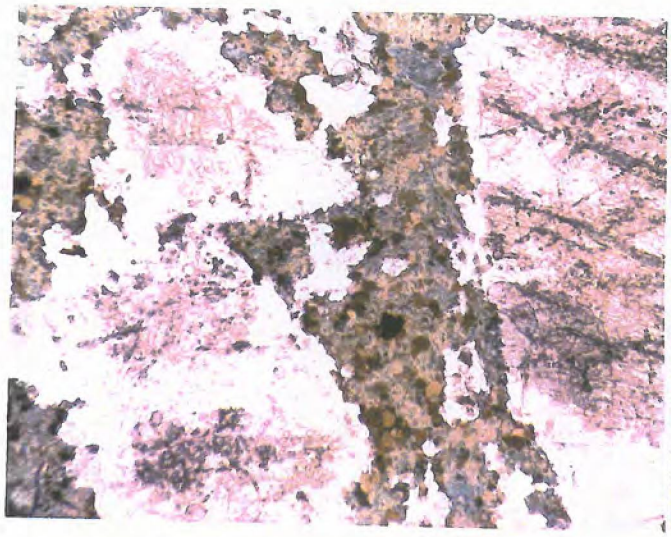


TS.1. crossed polars
recrystallized groundmass

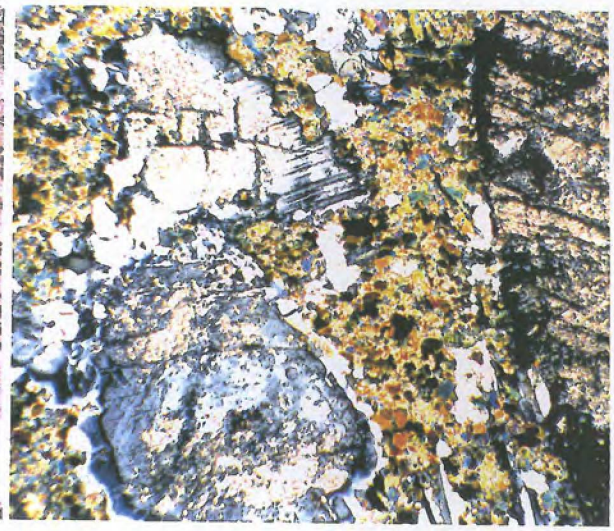
TS.2. x2.5 objective lens
altered volcanic rock with amphibole matrix



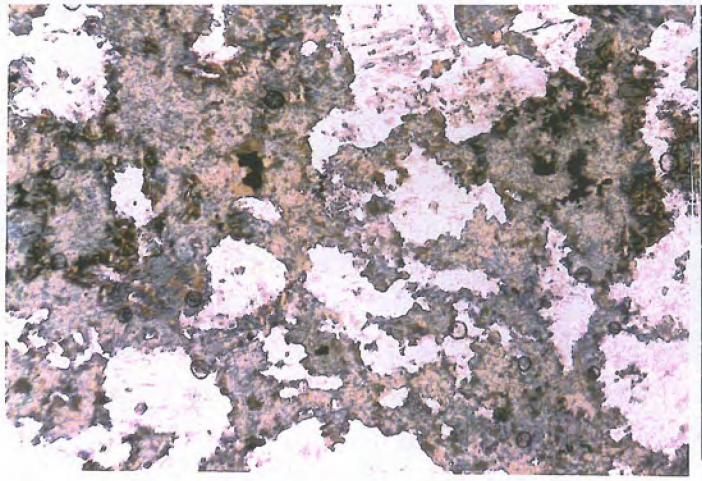
TS.2. crossed polars



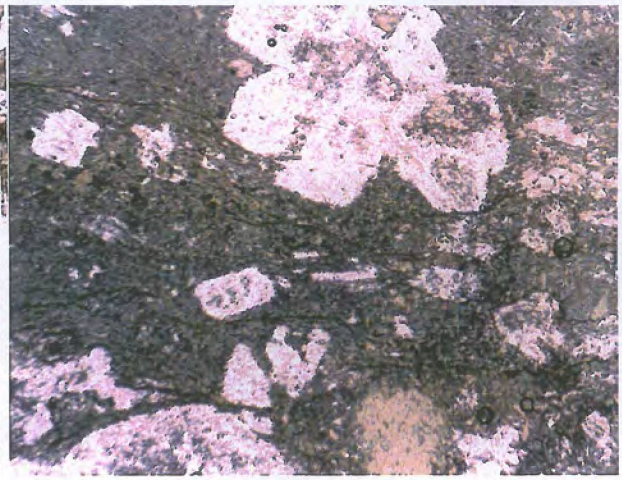
TS.3. x2.5 objective lens
volcanic rock (altered)



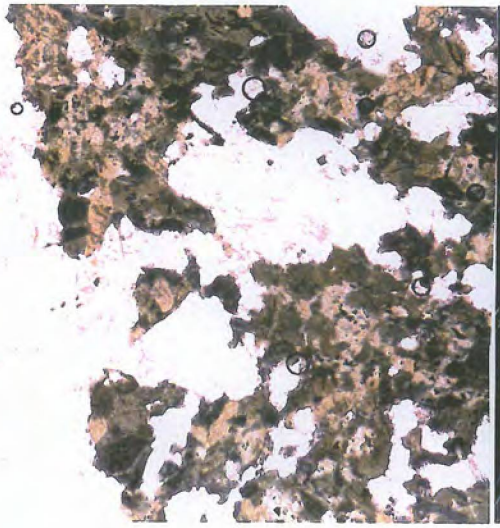
TS 3 crossed polars



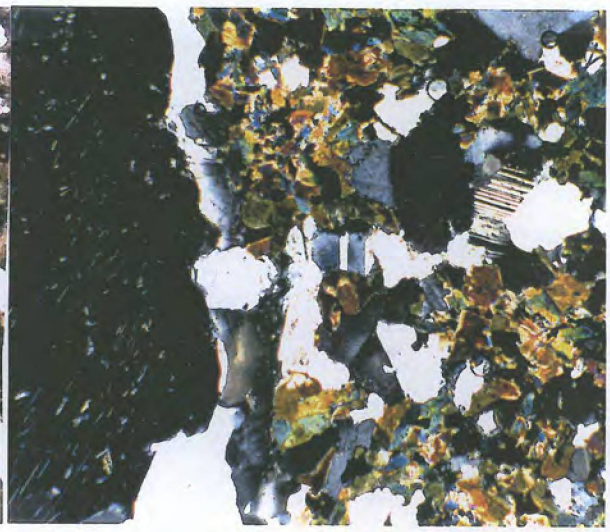
TS.4. x2.5 objective lens
volcanic rock



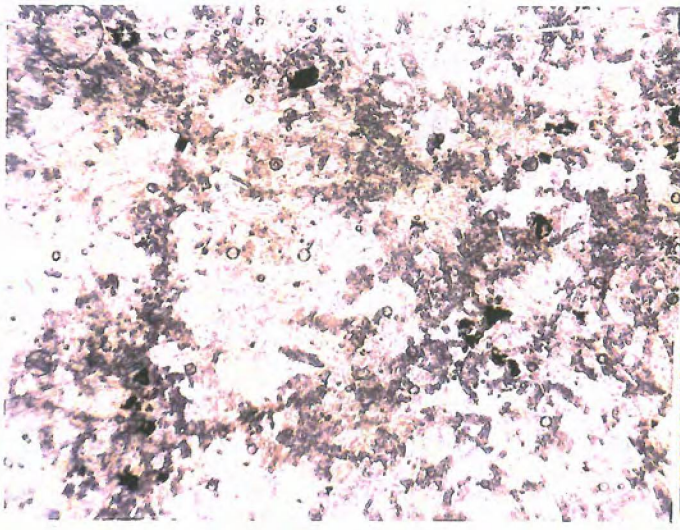
TS.5. x2.5 objective lens
metavolcanic with plagioclase phenocrysts and glaucocrysts



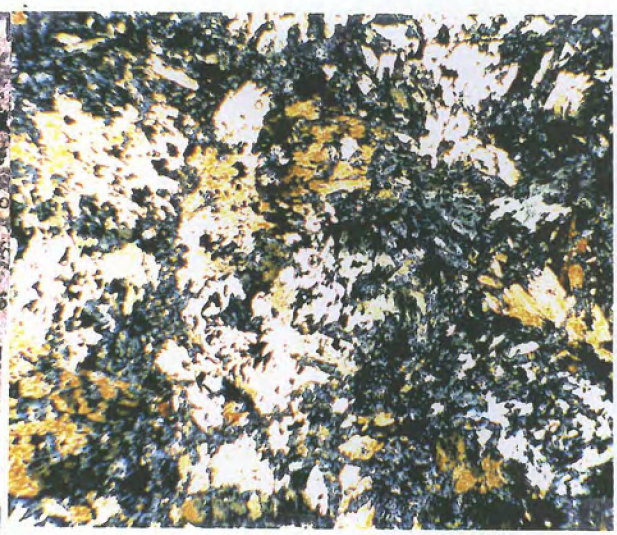
TS.7. x2.5 objective lens
metavolcanic rock



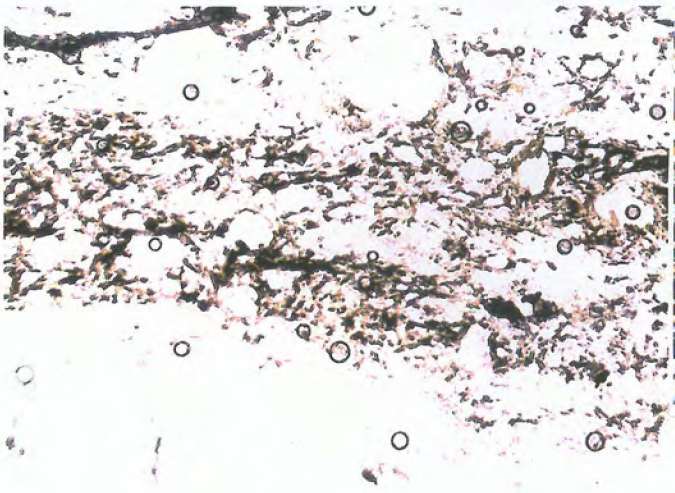
TS.7. crossed polars



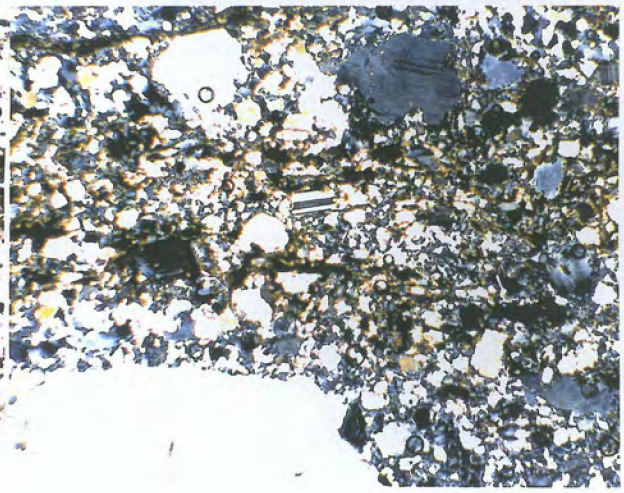
TS.8. x2.5 objective lens
meta volcanic rock



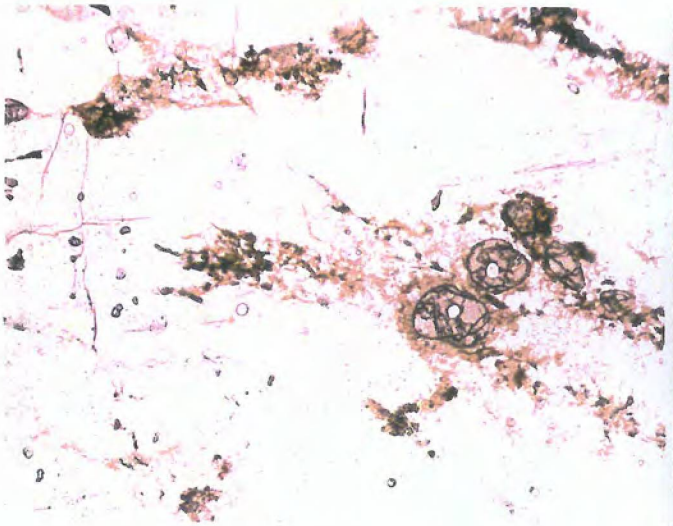
TS.8. crossed polars



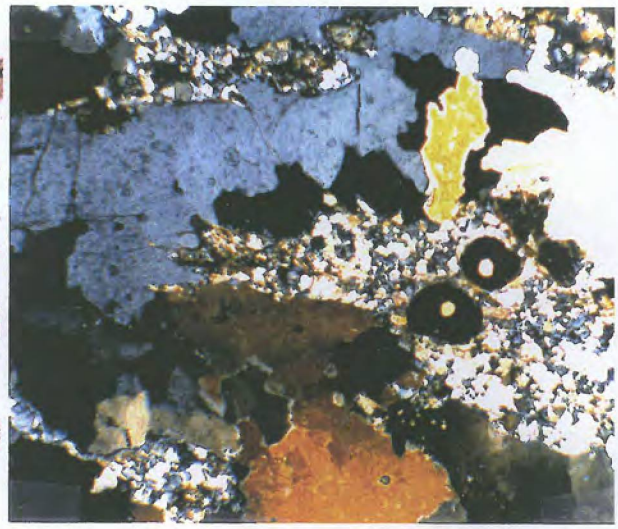
TS. 11. x2.5 objective lens
metamorphic , quartzose and granulated plagioclase



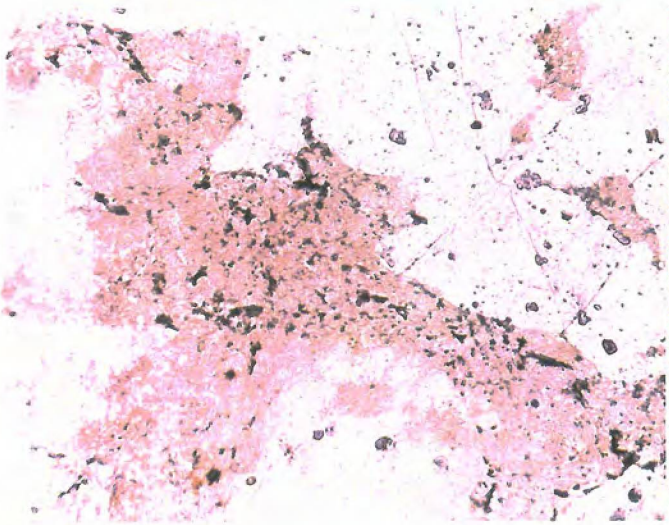
TS.11. crossed polars



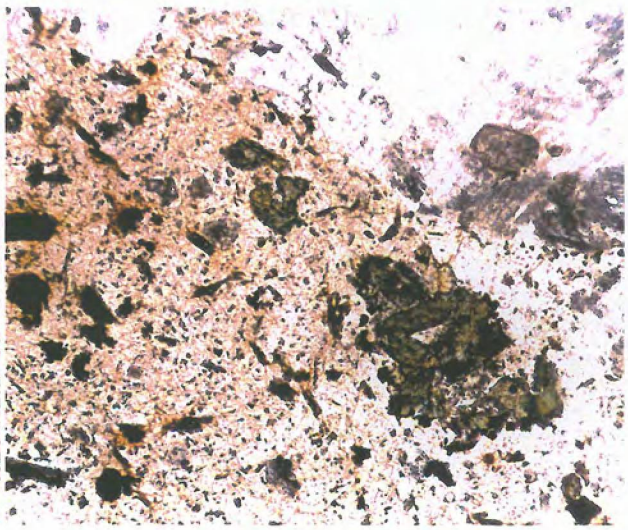
TS.12. x2.5 objective lens
high grade metamorphic with rounded garnets



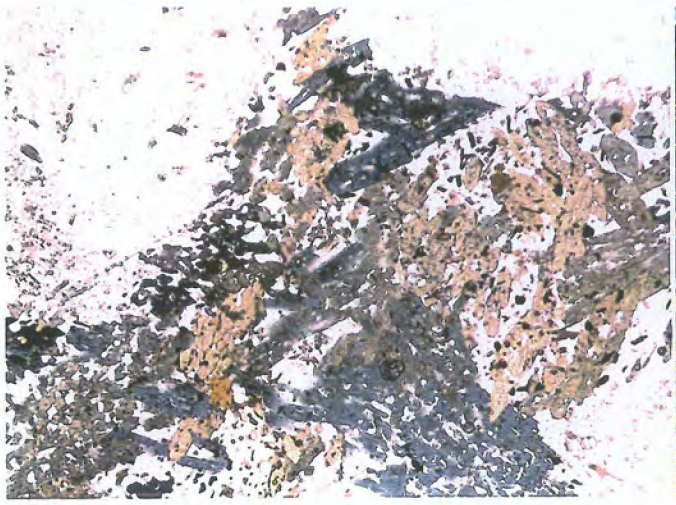
TS.12. crossed polars



TS. 13. x2.5 objective lens
metamorphic with albite, quartz-albite and minor amphibole

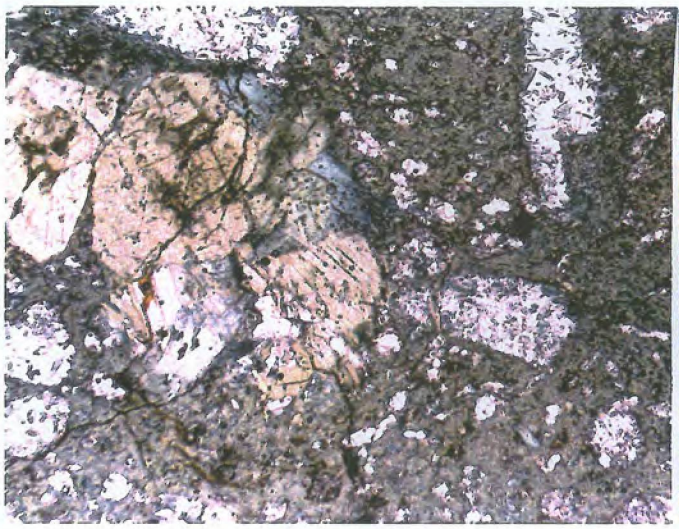


TS.14. x2.5 objective lens
horneblende andesite

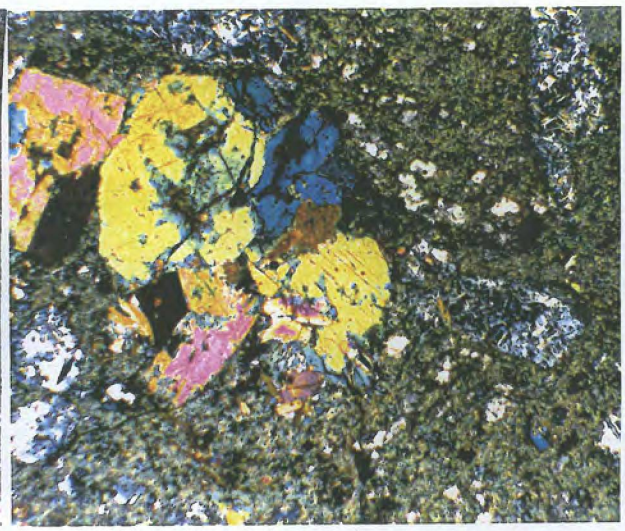


TS.18 x2.5 objective lens
meta volcanic, amphibole, feldspar and quartz

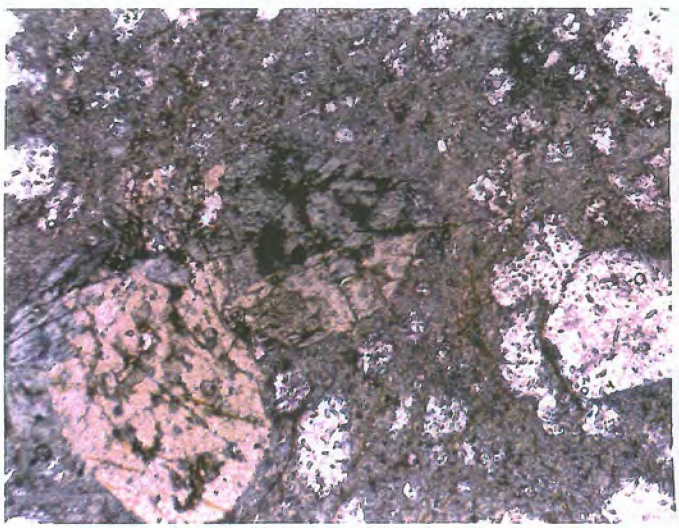
TS. 18. crossed polars



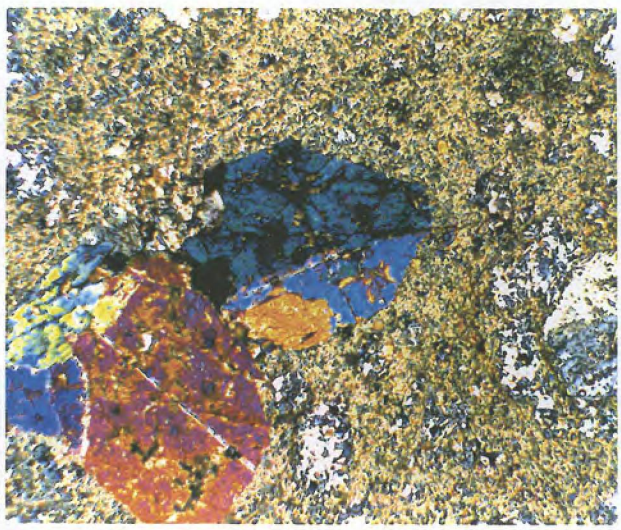
TS. 19. x2.5 objective lens
volcanic (-recrystallized)



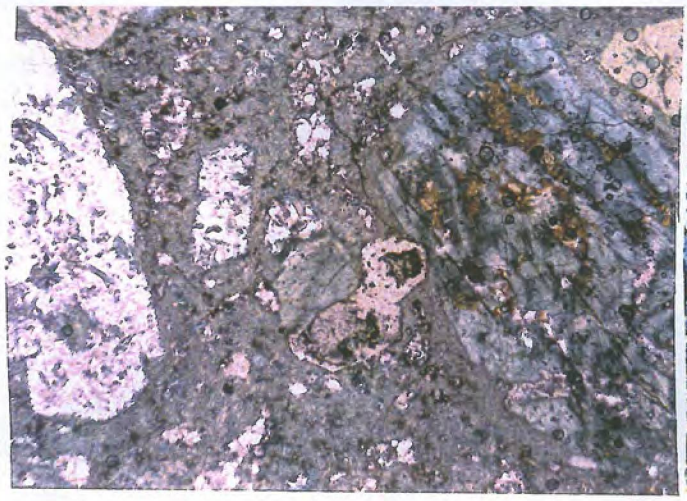
TS.19. crossed polars



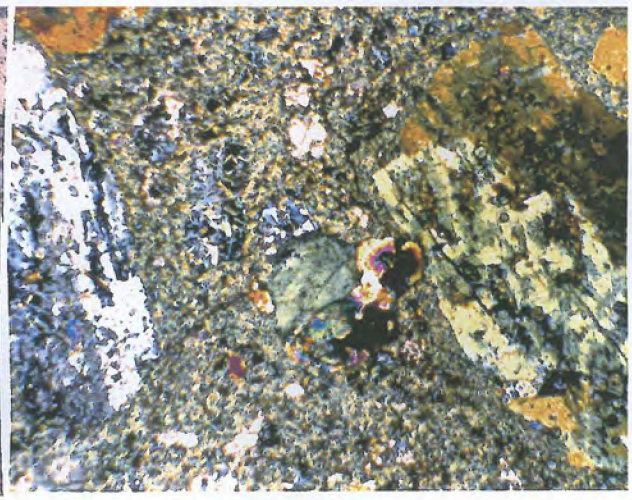
TS. 20. x2.5 objective lens
amphibole-bearing , altered or meta-volcanic



TS. 20. crossed polars

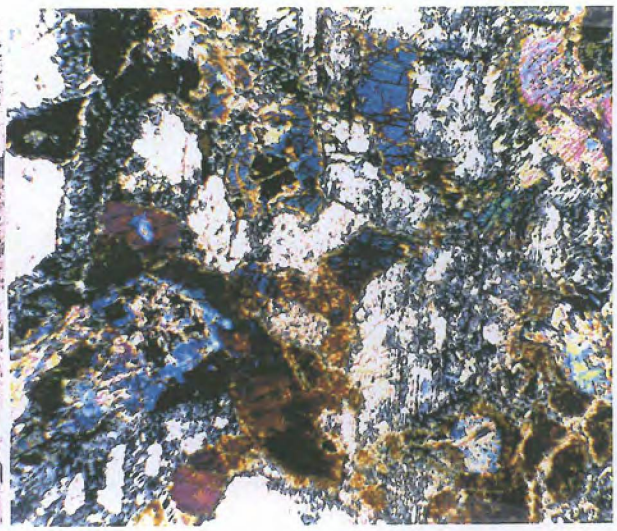


TS.20.1 showing epidote and carbonate

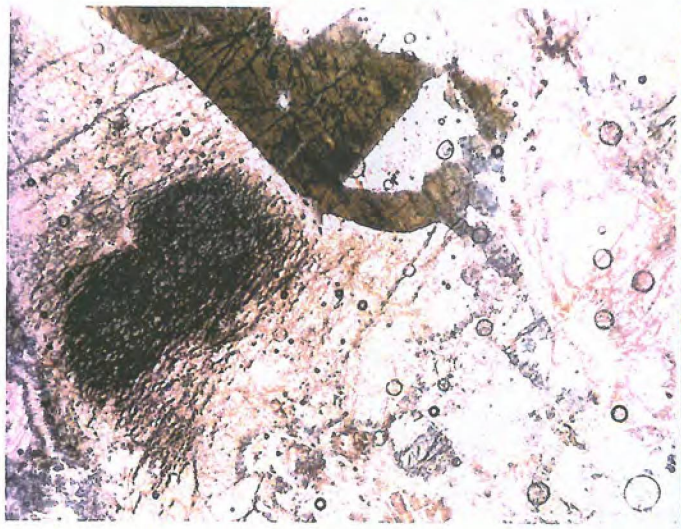


TS. 20.1 crossed polars

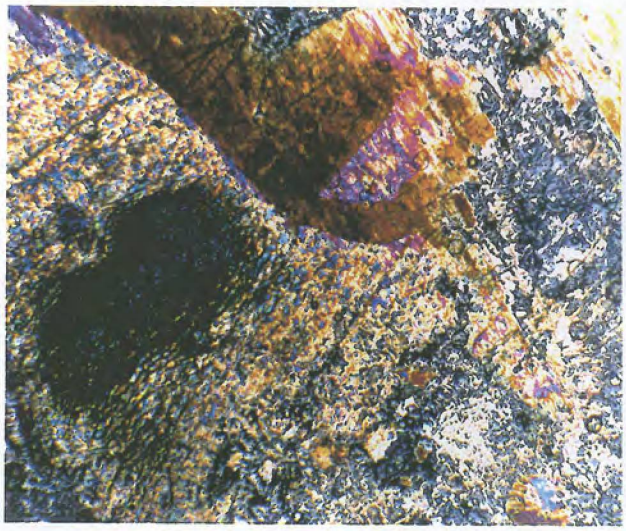
TS.21. x2.5 objective lens
mafic intrusive (shattered and recrystallized)



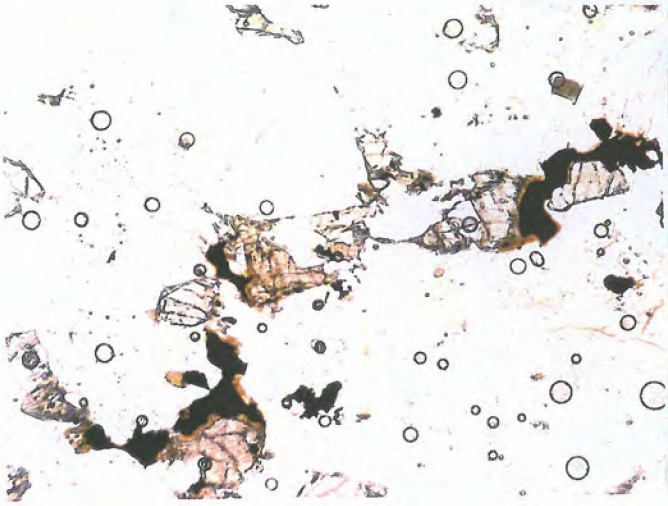
TS. 21. crossed polars



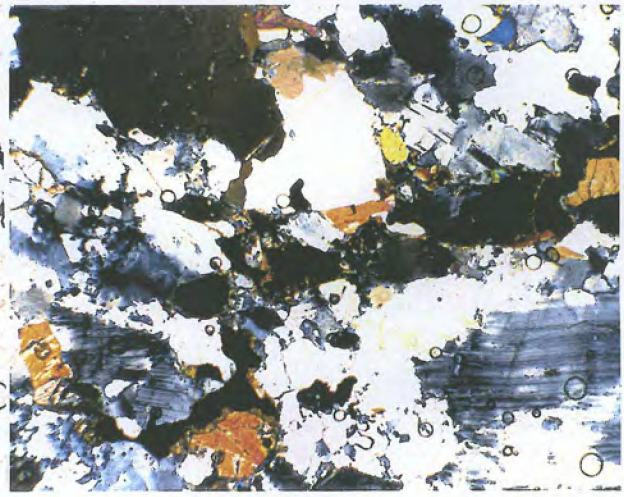
TS. 22. x2.5 objective lens
mafic intrusive showing very unusual textures



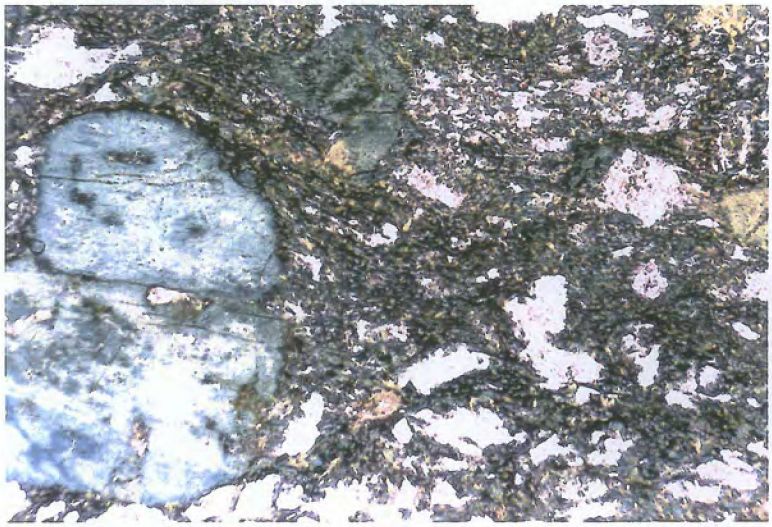
TS. 22. crossed polars



TS. 23. x2.5 objective lens
high grade metamorphic with orthopyroxene, feldspar, horneblende, and quartz

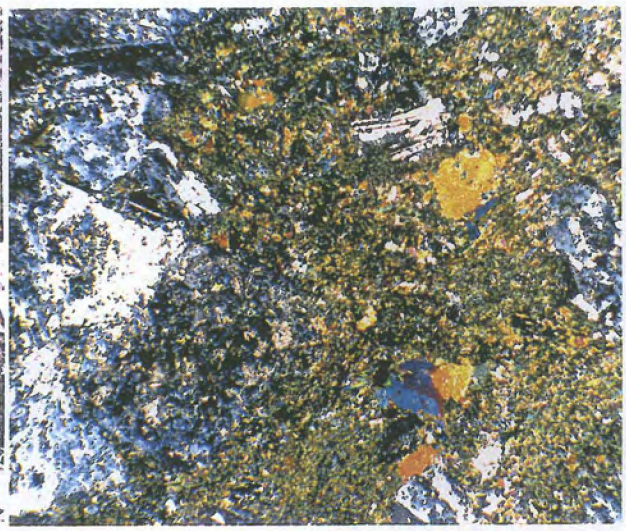


TS. 23. crossed polars

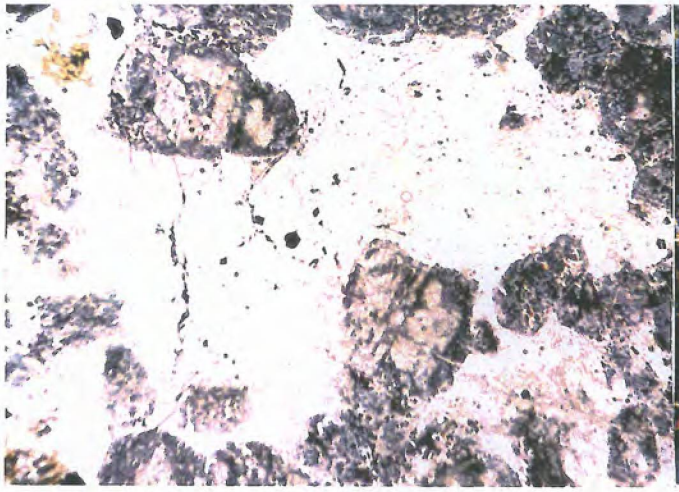


TS. 25. x2.5 objective lens
meta-volcanic, amphibole and plagioclase

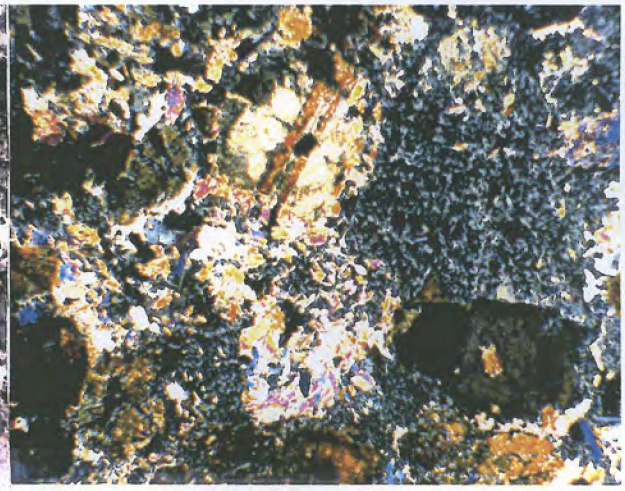
TS. 26. x2.5 objective lens
meta-volcanic



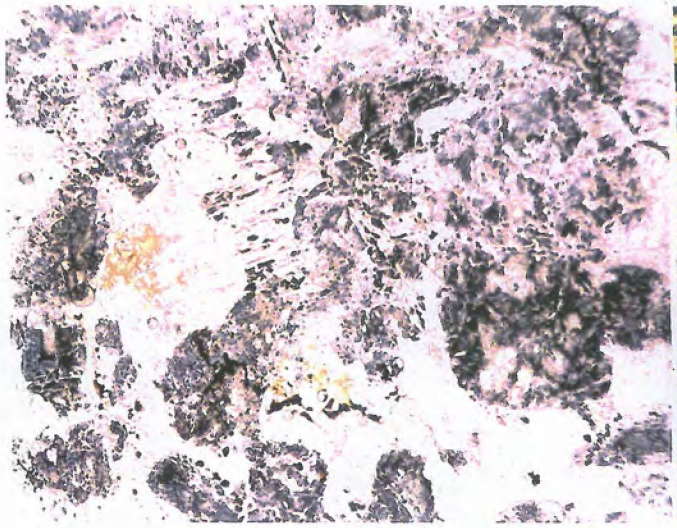
TS 26. crossed polars



TS. 27. x2.5 objective lens
relict porphyritic texture, unusual minerology

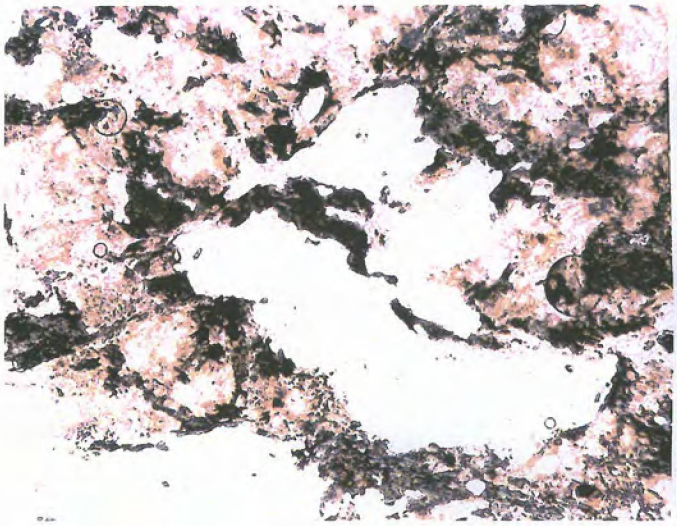


TS. 27. crossed polars

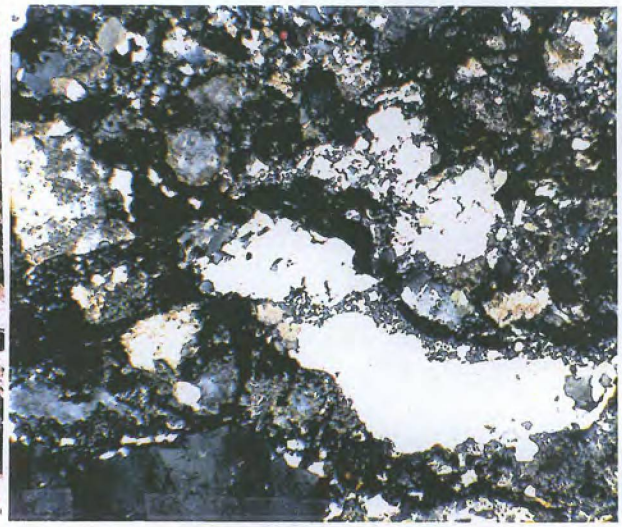


TS 27.1 x2.5 objective lens
minerology ??

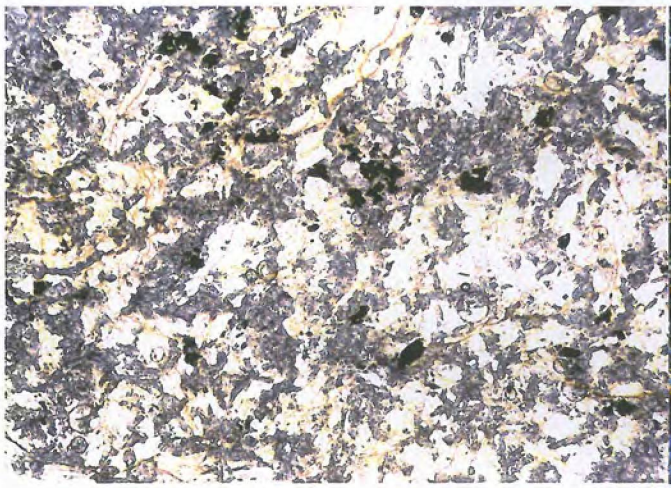
TS. 27.1 crossed polars



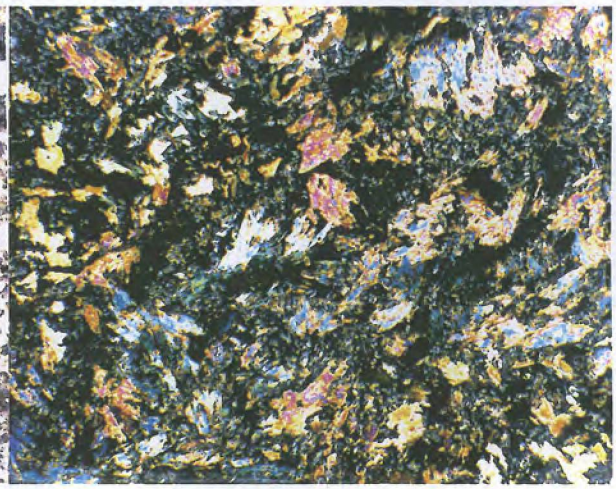
TS. 29. x2.5 objective lens
metamorphic, granulation in quartz



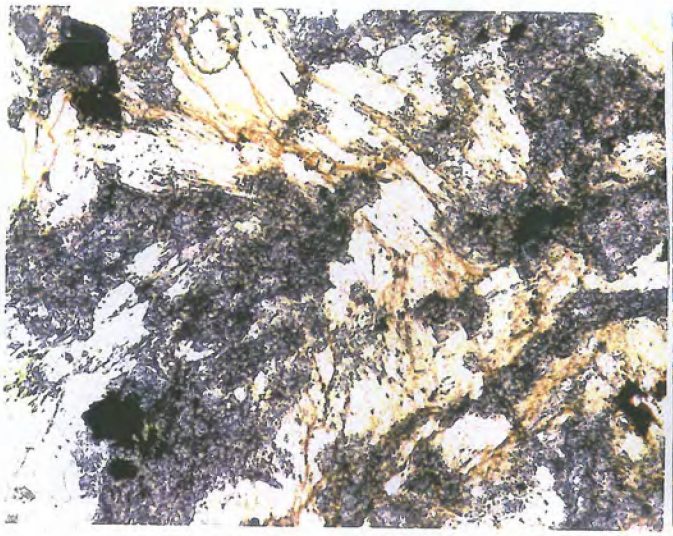
TS. 29. crossed polars



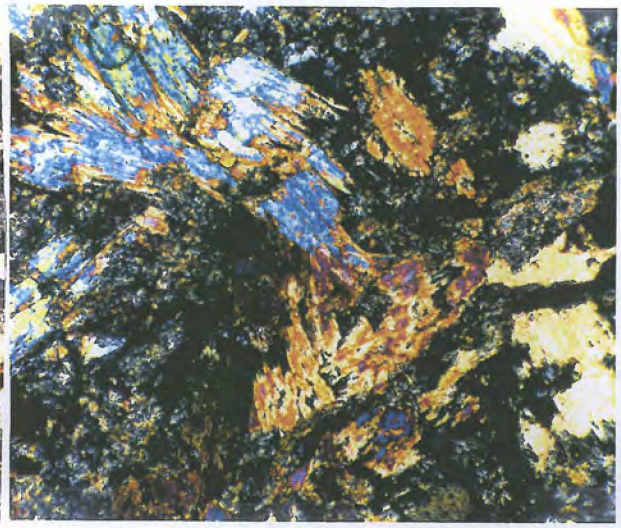
TS. 32. x2.5 objective lens
amphibole and sphene



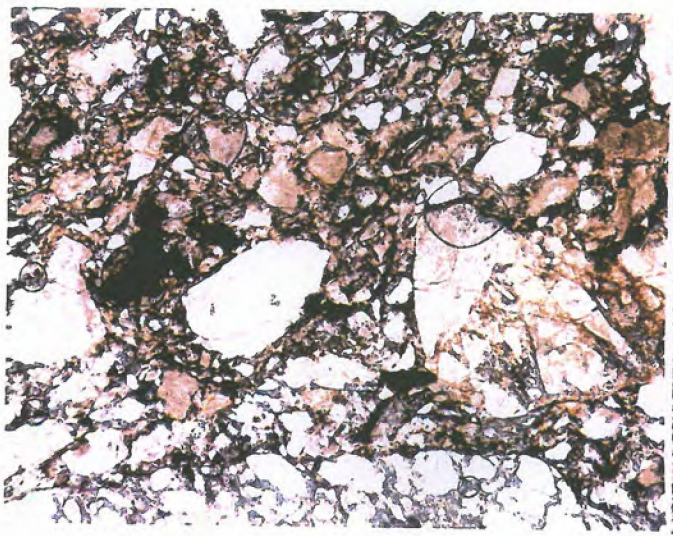
TS. 32.
crossed polars



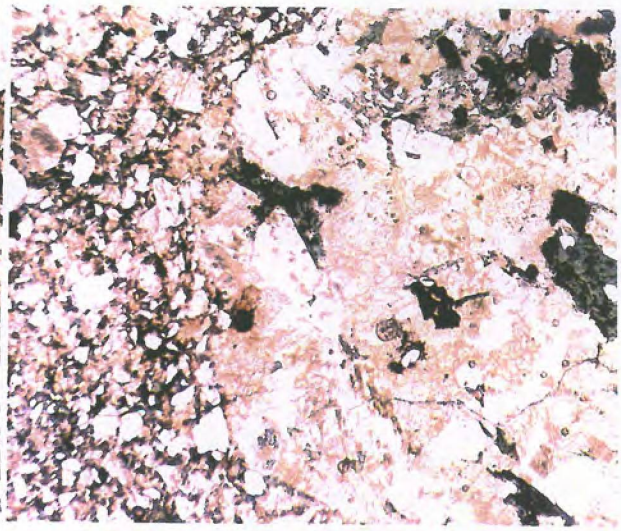
TS. 32.1 x10 objective lens



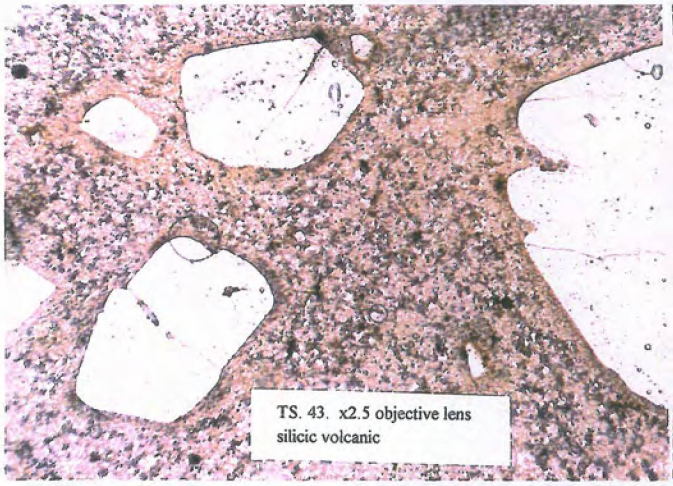
TS. 32.1 crossed polars



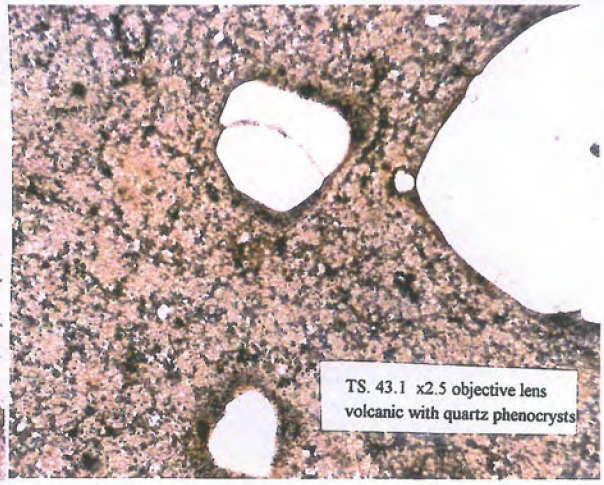
TS. 36. x2.5 objective lens
explosive breccia



TS. 36.1 x2.5 objective lens
breccia showing metamorphic fragment of quartz/amphibole



TS. 43. x2.5 objective lens
silicic volcanic



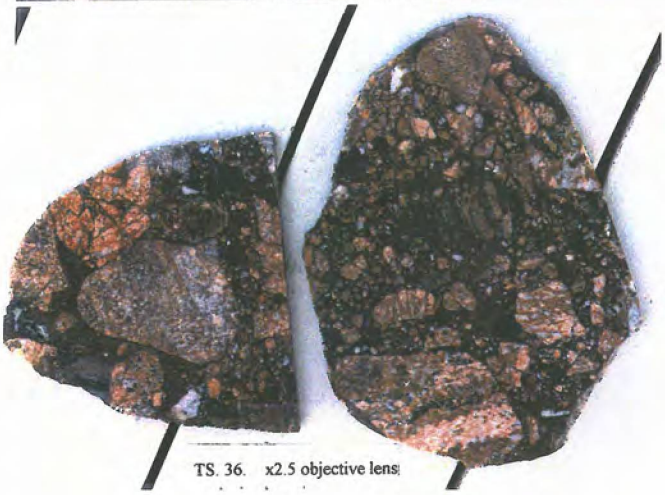
TS. 43.1 x2.5 objective lens
volcanic with quartz phenocrysts

metavolcanic rock

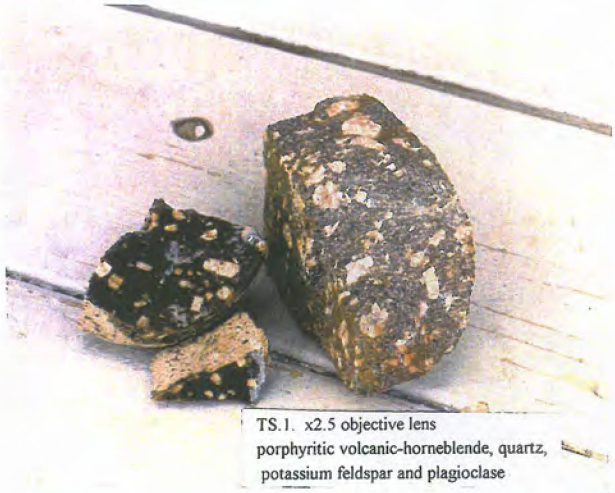
TS.5. x2.5 objective lens
metavolcanic with plagioclase phenocrysts and glaucocrysts

TS.8. x2.5 objective lens
meta volcanic rock

TS.4. x2.5 objective lens
volcanic rock



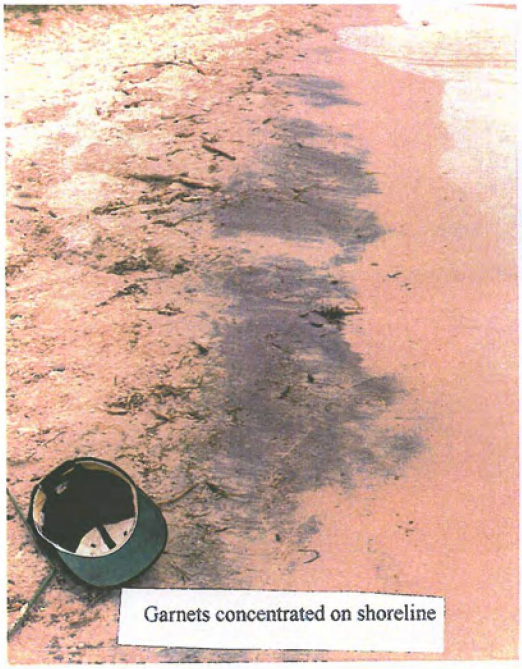
TS. 36. x2.5 objective lens



TS.1. x2.5 objective lens
porphyritic volcanic-horneblende, quartz,
potassium feldspar and plagioclase

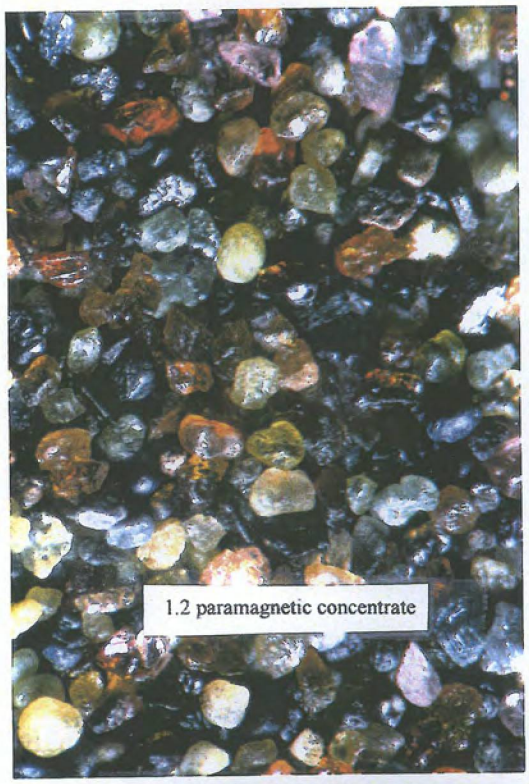
ANALYSIS

REPORTS

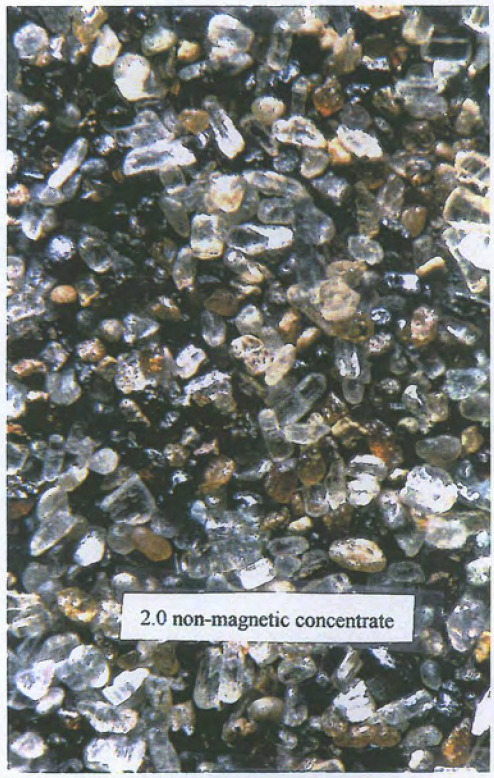


Garnets concentrated on shoreline

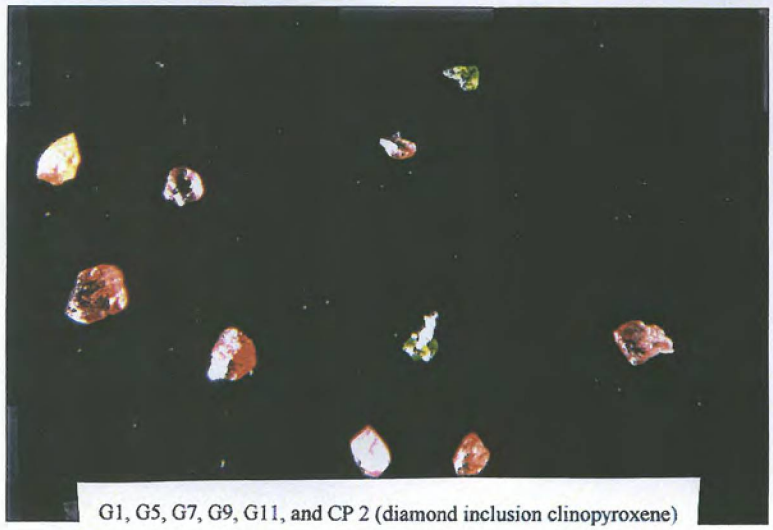
30 kg bucket of sand yielded 9kg of garnet concentrate



1.2 paramagnetic concentrate



2.0 non-magnetic concentrate



G1, G5, G7, G9, G11, and CP 2 (diamond inclusion clinopyroxene)

629 Beaverdam Rd. N.E.
Calgary, Alberta T2K 4W7

LORING LABORATORIES LTD.

Tel: (403) 274-2777
Fax: (403) 275-0541

To: R. Haimila

From: LORING LABORATORIES LTD.

Date: July 25, 1994

Subject: Sample Results

File: 36684

1. Introduction

Enclosed are the results of the processing of your sample # 2.

The data sheets enclosed represent the adjusted microprobe data as received from the technician. On the tables and charts attached to this report, the oxides are presented in weight percent of the composition of the mineral and -- indicates that the oxide was not analyzed in the mineral (see Microprobe Data table)

Each grain was designated a number which can be found in the leftmost column of the microprobe data sheet. All numbers plotted on any charts refer to these numbers.

Care must be taken in interpreting this data. Although some of these minerals may be found in kimberlite or lamproite, they may also be present in other rocks.

Following are a few notes on the mineral grains picked from the samples.

2. Garnet

The garnets have been categorized according to Dawson and Stephens' (1975) classification. Of the 7 grains selected for probing, 1 ranks as a G1, 1 ranks as a G5, 1 ranks as a G7, 3 rank as G9 and 1 ranks as a G11(see Garnet Classification tables).

One garnet plots in the Eclogitic Field from Fipke.This garnet is a G11 and is more probably from a peridotite source.(1989) (see Eclogite Garnet Indicators chart).

On Gurney's (1985) classification of calcic garnets, the three G9 garnets, the G1 and the G11 plot on the G9 side of the line. (see Pyrope Garnet chart).

3.Pyroxene

Twoight grains were identified as pyroxene. Both grains classify as CP-5 (Chrome Diopside). Both the Chrome-Diopside grains plot in the diamond inclusion field (Fipke 1989)(see chart)

4.Other minerals

One grain of Spinel was also picked because of its similarity to garnet.

5.References

Dawson J.B. and W.E. Stephens
1975: Statistical Classification of Garnets from Kimberlite and Associated Xenoliths. Journal of Geology, vol. 83, p. 589-607.

Fipke, C. E. (ed.)
1989: The development of advanced technology to distinguish between diamondiferous and barren diatremes. Geol. Surv. of Canada, Open File Report 2124.

Gurney, J. J.
1985: A correlation between garnets and diamonds in Kimberlites; in J.E. Glover and P.G. Harris (eds.), Kimberlite Occurrence and Origin: A basis for conceptual models in exploration, Geol. Dept. and Univ. Exten., Univ. W. Aust., Publ. No. 8, 143-166.

Stephens W.E. and J.B. Dawson
1977: Statistical Comparison Between Pyroxenes from Kimberlites and their Associated Xenoliths. Journal of Geology, vol. 85, p. 433-449.

Loring Laboratories Ltd.

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Tel: 274-2777 Fax: 275-0541

File No. : 36684
Client: R. Haimila
Microprobe Data

		Location			Data in wt %											
Grain#	Sample	Plug	C#	R#	SiO2	TiO2	Al2O3	Cr2O3	FeO	MnO	MgO	CaO	Na2O	K2O	Total	Mineral
1	2	87	B	1	0.00	0.06	70.23	0.08	4.97	0.00	25.26	0.00	0.03	0.03	100.66	Spinel
2	2	87	C	1	53.20	0.12	4.67	1.94	2.37	0.16	15.69	20.33	1.93	0.00	100.40	Pyroxene
3	2	87	D	1	52.87	0.05	3.60	1.47	2.47	0.14	17.02	21.51	1.09	0.03	100.25	Pyroxene
4	2	87	E	1	37.48	0.34	11.02	13.26	0.60	1.58	0.37	33.86	0.01	0.01	98.53	Garnet
5	2	87	F	1	39.80	0.05	17.64	7.25	7.26	0.40	19.68	5.99	0.05	0.02	98.13	Garnet
6	2	87	G	1	40.35	0.08	18.88	5.65	7.76	0.39	20.36	5.56	0.01	0.01	99.06	Garnet
7	2	87	H	1	40.39	0.17	19.45	4.37	6.84	0.29	20.65	4.82	0.05	0.02	97.04	Garnet
8	2	87	I	1	40.64	0.61	18.98	4.02	6.82	0.27	21.27	4.93	0.06	0.00	97.60	Garnet
9	2	87	J	1	40.60	0.83	17.95	5.06	6.80	0.29	21.08	5.42	0.08	0.03	98.13	Garnet
10	2	87	A	2	37.01	0.00	20.91	0.06	34.87	1.26	4.56	0.93	0.00	0.00	99.60	Garnet

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File No. : 36684
Client: R. Haimila

Garnet Classification (after Dawson and Stephens, 1975)

Grain #	Sample #	Location P#	C#	R#	Data in wt % TiO2	Cr2O3	FeO	MgO	CaO	Na2O	Garnets Classification G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
4	2	87	E	1	0.34	13.26	0.50	0.37	33.86	0.01	..	..	..	..	..	..	7	..	..	..	..	..
5	2	87	F	1	0.05	7.25	7.26	19.68	5.99	0.05	..	..	..	..	..	..	..	..	9	..	..	..
6	2	87	G	1	0.08	5.65	7.76	20.36	5.56	0.01	..	..	..	..	..	..	..	..	9	..	..	..
7	2	87	H	1	0.17	4.37	6.84	20.65	4.82	0.05	..	..	..	..	..	..	..	..	9	..	..	..
8	2	87	I	1	0.61	4.02	6.82	21.27	4.93	0.06	1	..	..	..	..	..	..	..	..	..	..	..
9	2	87	J	1	0.83	5.06	6.80	21.08	5.42	0.08	..	..	..	..	..	..	..	..	..	..	11	..
10	2	87	A	2	0.00	0.06	34.87	4.56	0.93	0.00	..	..	..	..	5	..	..	..	..	..	..	..
										7	1	0	0	0	1	0	1	0	3	0	1	0
											G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12

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File No. : 36684
Client : R. Haimila

Pyrope Garnet Indicators

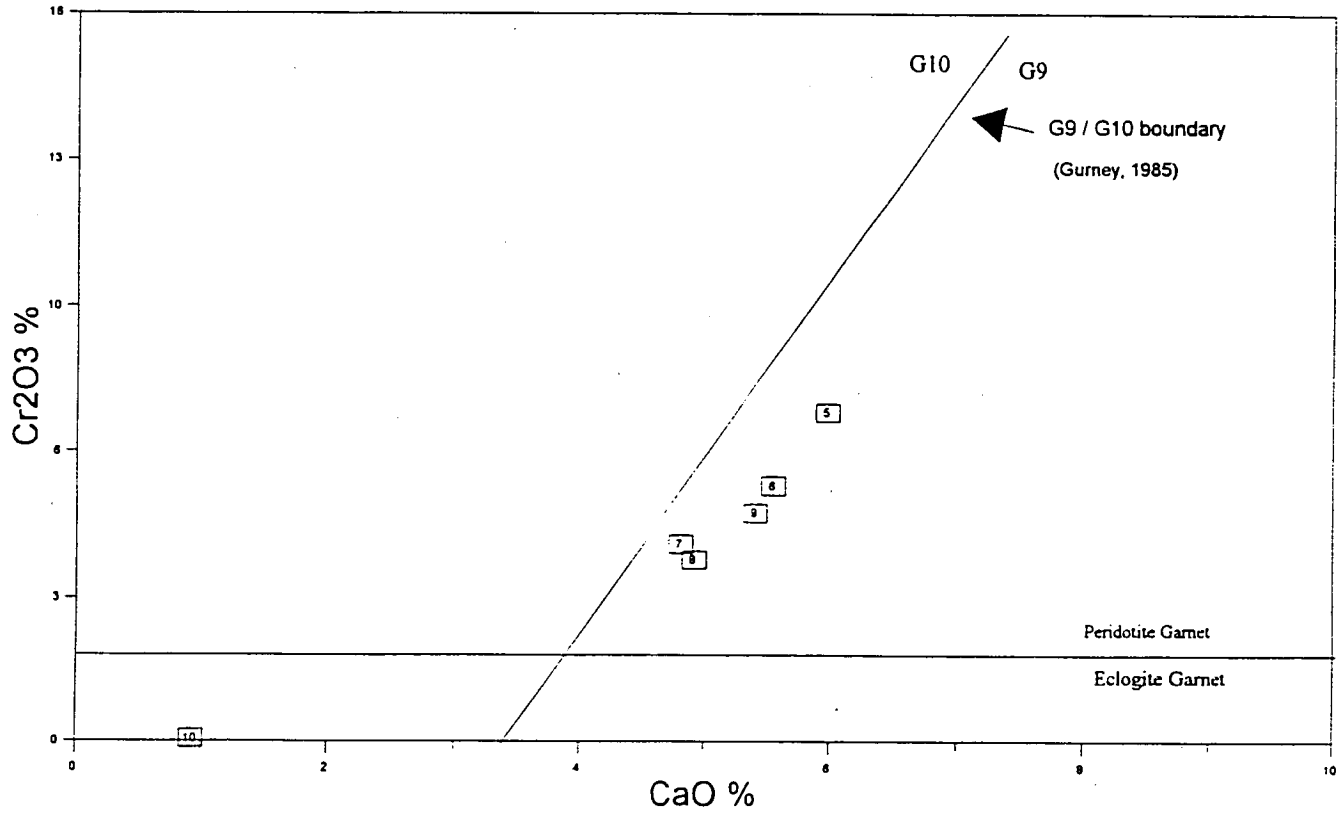

Fig. 3

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Calgary Alberta T2K 4W7
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File No. : 36684
Client : R. Haimila

Eclogite Garnet Indicators

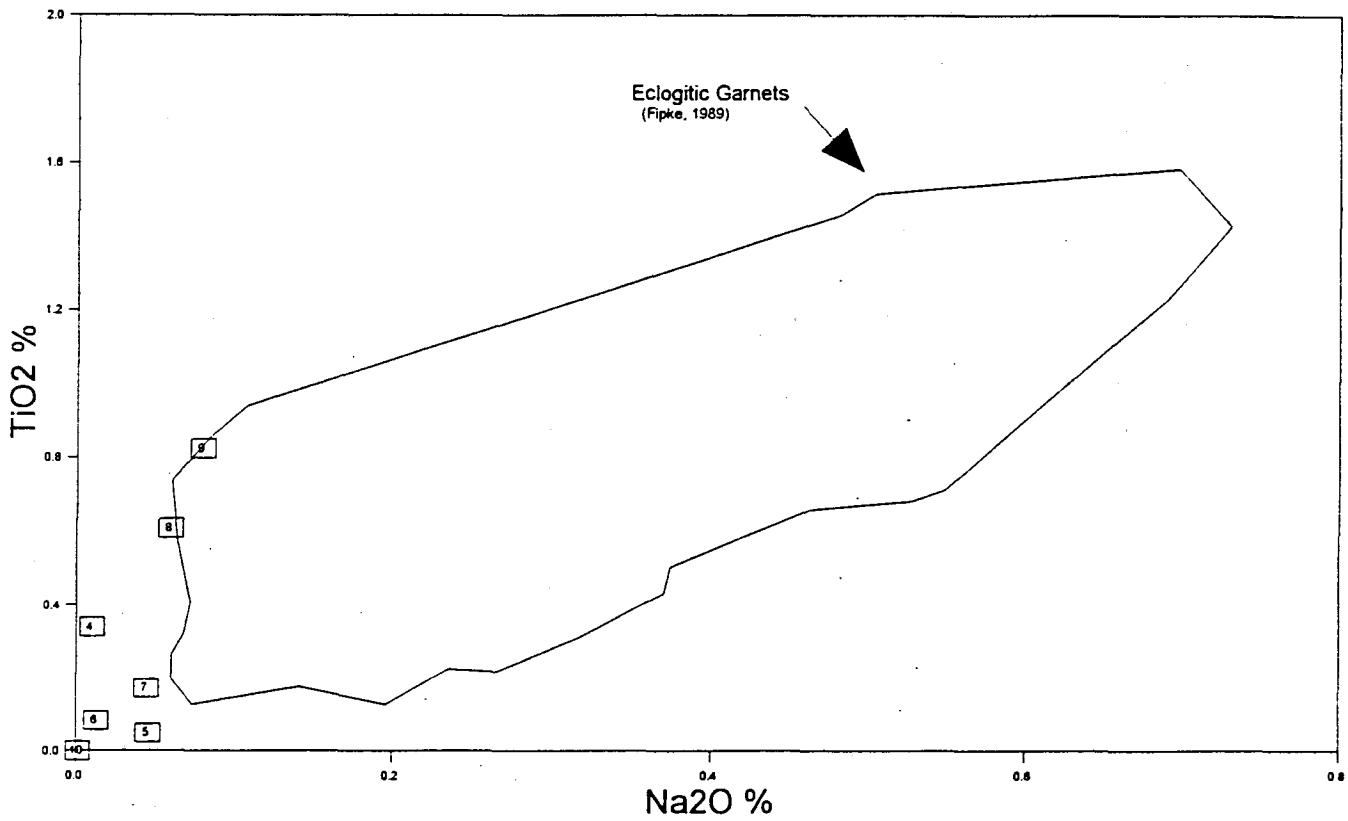

Fig. 4

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Calgary Alberta T2K 4W7
Tel: 274-2777 Fax 275-0541

File #:36684
Client: R. Haimila

Pyroxene Classification (after Stephens and Dawson, 1977)

		Location			Data in wt %							ORTHOPYROXENE					CLINOPYROXENE									
G #	Sample #	P#	C#	R#	TiO2	Al2O3	Cr2O3	FeO	MgO	CaO	Na2O	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10
2	2	87	C	1	0.12	4.67	1.94	2.37	15.69	20.33	1.93										5					
3	2	87	D	1	0.05	3.60	1.47	2.47	17.02	21.51	1.09										5					

		ORTHOPYROXENE					CLINOPYROXENE									
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10
Total Pyroxene =	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0

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Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

File No. : 36684
Client : R. Haimila

Clinopyroxene

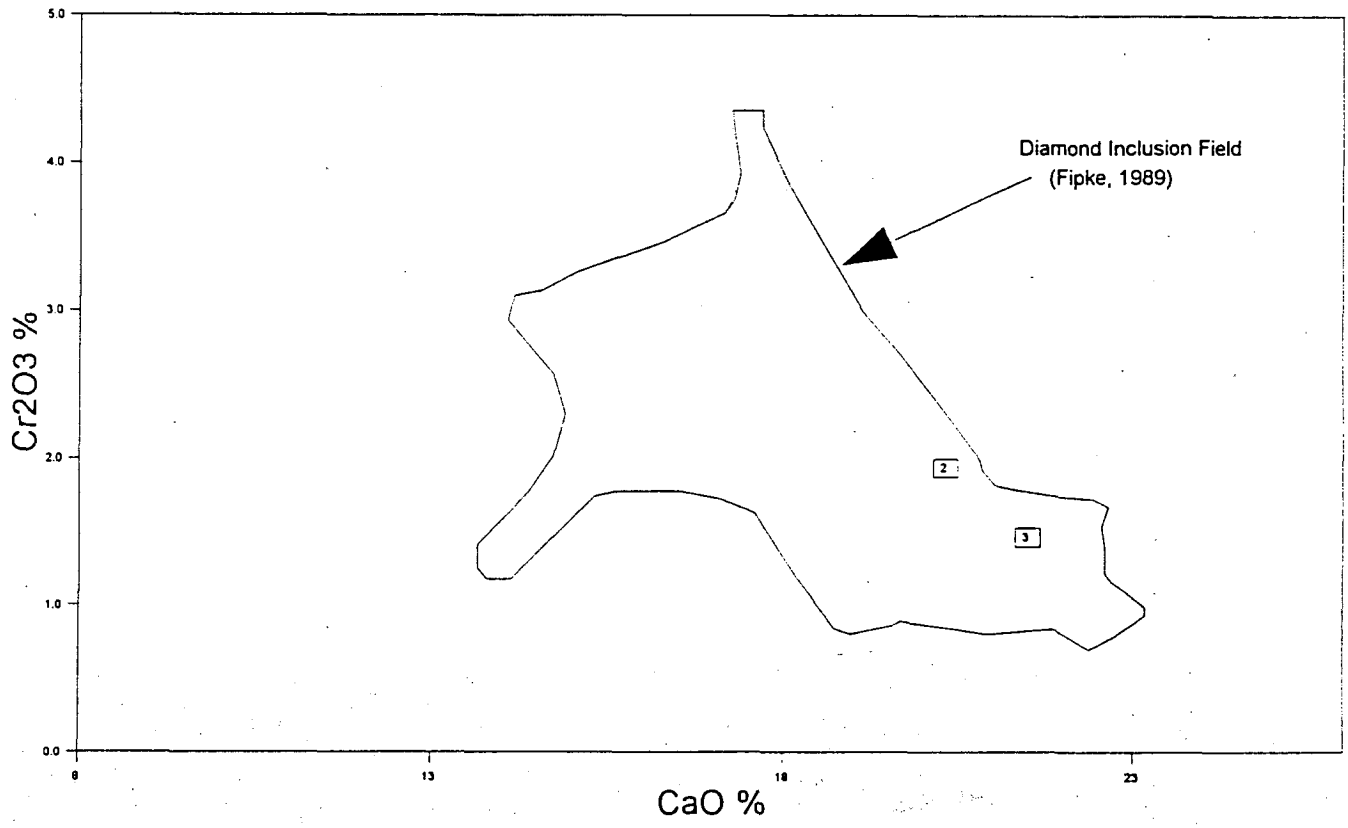


Fig. 5

ASHTON MINING
OF CANADA INC.

LABORATORY REPORT

Project:	
Submitted By:	**Raymond Haimila**
Sample Numbers:	**RH-1**
Sample Type:	**Tabled Concentrate, Claim #2 till**
Date Received:	**May 24, 1995**

PROCESSING

Initial Weight = 1852.7 g.
Dry screened at 0.4 mm then processed through a heavy liquid separation at density 3.26 Highly magnetic minerals were removed using a Magnetic Separator, then processed through a High Tension Electrostatic Separator to separate the electrically conductive minerals for observation. Non- conductive minerals were processed through a Magstream to further concentrate the sample for observation. Before observation the sample was washed in an ultrasonic bath

Unit 123-930 West 1st Street North Vancouver B.C. Canada V7P 3N4 Tel. 604/983-7750 Fax 604/987-7107

Concentrate Weights.

Size Fraction	Weight
+0.4 -1.25 mm	252.1 g
+0.4 -1.25 mm, >3.26 density	188.7 g
+0.4 -1.25 mm, conductors	5.4 g
+0 [illegible] mm, Magstream concentrate	4.5 g
+0.4 -1.25 mm, Magstream other	175.3 g

OBSERVATION

The prepared concentrate was observed using a binocular microscope to identify any kimberlitic indicator minerals

A few grains were found as listed

Mineral	No of Grains
Pyrope	2
Picroilmenite	8
Chromite	2

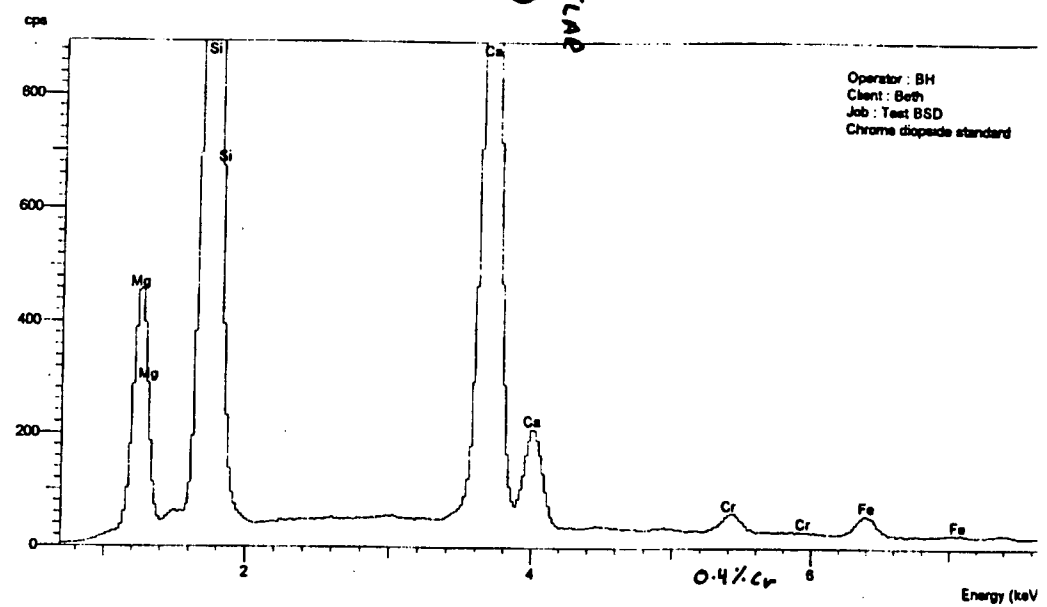
Note: Five of the picroilmenite have very strong morphological features and the others less so There could be a few grains not selected which have weak features.

The 2 chromite grains have morphology that is similar to some kimberlitic chromite. Other chromite grains with no kimberlitic features were noted.

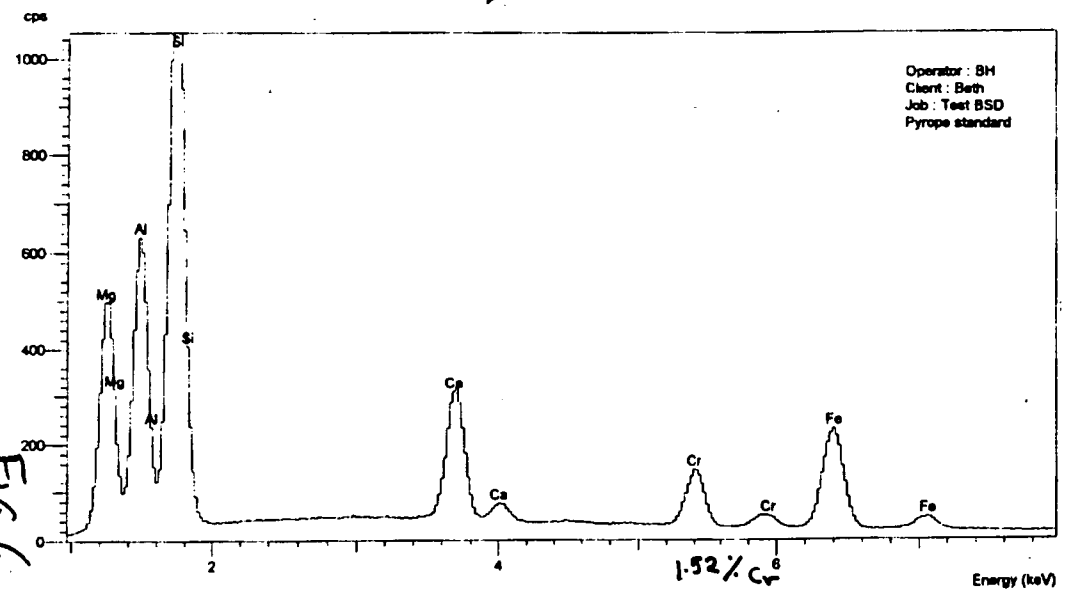
[illegible] 22-Sep-95

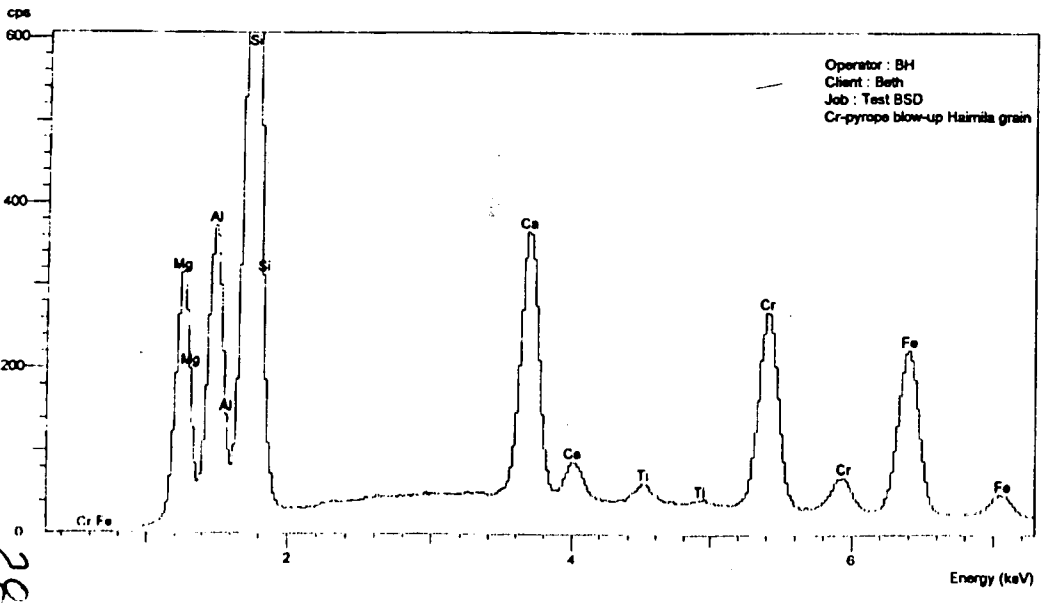
QUALITATIVE ANALYSIS

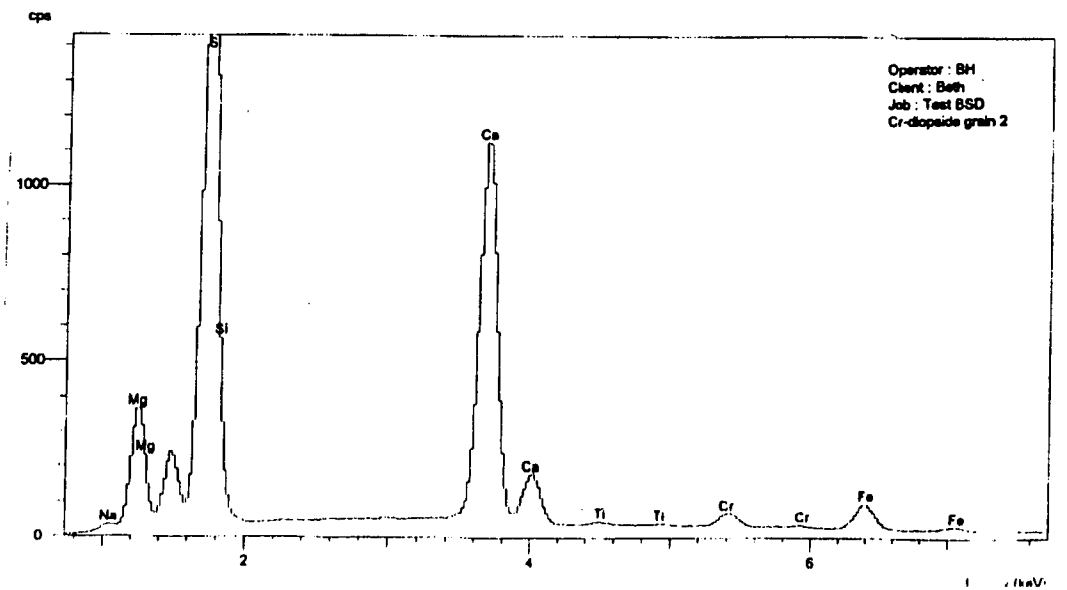
REPRESENTS Cr DIOPSIDES FROM CLAIMS (MOST ARE SIMILAR to this graph)



REPRESENTS Cr PYROPES FROM CLAIMS (10 grains very similar) To this graph







Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

To: Dr. Ted Yoshida

File # 37309
Date: May 10, 1995

INAA PACKAGE

ELEMENT / SAMPLES	Au ppb	Ag ppm	As ppm	Ba ppm	Br ppm	Ca %	Co ppm	Cr ppm	Cs ppm	Fe %	HF ppm	Hg ppm	Ir ppb	Mo ppm	Na %	Ni ppm	Rb ppm	Sb ppm
SAND	<2	<5	2.1	290	6.2	3	13	350	<1	10.0	22	<1	<5	<1	0.28	<31	<15	0.3

ELEMENT / SAMPLES	Sc ppm	Se ppm	Sn ppm	Sr ppm	Ta ppm	Th ppm	U ppm	W ppm	Zn ppm	La ppm	Ce ppm	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm
SAND	44	<3	<100	<500	3.90	53	3.8	<1	146	100	220	71	13	1.3	2.3	19	2.9

TOTAL DIGESTION - ICP

ELEMENT / SAMPLES	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Mn ppm	Sr ppm	Cd ppm	Bi ppm	V ppm	Ca %	P %	Mg %	Ti %	Al %	K %	Y ppm	Be ppm
SAND	47	15	37	<0.4	7	2438	47	<0.5	<5	51	0.66	0.036	0.81	0.83	3.0	0.26	76	<2

CALLING LAKE SAND

CALLING LAKE SAND

LORING LABORATORIES LTD.

629 BEAVERDAM ROAD N.E., CALGARY, ALBERTA T2K 4W7
TEL: (403) 274-2777 FAX: (403) 275 -0541
G.S.T. # R103388666

TO DR. TED YOSHIDA,
421C, 3012 - 17th Avenue S.E.,
Calgary, Alberta

INVOICE 37309

DATE May 11, 1995

Sand SAMPLES

1	47 + Au INAA-ICP Package	@	28.00
1	Sample Preparation	@	3.75
		@	
		@	
		@	
		@	
		@	
		@	
		@	
	SUBTOTAL	@	31.75
		G.S.T.	2.22
		TOTAL	$ 33.97

THIS IS YOUR INVOICE, PLEASE PAY THE AMOUNT SHOWN

TERMS – 30 DAYS

GEOTECTONIC RESEARCH

At the Fifth International Kimberlite Conference, Araxa, Brazil-HH.Helmstaed and J.J. Gurney suggested searching for kimberlites along "MANTLE ROOT FRIENDLY" structures.

Tomographic inversion for shear wave velocity beneath the North American plate (Grand,SP.1987) indicates the existence of a deep mantle root proximal to the Calling Lake diamond claims. This Figure has been reprinted from The Geological of Canada's "Diamonds-Theory and Exploration-a Hands On Course" (1995) and appears in this report as Figure 7 .

The Calling Lake claims as well as Dia-Met's Lac de Gras claims have been superimposed on this figure and reprinted in this report. This figure clearly shows that the Calling Lake claims are in closer proximity to the deepest portion of the mantle root than the Lac de Gras Claims.

Another important factor is the proximity of the Calling Lake claims to the Tectonic domains of the Alberta Basin. There is an undefined Tectonic Zone in north-central Alberta that is bounded by 6 Tectonic Zones including the complex Snowbird Tectonic Zone(STZ). the STZ "is a deep, polyphase mylonitic structure represented by a number of dip-slip and strike-slip zones of late ARCHEAN AGE." (Lithoprobe Report # 47,1995)
Dr. David Bourne,Research Scientist with the Continental Geoscience Division, Geological Survey of Canada , has said that the Tectonic Zones in this area have not had their boundaries definitively defined.
The Tectonic Zones that are proximal to the calling Lake Claims are shown in Figure 8 , (reprinted from Lithoprobe Report # 47,1995) and again in Figure 9 , which is a digitally enlarged view of the undefined zone reprinted from the Alberta Areomagnetic Anomaly Map (GSC Bulletin 447, 1993)

The Geotectonic research shows that "mantle-root friendly" structures are proximal to the Calling Lake diamond claims.

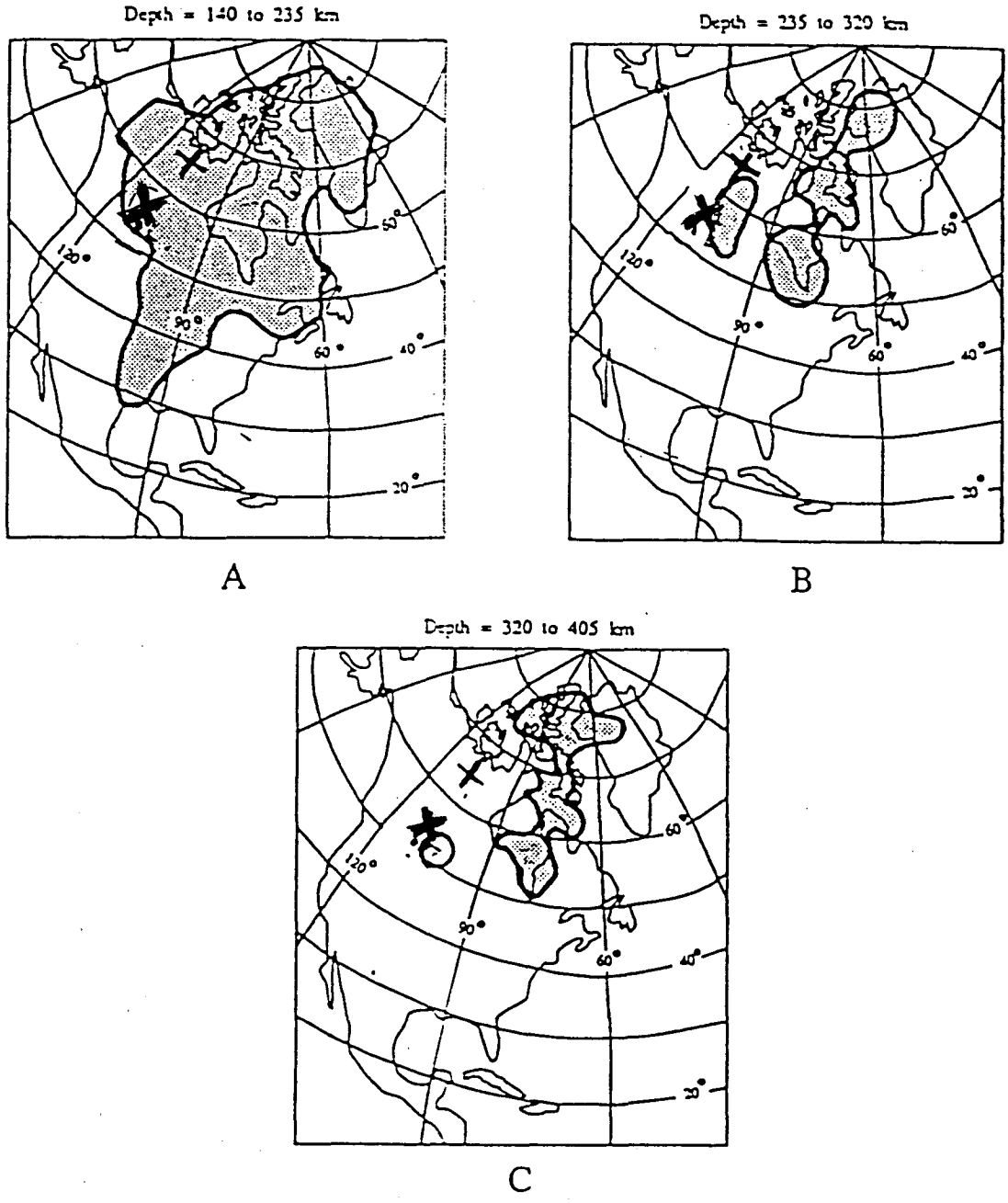


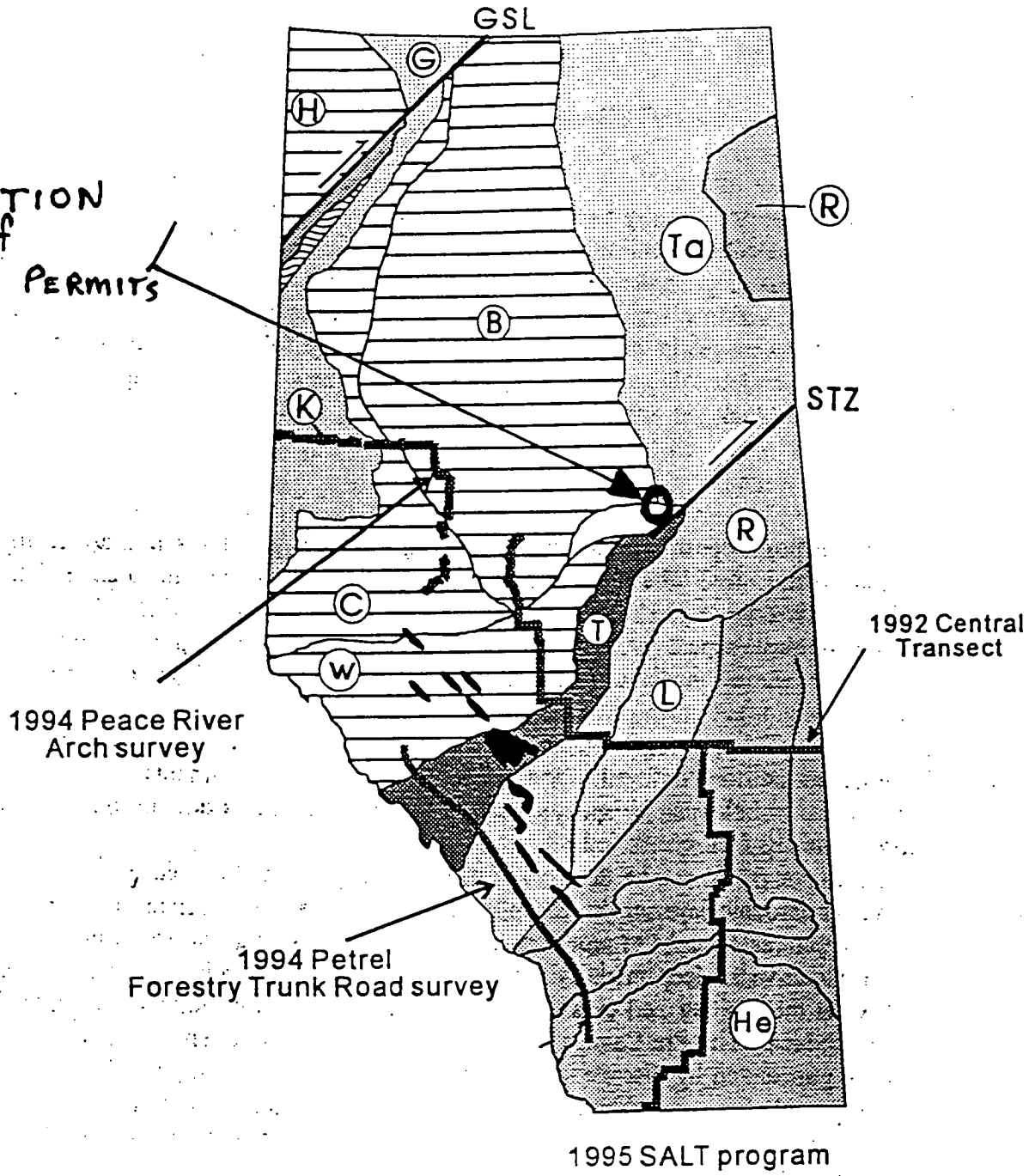
Figure 29. Shear wave velocity perturbations under North America from seismic tomography (after Grand, 1987). For clarity, only the +3% contour is indicated for depths of 140-235 km (A) and 235-320 km (B). Contour for 320-405 km (C) is +1.5%. Note that deep mantle roots exist under the Archean Slave and Superior Provinces, but not under the Nain and Wyoming provinces (see Helmstaedt and Gurney, 1992).

(reprinted from "DIAMONDS - Theory and Exploration" GEOLOGICAL ASSOCIATION of CANADA, 1995)

+ LAC de GRAS

X CALLING LAKE CLAIM

FIG. 7



LOCATION of MINERAL PERMITS

Archean

R = Rae
He = Hearne

Accreted terranes

B = Buffalo Head
H = Hottah
W = Wabamun

Magmatic arcs

Ta = Talston
K = Ksituan
R = Rimbey
G = Great Bear

Magnetic lows

C = Chinchaga
T = Thorsby

Supracrustal ?

L = Lacombe

STZ = Snowbird Tectonic Zone
GSL = Great Slave Lake shear zone

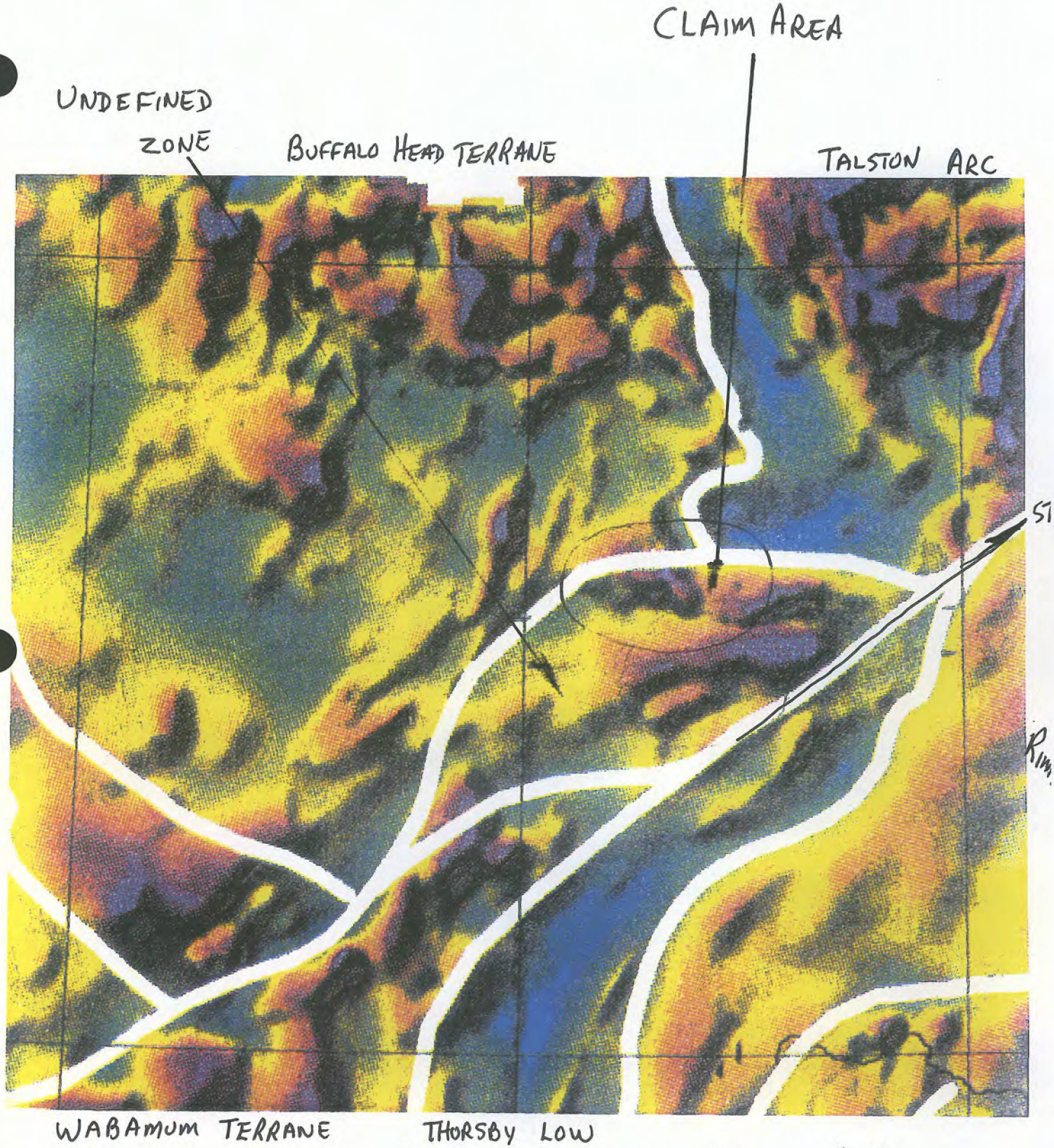
—— Geologic boundaries

Cardium oilfields

Fig. 1. Tectonic domains of the Alberta basin (after Ross et al., 1989 GSC Open File rep. 2103) with LITHOPROBE transect lines and Cardium oilfields superimposed.

reprinted from LITHOprobe Report #47 (1995)

FIG. 8



Reprinted from Geological Survey of Canada Bulletin 447 (1993)

Alberta Aeromagnetic Anomaly Map.

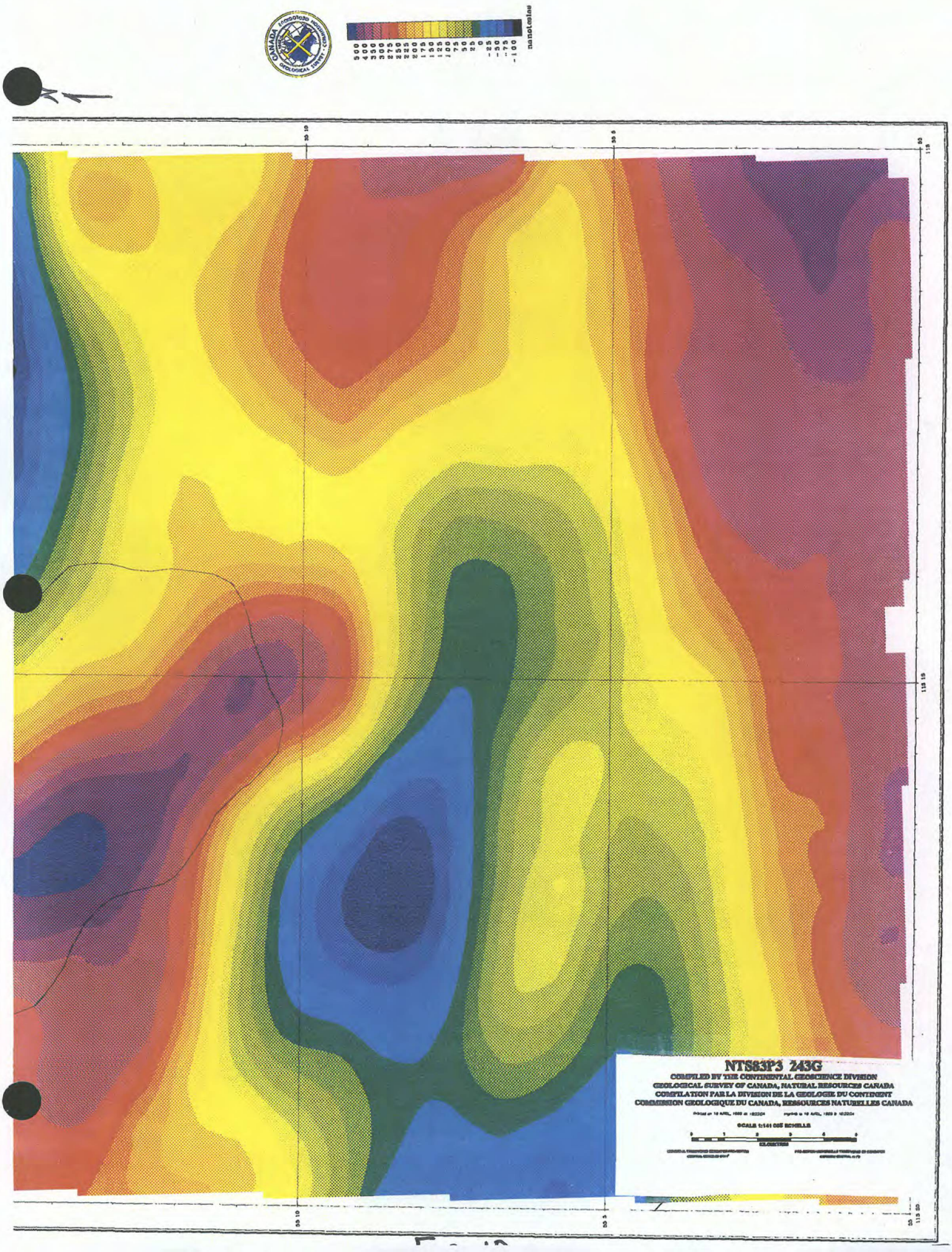
Fig. 9

RESEARCHING OF AEROMAGNETIC MAPPING
and Ground Magnetic Survey

Researching the 1952 magnetic survey (Geological Survey of Canada) and also the total-field aeromagnetic map of Alberta has confirmed the presence of magnetic anomalies in the Calling Lake Area of north central Alberta.

The information from these surveys was used to construct and recontour a Contour Smoothed Regional magnetic map of the Calling Lake Area. There are numerous magnetic highs and lows in this area.(see figures,11,12,&13 of this report).

A ground magnetic survey was begun in the fall of 1995. A helicopter was used for part of the survey because of the muskeg. This survey was not completed. But it did confirm that there was character in some of the magnetic high and low areas. For example, the area between the 2 lakes in the magnetic low (-200 gammas) in Sec 22 Twp 71 R21W4 had magnetic changes of 40 gammas in less than 50 meters. This would suggest a near surface anomally.
A magnetic change of 200 to300 gammas occcured in 50 meters along the shore line of Calling Lake Provincial Park. Some of the ground magnetic readings are included on figure 17 of this report.


nanoteslas
500
400
350
300
275
250
225
200
175
150
125
100
75
50
25
0
-25
-50
-75
-100
NTS83P3 243G
COMPILED BY THE CONTINENTAL GEOSCIENCE DIVISION
GEOLOGICAL SURVEY OF CANADA, NATURAL RESOURCES CANADA
COMPILATION PAR LA DIVISION DE LA GÉOLOGIE DU CONTINENT
COMMISSION GÉOLOGIQUE DU CANADA, RESSOURCES NATURELLES CANADA

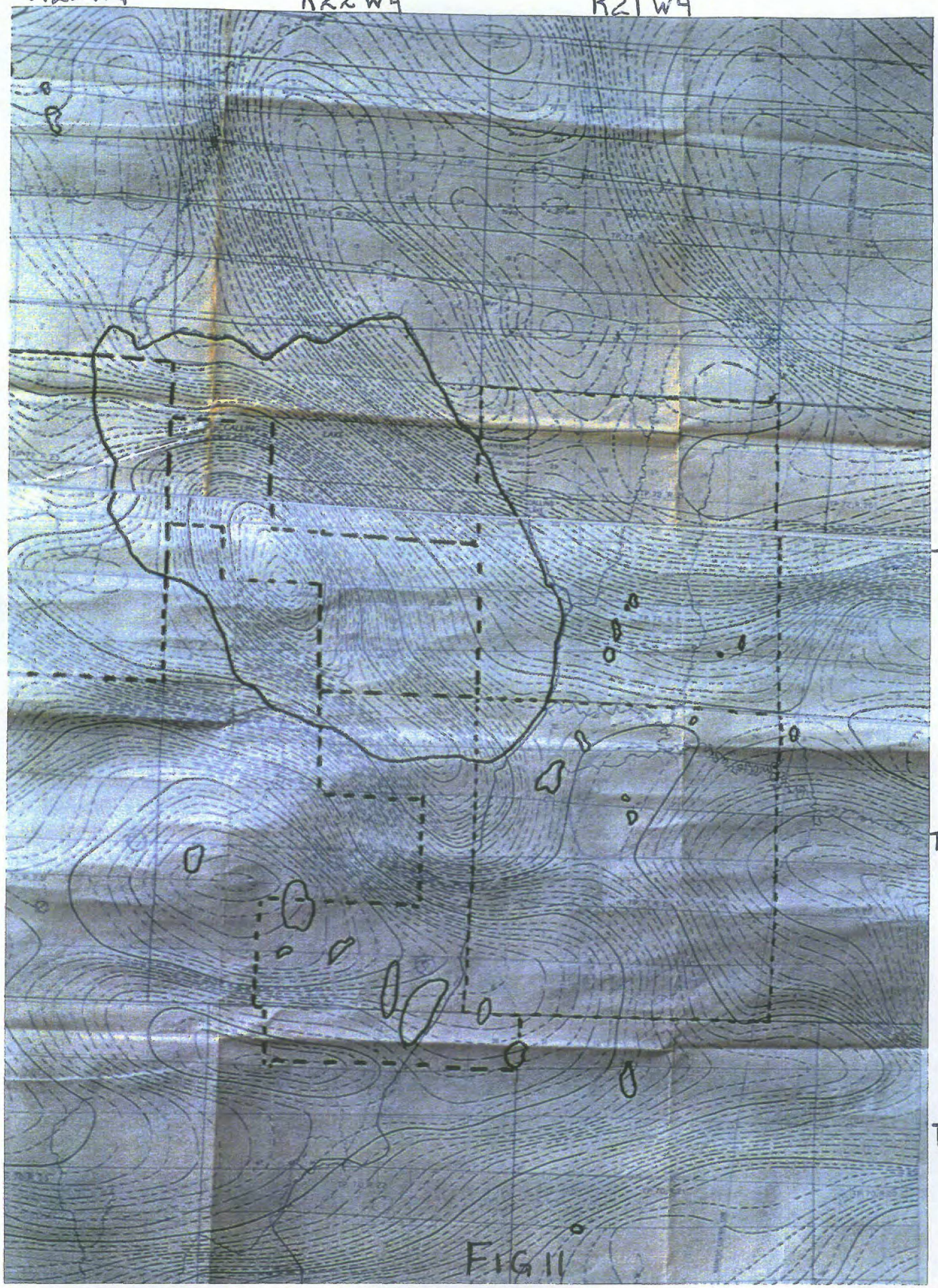


FIG 11

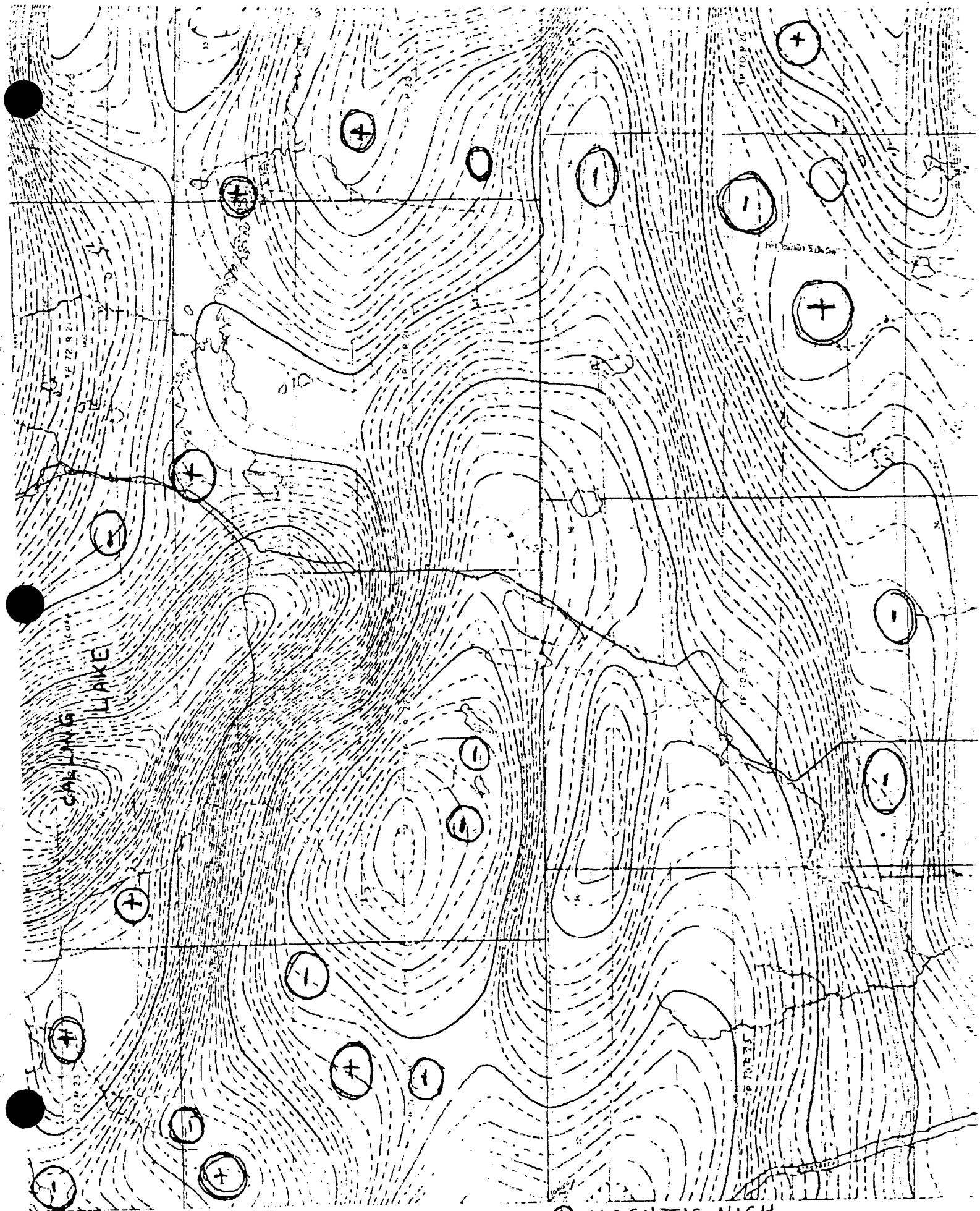


FIG 12

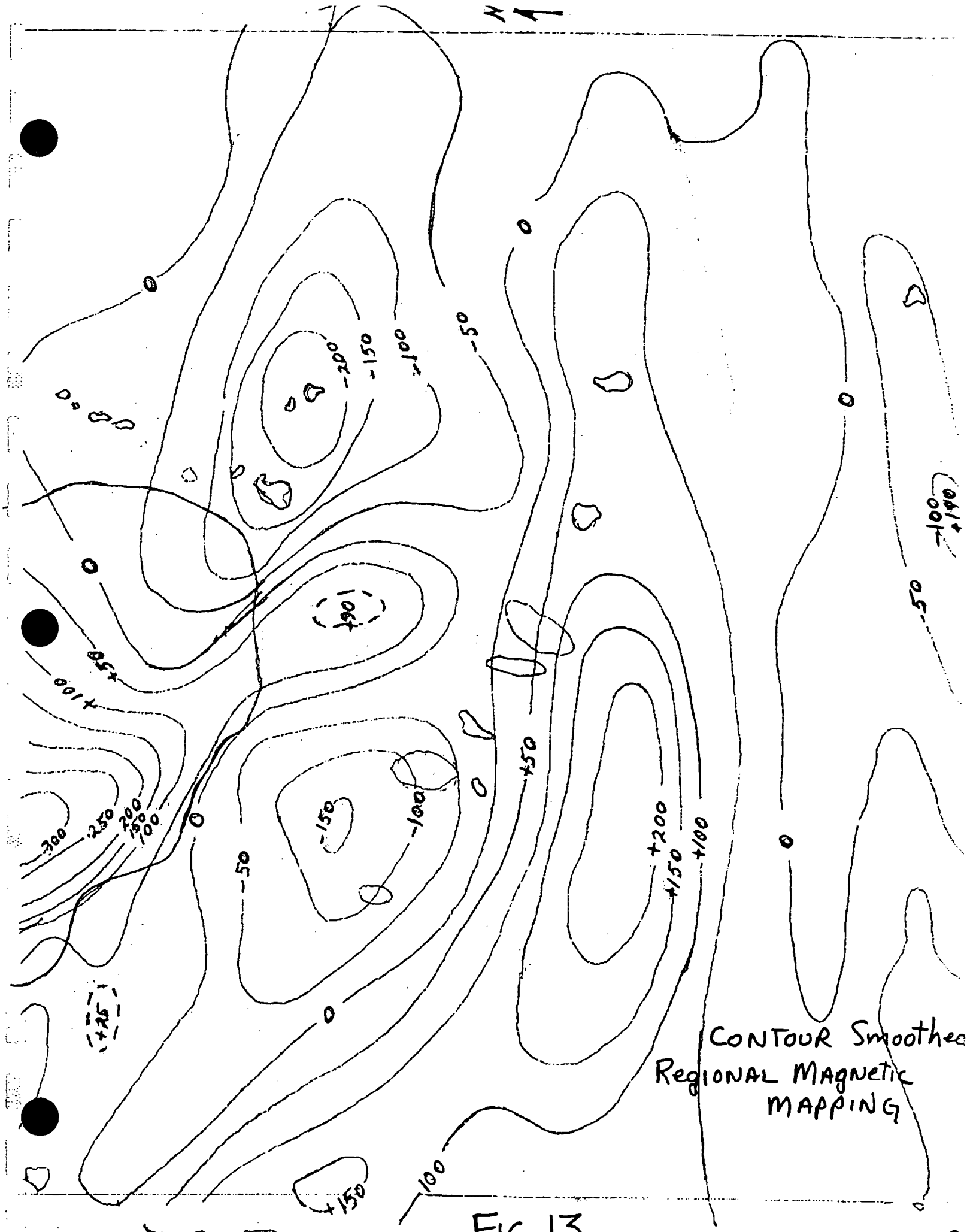


FIG 13

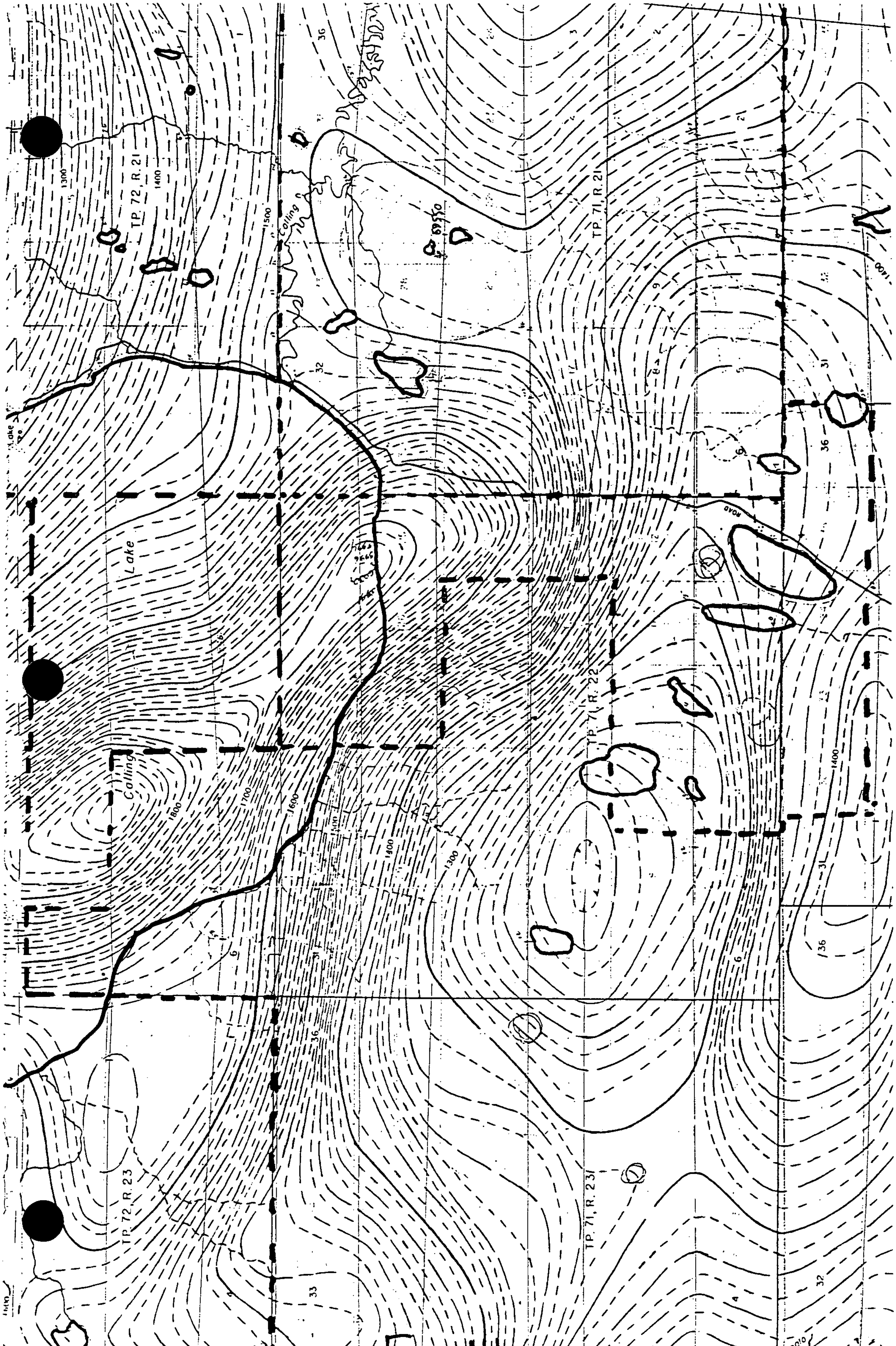


FIG 14

CLAIMS
- - - -

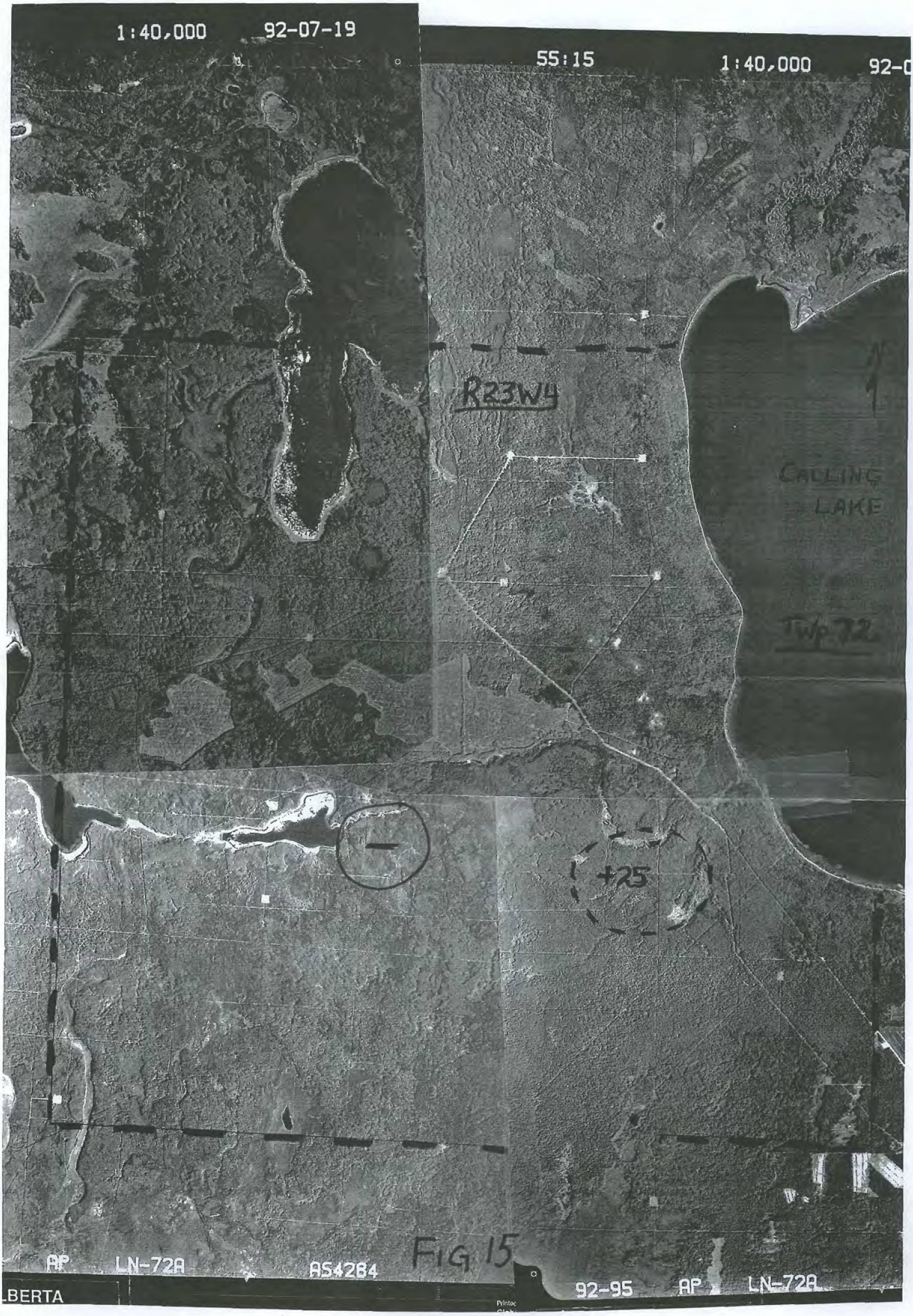

1:40,000 92-07-19
55:15
1:40,000
92-0
R23W4
CALLING LAKE
TWP 72
-
+25
AP LN-72A AS4284
92-95 AP LN-72A
LBERTA

FIG 15

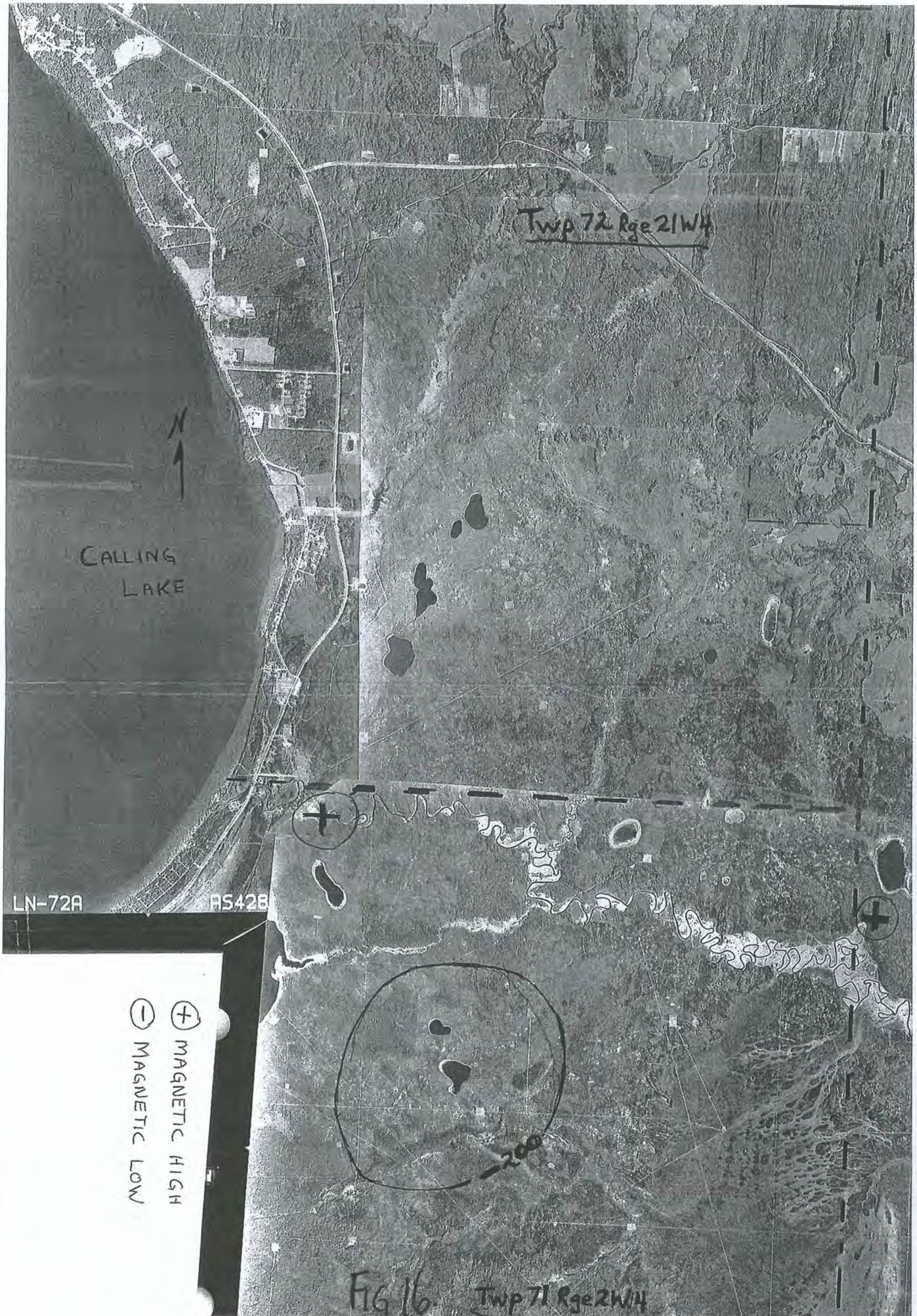


FIG 16

(+) MAGNETIC HIGH
(−) MAGNETIC LOW

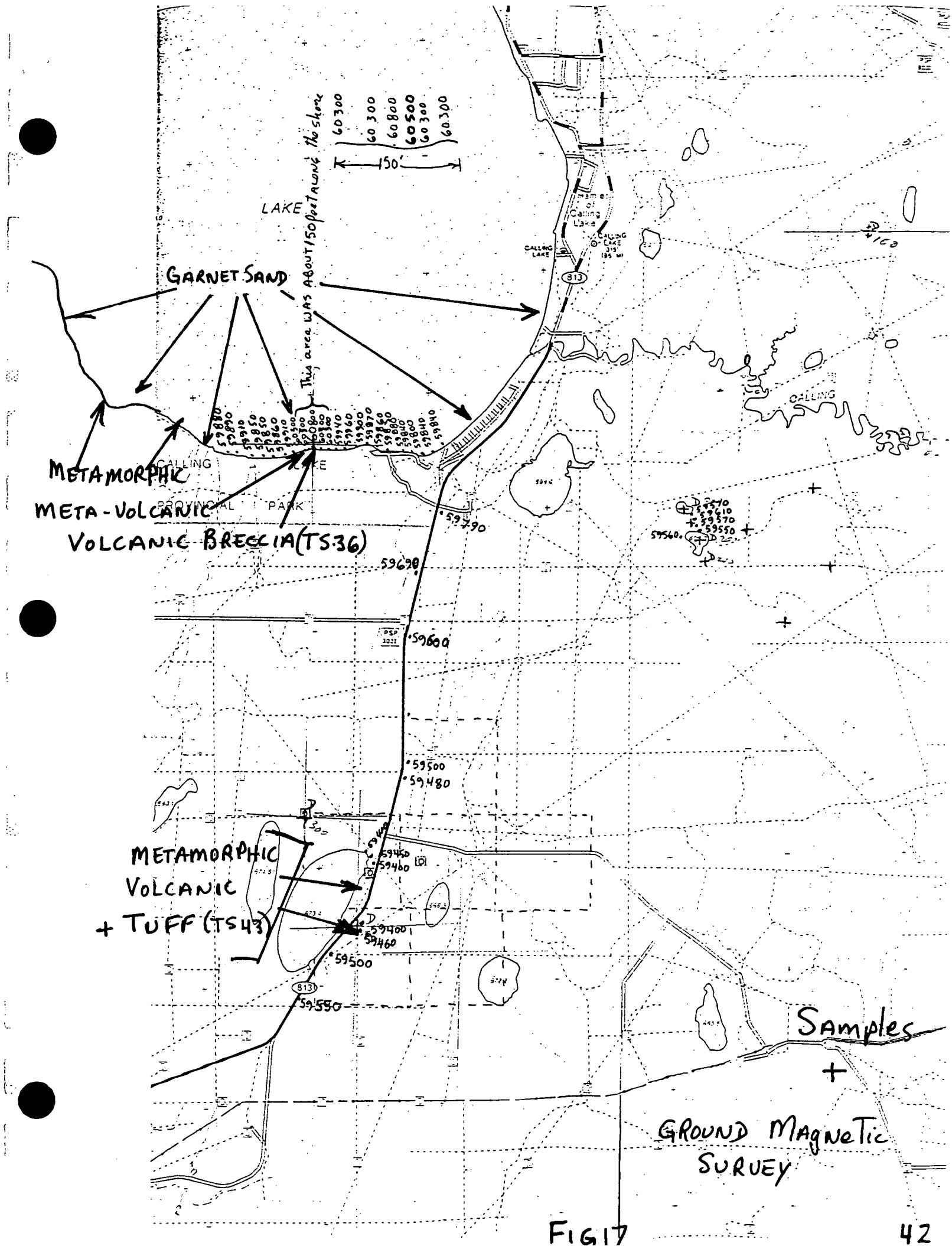

60300
60300
60800
60500
60300
60300
150'
This area was about 150 feet along the shore
LAKE
Town of Calling Lake
CALLING LAKE
813
GARNET SAND
METAMORPHIC
META-VOLCANIC
VOLCANIC BRECCIA (TS36)
CALLING
LAKE
PROVINCIAL
PARK
59790
59620
59600
59500
59480
59460
59400
59460
59500
59550
METAMORPHIC
VOLCANIC
+ TUFF (TS43)
813
Samples
+
GROUND MAGNETIC
SURVEY

FIG 17

CONCLUSION

Exploration of the Calling Lake Claim area (Metallic and Industrial Mineral Permits Nos.9394020021 to 9394020023 inclusive and Permit No. 9394030001) has confirmed the following:

1. Tectonic and deep-continental seismic reflection studies have confirmed the presence of deep mantle roots proximal to the claims.

2.Contour smoothed Regional Magnetic Mapping has confirmed the presence of numerous magnetic high and numerous magnetic low anomalies in and around the Calling Lake area.

3.Surface ground magnetic survey done to date suggests near-surface anomalies in the Calling Lake Area.

4.Concentrations of metamorphic and various volcanic rocks occur in the Callling Lake Area.

5. An abundance of diamond indicator minerals have been found in the Calling Lake Area. These include: diamond inclusion clinopyroxenes, significant chromite and picroilmenites, and G1, G5, G7, G9, G11 pyrope garnets. There is also high aluminum spinels (pleonaste).

6. Diamonds have been found down ice (Edmonton area) from the Calling Lake Area.

Based on the positive results to date of this exploratory program, an exploratory drill program was to begin in early 1996. Due to unforeseen circumstances the Contractor was unable to begin the program. A further assessment of the Calling Lake Area is ongoing in the hopes of providing more favourable drill targets to confirm the presence of diamondiferous diatremes.

REFERENCES

Bruton,E. 1978, Diamonds 2nd edition, Published in Radnor, Pennsylvania by Chilton Book Co.

Dufresne, M.B.,. Olson, R.A., . Schmitt, D.R.,. McKinstry,B., Eccles,D.R., Fenton,M.M., Pawlowicz,J.G., Edwards,wW.A.D., and Richardson,R.J.H. The Diamond Potential of Alberta: A Regional Synthesis of the Structural and Stratigraphic Setting, and Other Preliminary Indications of Diamond Potential. Alberta Research Council Open File Report 1994-10

Dunne,K., and Grant,B., (editors), 1993, Mid-Continent Diamonds GAC-MAC Symposium Volume, Edmonton, Alberta. Geological Association of Canada Mineral Deposits Division.

Fipke,C., 1989, The Development of Advanced Technology to Distinguish Between Diamondiferous and Barren Diatremes. The Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada (GSC) Calgary, Alberta

Helmstaedt,H.H., and Gurney,J.J., 1992. Geotectonic controls on the formation of diamonds and their kimberlitic and lamproitic host rocks. Applications to diamond exploration. In Proceedings Volume, Fifth International Kimberlite Conference, Araxa, Brazil. Edited by H.R. Meyer, in press.

Helmstaedt,H.H., Schulze,D.J., and Kaminsky,F., 1995. Diamonds- Theory and Exploration- A "Hands-On" Short Course 20, Cordilleran Section, Geological Association of Canada. Vancouver, B.C.

Mitchell,R.H., 1989. Kimberlites Plenum Press. New York and London.

Michell,R.H., and Bergman,S., 1991. Petrology of Lamproites. Plenum Press. New York and London.

Ross,G.M., (editor), 1995. Alberta Basement Transects Workshop, Lithoprobe Report # 47 Lithoprobe Secretariat, University of Brithish Columbia.

Villeneuve,M.E., Ross,G.M., Theriault,R.J., Miles,W., Parrish,R.R. and Boone,J., 1993. Geological Survey of Canada Bulletin 447. Tectonic Subdivision and U-Pb Geochronology of the Crystalline Basement of the Alberta Basin, Western Canada.

STATEMENT OF COSTS to February 23,1996.

Prospecting and Reconaissance surveys- 2men, equipment and 4x4 vehicle.
(10 days @ $400.00/day).....$4,000.00

Ground Magnetic Survey- 2 men, magnetometer,helicopter, equipment and 4x4 vehicle.
(4 days @ $800.00/day).....$3,200.00
(helicopter).....$900.00

Thin section preparation, descriptions and photographs
(44 thin sections @ $230.00/section).....$10,120.00

Assays and electron probes.....$1514.00

Transportation of samples, thin sections, etc.
(to consultants, petrologists , and laboratories)..... $1000.00

Research (meetings and conversations with scientists, Lithoprobe conference and discussions with Ashton Mining Canada)
(8 days @ $150.00/day.....$1200.00

Equipment costs and rentals.....$800.00

Consultant Fees.....$1800.00

Business Supplies and Rent (computer, printer, office supplies,etc.).....$3400.00

Report Cost (digital color printing, preparation time, and binding costs).....$1200.00

Drilling Contract (Exploration file#MME95-1875)
(consult with drilling contractor, lawyer, contract for exploration).....$600.00

Total Costs.....~~$29,634.00~~
29,734.00

May 15, 1996

Value of Time Spent on the Calling Lake Claims
Held by Raymond Haimila

Inspecting Hand Specimens Collected from the Claims....0.5 days

Constructing and Recontouring Contour Smoothed Regional Magnetic Maps.....1.5 days

Literature Review and Review of Geochemical Results...0.5 days

Meetings and Teleconferences.....0.5 days

3.0 days

Total at $600.00 per day.....$1800.00

Future Considerations in Lieu of Payment

[redacted]