

MineQuest Report #255
Ref. No.: RM1024

ANZAC MAGNESITE PROPERTY
GEOLOGY AND GEOCHEMISTRY
JULY 1991

North Central British Columbia
Cariboo Mining Division

N.T.S. 93J/16W, 93O/01W

Latitude 54° 59' N
Longitude 122° 25' W

UTM 537000 m. E., 6093000 m. N.

for
Norsk Hydro - Magnesium Division

by
A.W. Gourlay

of
MineQuest Exploration Associates Ltd.

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Record Date</u>
FRIA	8029	18	Oct. 1, 1986
ODIN	8030	18	Oct. 1, 1986
HELA	8031	18	Oct. 1, 1986
HOTH	8032	06	Oct. 1, 1986
THOR	8033	12	Oct. 1, 1986

Vancouver, B.C.

August, 1991



Province of
British Columbia

Ministry of
Energy, Mines and
Petroleum Resources
ARIS SUMMARY SHEET

Parliament Buildings
Victoria
British Columbia
V8V 1X4
Telephone: (604) 356-2818
Fax: (604) 356-8153

District Geologist, Prince George

Off Confidential: 92.09.16

ASSESSMENT REPORT 21712

MINING DIVISION: Cariboo

PROPERTY: Anzac
LOCATION: LAT 54 58 00 LONG 122 23 00
UTM 10 6091040 539481
NTS 093J16W
CLAIM(S): Thor, Hela, Odin, Fria
OPERATOR(S): Norsk Hydro
AUTHOR(S): Gourlay, A.W.
REPORT YEAR: 1991, 38 Pages
COMMODITIES
SEARCHED FOR: Magnesite
KEYWORDS: Cambrian, Dolomite, Magnesite bands
WORK
DONE: Geological, Geochemical
GEOL 800.0 ha
Map(s) - 2; Scale(s) - 1:10 000
ROCK 18 sample(s); ME
Map(s) - 1; Scale(s) - 1:10 000
MINFILE: 093J 008

MineQuest Report #255
Ref. No.: RM1024

LOG NO. OCT 11 1991 RD.

ACTION:

ANZAC MAGNESITE PROPERTY
GEOLOGY AND GEOCHEMISTRY

JULY 1991

North Central British Columbia
Cariboo Mining Division

N.T.S. 93J/16W, 930/01W

Latitude 54° 59' N
Longitude 122° 25' W

UTM 537000 m. E., 6093000 m. N.

for
Norsk Hydro - Magnesium Division

by
A.W. Gourlay

of
MineQuest Exploration Associates Ltd.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,712

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Record Date</u>
FRIA	8029	18	Oct. 1, 1986
ODIN	8030	18	Oct. 1, 1986
HELA	8031	18	Oct. 1, 1986
HOTH	8032	06	Oct. 1, 1986
THOR	8033	12	Oct. 1, 1986

Vancouver, B.C.

August, 1991

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 Location, Access, and Topography	1
1.2 Property Definition and History	2
1.3 Claim Status	3
1.4 Summary of Work Done - Current Program	5
2.0 GEOLOGY	6
2.1 Regional Geology	6
2.2 Property Geology	7
2.3 Cross Sections	10
2.4 Results	11
3.0 GEOCHEMISTRY	12
3.1 Sampling Procedures	12
3.2 Analytical Results	12
4.0 DISCUSSION	14
5.0 CONCLUSIONS	16
6.0 RECOMMENDATIONS	17
7.0 BIBLIOGRAPHY	19 18

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>	<u>After Page</u>
1	Location Map	1
2	Topographic Map	2
3	Claim Map	4
4	Regional Geology	6
5	Local Stratigraphic Column	7
6	Geology - North Map Sheet (Plan 1649)	In Pocket
7	Geology - South Map Sheet (Plan 1650)	In Pocket
8	Geochemistry: Sample Location and Results North Map Sheet (Plan 1651)	In Pocket
9	Geology: Hela Showing - Cross-Section	10
10	Geology: Odin Showing - Cross-Section	10
11	Geology: Emmet Showing - Cross-Section	10

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Summary of Claim Information	4
2	Summary of Analytical Results	13

LIST OF APPENDICES

Appendix I	-	Laboratory Methods
Appendix II	-	Laboratory Reports
Appendix III	-	Statement of Qualifications
Appendix IV	-	Statement of Work
Appendix V	-	Cost Statement

1.0

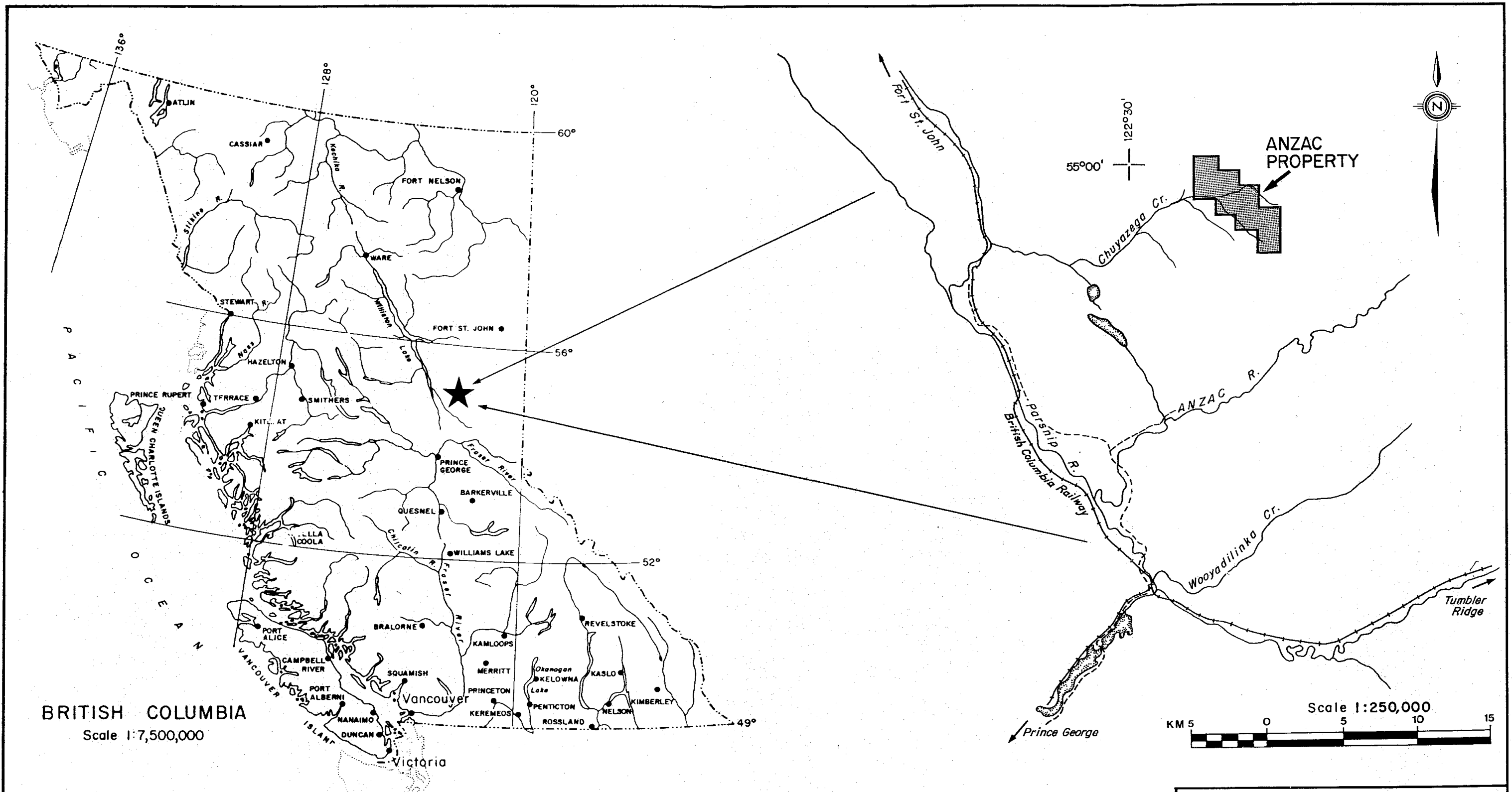
INTRODUCTION

In June and July of 1986, MineQuest Exploration Associates Ltd. carried out a literature review of sediment hosted magnesite deposits in British Columbia for NORSK HYDRO, at the request of Mr. Tore Vralstad, Exploration Manager of the Magnesium Division. That investigation (MineQuest Report #147) determined that a magnesite occurrence in north-central British Columbia was not staked. Following a site visit, seven mineral claims (now the Anzac Property) were staked to cover the prospective ground. At that time preliminary geological mapping and reconnaissance sampling confirmed the presence of several occurrences of sediment-hosted magnesite along a strike length of about five kilometres (MineQuest Report #144). A limited program of diamond drilling, based on the preliminary geological mapping, during June of 1989 established the presence of two magnesite bands to a vertical depth of at least 115 metres, over a true width of up to 14.5 metres (MineQuest Report #221).

In the summer of 1990 Mr. Vralstad commissioned a program of geological mapping and sampling to further refine the understanding of the magnesite occurrences. This report presents the results of that mapping.

1.1 Location, Access, and Topography

The Anzac Property is located 120 kilometres north of Prince George and 60 kilometres southeast of Mackenzie in north-central British Columbia (Figure 1). The claims are situated within National Topographic System areas 93J/16W and 93O/01W, and are centred at approximately 54° 59' N latitude and 122° 22' W longitude.



NORSK HYDRO, MAGNESIUM DIVISION			
ANZAC PROPERTY			
LOCATION MAP			
PLAN No.	DRAWN C. D.	DATE JULY '89	FIGURE 1
Revised		N.T.S. 93-J	
MINEQUEST EXPLORATION ASSOCIATES LTD.			

Access to the claims is by helicopter, available from established bases in Mackenzie and Prince George. The nearest roads are 20 kilometres west on the east side of the Parsnip River and 15 kilometres to the southwest on the north side of the Anzac River near its confluence with Destilida Creek. The British Columbia Northern Railway line (Prince George - Dawson Creek) lies 20 kilometres west of the property. A road onto the claims could be established along the Chuyazega Creek valley from the Anzac River road.

Relief in the area of the property is about 715 metres, from Patches Mountain (1690 m) to the Chuyazega Creek valley (975 m). Below treeline (1525 m) the area is well forested with stands of balsam, fir, spruce, and dense undergrowth.

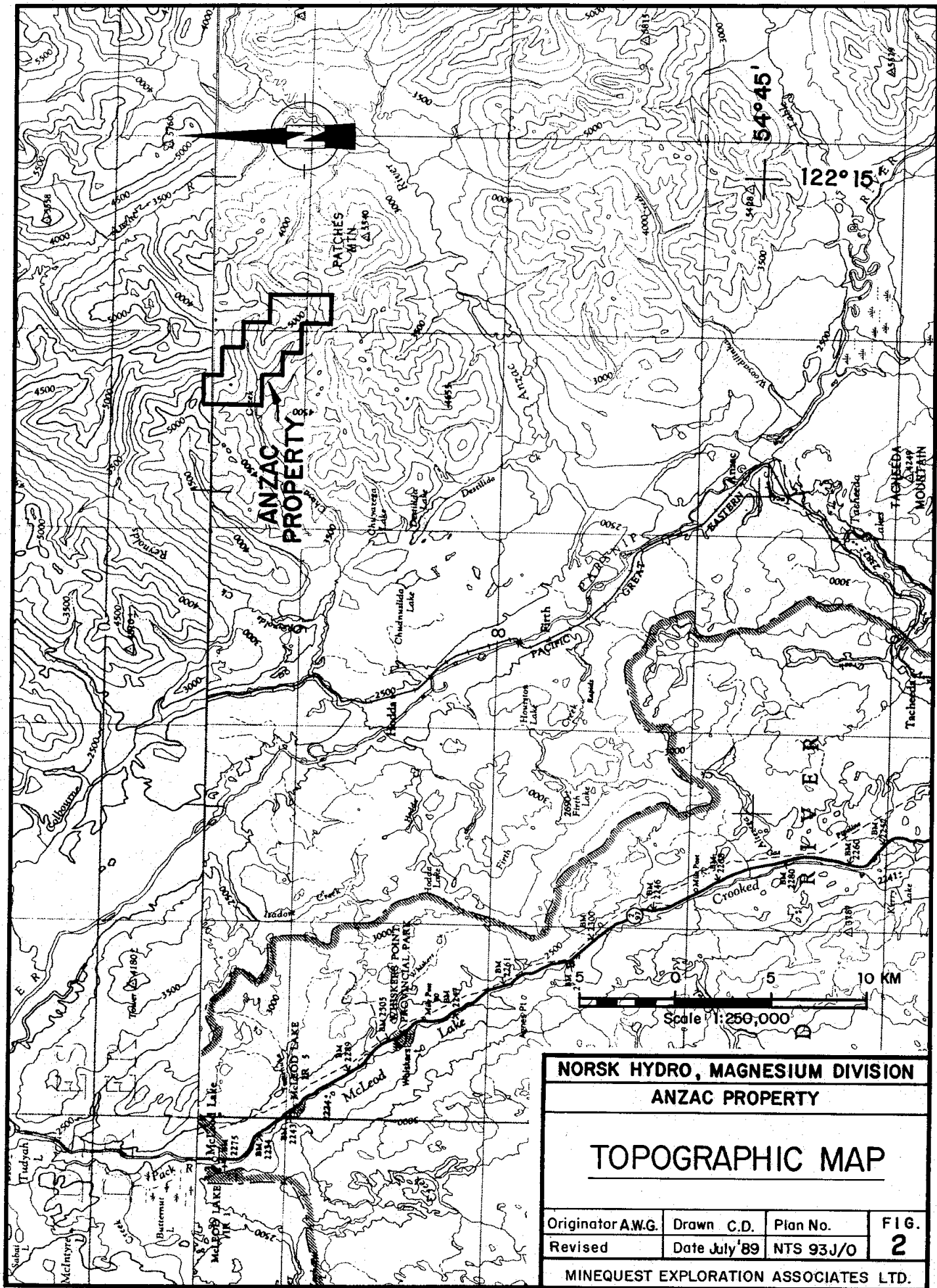
Although few outcrops occur below treeline, exposures are extensive above treeline and in the easterly facing cirques.

There are several seasonal ponds within the claims that can be used for drilling purposes, during certain times of the year.

1.2 Property Definition and History

The earliest reference (BC MINFILE No. 93J008) to the magnesite occurrence now covered by the Anzac Property is that by Muller and Tipper (1969), who state that coarse crystalline magnesite is interbedded with fine-grained dolomite in 50 feet (15 m) beds in an unnamed unit (No.3) of quartzite, calcareous sandstone, grey, green, and black silty shale, dolomite and limestone.

The Anzac Property was staked by MineQuest Exploration Associates Ltd. on behalf of Norsk Hydro in 1986 to cover several occurrences of sediment hosted magnesite along a strike length of about five kilometres. In the fall of 1986 reconnaissance sampling and geological work was completed on the five initial showings on the claims, followed by photo-geological mapping. The property was reduced to 72 units from 124 in late 1988. During June of 1989 a limited diamond drill program of three holes totalling 287 metres tested two of the magnesite showings.



ANZAC PROPERTY

NORSK HYDRO, MAGNESIUM DIVISION
ANZAC PROPERTY

TOPOGRAPHIC MAP

Originator A.W.G.	Drawn C.D.	Plan No.	FIG. 2
Revised	Date July '89	NTS 93J/0	

MINEQUEST EXPLORATION ASSOCIATES LTD.

1.3 Claim Status

Figure 3 is a claim map of the area. No other mineral claims exist within map areas 93J/16W and 93O/01W.

Table 1 lists the claims in good standing as of August 21, 1991. The claims are held by MineQuest Exploration Associates Ltd. in trust for Norsk Hydro.

The recent program of geological mapping and sampling has provided enough assessment credit to renew the claims for two years. This credit has been applied, maintaining the claims in good standing until October 1, 1994.

TABLE 1

Summary of Claim Information as of August 21, 1991

Claim	Record Number	Units ¹	Due Date After Submission of this Report ²	Recorded Owner
FRIA	8029	18	Oct. 1, 1994	MineQuest Expl. Assoc. Ltd.
ODIN	8030	18	Oct. 1, 1994	"
HELA	8031	18	Oct. 1, 1994	"
HOTH	8032	06	Oct. 1, 1994	"
THOR	8033	12	Oct. 1, 1994	"

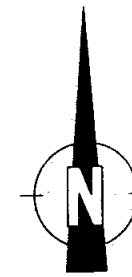
1. One unit is 500 x 500 metres, or 25 hectares
2. Date on which claim will expire unless assessment work (\$100/unit for first three years, \$200/unit per year thereafter) is performed and filed, at a cost of \$5/\$100 of work filed.

122° 30' W

122° 15' W

55°

55° N



ANZAC RIVER

Chuyazega Creek

THOR
8033
4 N-3W

HELA
8031
6S-3E

HOTH
8032
2S-3W

ODIN
8030
6S-3W

FRIA
8029
6S-3E

0 1 2 km
1:50,000

NORSK HYDRO, MAGNESIUM DIVISION			
ANZAC PROPERTY			
CLAIM MAP			
PLAN No.	DRAWN BY: C.D.	DATE July 1989	FIGURE 3
Originator	A.W.G.	N.T.S. 93 J.O	
MINEQUEST EXPLORATION ASSOCIATES LTD.			

1.4 Summary of Work - Current Program

Work carried out in this exploration program, which took place from July 19th to July 28th, 1991, consisted of geological mapping and rock chip sampling. A total of eighteen samples were collected.

The area around and between the five known magnesite showings was mapped at a scale of 1:10,000. This was the first systematic geological mapping carried out on the claims, with the objective of finding all the mineralized outcrops and furthering the understanding of the magnesite occurrences.

The geological mapping and sampling were carried out by A.W. Gourlay and G. Vernon. The program was under the direction of A.W. Gourlay. G.J. Simandl and K.D. Hancock of the British Columbia Ministry of Energy, Mines and Petroleum Resources measured the cross sections.

2.0

GEOLOGY

2.1 Regional Geology

The regional geology was summarized (MineQuest report #144) as follows:

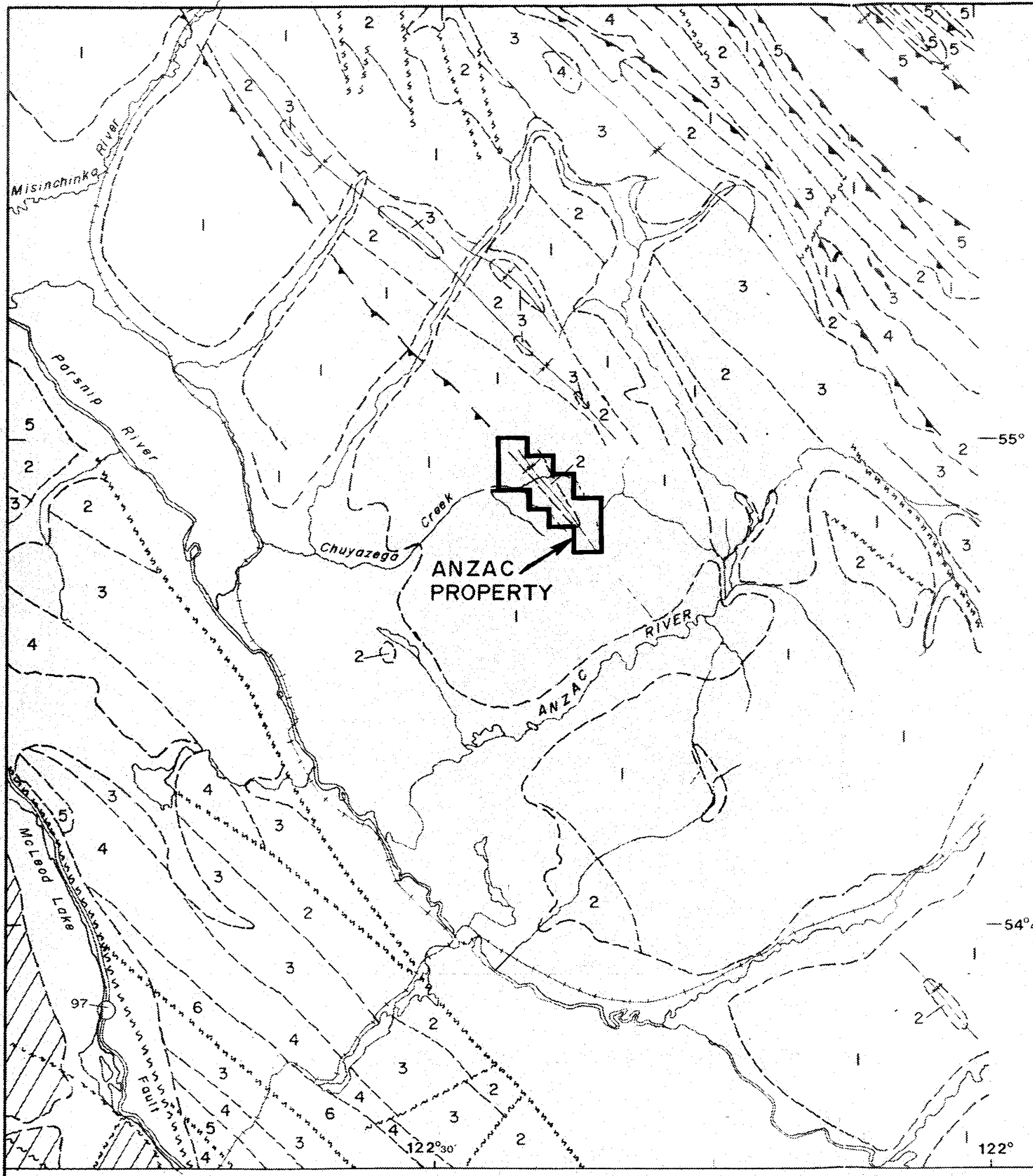
"Figure 4 illustrates the regional setting of the Anzac Property, as mapped by Muller (1961) and Muller and Tipper (1969).

East of the Parsnip River, which follows the Rocky Mountain Trench, The Rocky Mountains are underlain by Hadrynian (?) to lower Palaeozoic metasedimentary and sedimentary rocks; fine-grained schist, slate, quartzite, limestone and dolomite. Two subdivisions of the Misinchinka Group, which makes up the lower portion of this succession, are recognized; a lower unit of chlorite and sericite schist and an upper unit of dark slate. The total thickness of the group, obscured by close folding, is between 1,500 and 3,000 metres.

The slates grade conformably into Lower Cambrian (?) orthoquartzite with a thickness of up to 610 metres, in turn overlain by as much as 425 metres of dolomite. This is the unit that hosts magnesite on the Anzac Property. Archeocyathids have been reported from this rock unit by Muller (1961) and Muller and Tipper (1969).

Above the quartzite and dolomite lies the Upper Cambrian Kechika Group; schistose calcareous shales, slates and siltstones.

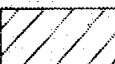
The stratigraphy in this area is not well elucidated or mapped as indicated by the mismatch of rock units along the border between the Pine Pass map sheet north of latitude 55° N and the McLeod Lake map sheet to the south. Likewise, rock unit contacts, thrust faults and folds are not reconciled between the two map sheets.



LEGEND

TRIASSIC (?) AND/OR JURASSIC (?)

6 argillite, graywacke, shaly limestone, minor andesite and basalt
Slide Mountain Group

 basaltic pillow lavas, andesite, related pyroclastics, argillite, chert, graywacke

DEVONIAN AND (?) LATER
Middle Devonian to Pennsylvanian and/or Permian

5 limestone, silty and shaly limestone, chert, calcareous siltstone and shale

ORDOVICIAN AND SILURIAN
Upper Ordovician to Middle Silurian

Sandpile Group
4 dolomite, limestone, quartzite, calcareous and dolomitic sandstone

CAMBRIAN
Middle and Upper Cambrian to Lower Ordovician




Kechika Group
3 limestone, silty limestone, nodular limestone, calcareous siltstone, calcareous schist, shale

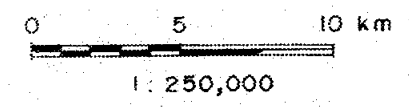
CAMBRIAN AND EARLIER
Lower Cambrian and earlier

2 orthoquartzite, dolomite, limestone, sandy dolomite, red shale, conglomerate, black and green slate

CAMBRIAN AND/OR EARLIER
Lower Cambrian and/or Earlier

Misinchinka Group
1 black slate, slaty graywacke, minor quartzite, conglomerate, graywacke; chlorite and sericite schist, phyllite, schistose grit, quartz-pebble conglomerate

 thrust fault
 fault
 syncline



NORSK HYDRO, MAGNESIUM DIVISION			
ANZAC PROPERTY			
REGIONAL GEOLOGY			
PLAN No.		DATE Jan. 1987	FIGURE
Originator:	G.S.C. Maps 11-1961, 1204-A	N.T.S. 93 J.0	4
MINEQUEST EXPLORATION ASSOCIATES LTD.			

The current phase of mapping provided the following descriptions for Units 3 through 8;

Unit 3: QUARTZITE

Grey on both fresh and weathered surfaces. Fine grained (<1mm). The quartzite appears to be massive on fresh surfaces but displays well preserved cross-bedding on weathered surfaces. Hosts massive white bull quartz veins up to 1 m wide. Quartz veins both crosscut and run subparallel to the bedding.

Unit 4: GREEN ARGILLITE

Green to olive green on a fresh surface, weathers grey to light brown. Locally phyllitic to shaley, or with a platy parting. Overlain by and locally interbedded with dolomite or limy dolomite.

Unit 5: INTERBEDDED DOLOMITE AND ARGILLITE

Thinly bedded grey, fine grained, massive dolomite interbedded with argillite. Commonly forms platy dolomite.

Unit 6: Unit 6 can be divided into limestone and dolomite sub-units.

Unit 6a: LIMESTONE

Grey colour, grey weathering, massive fine grained limestone. This unit crops out at the northwest corner of the Odin Showing, stratigraphically above dolomite and magnesite-bearing dolomite, and was found at the top of Drill Hole 89-01 at the Knoll Showing. Limestone has not been observed below the dolomite or magnesite-bearing dolomite. The limestone does not host any magnesite and is probably the original lithology that was dolomitized.

Unit 6b: DOLOMITE

Grey colour, brown to rusty-brown weathering. Generally massive although bedding is rarely preserved. Commonly pisolitic with occasional oolitic beds. Locally up to 60% pisolites, round to ovoid, <10 x 35 mm size, matrix supported. The internal structure of the pisolites and oolites is poorly preserved. Dolomite lies directly on both green argillite and quartzite. The contact with quartzite is intensely oxidized and iron stained.

Unit 7: MAGNESITE-BEARING DOLOMITE

Dark grey colour, grey to buff orange weathering, massive and fine grained. Magnesite occurs as bipolar blades, up to 25 mm long, radiating from stylolites and, less commonly, fractures. Up to 10% magnesite in dolomite. Thin seams of oxidized pyrite, <1 mm thick, are common along stylolites. This unit hosts the massive, coarsely crystalline magnesite bands.

Unit 8: MAGNESITE

White to light grey to light brown colour. Weathers dirty grey to light brown. Coarsely crystalline, up 35 mm crystal size, and massive. Occurs as three or four distinct bands, as mapped on surface with widths of up to 22m. Two beds, with true widths of up to 14.5 m, have been encountered in drilling.

The overlying phyllite and slate unit (Unit 9), not observed during this stage of mapping, is described as:

Unit 9: PHYLLITE, SLATE (>100M)

Dark grey to black phyllite.

2.3 Cross Sections (Figures 9, 10, 11)

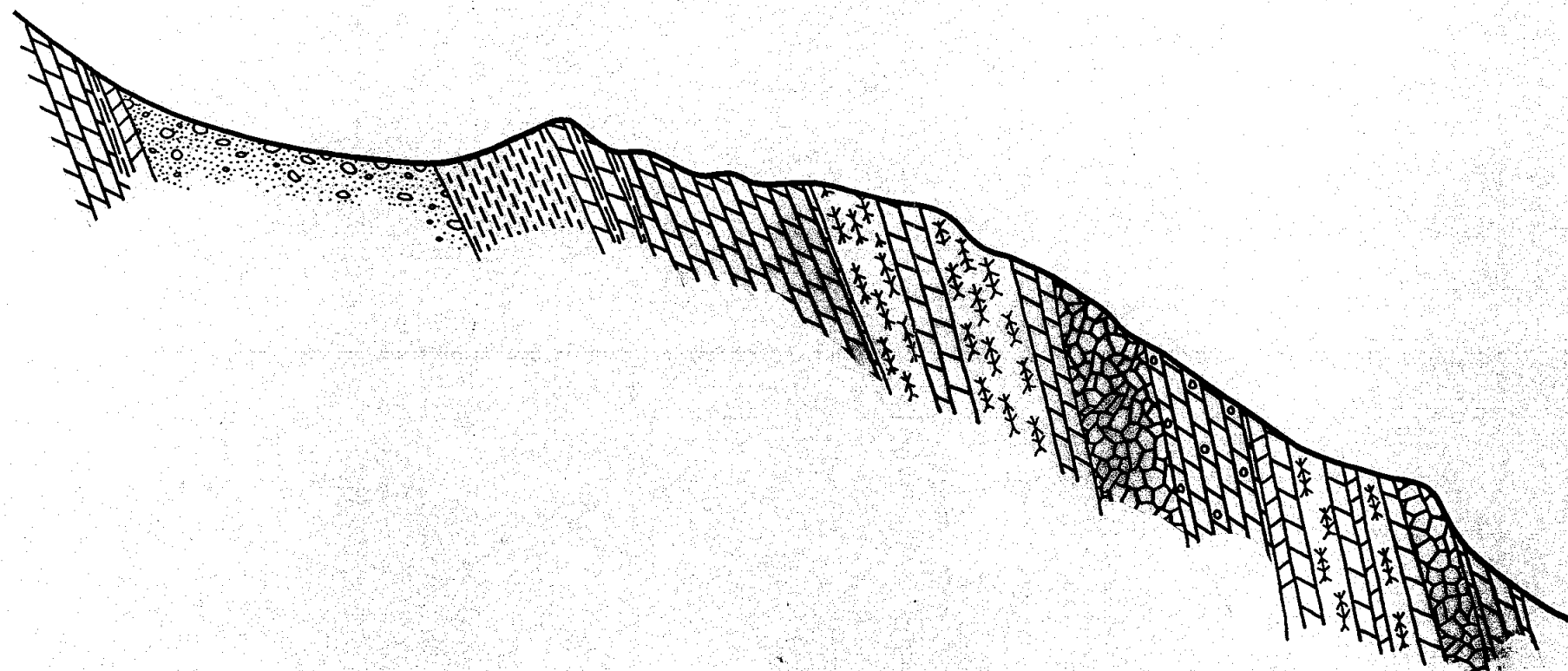
Cross sections were measured at the Hela, Odin and Emmet Showings. At Hela Showing two magnesite bands, with apparent widths of 3.0 and 5.5 metres, are found within magnesite-bearing dolomite. Oolites are present immediately above the lower magnesite band. To the east of the section the green argillite is folded into a synform (see Figure 6).

The Odin Showing hosts two magnesite bands, an upper band with an apparent width of 17 metres and a lower band some four metres wide. An oolitic and pisolitic dolomite bed is found between the magnesite bands.

Four separate magnesite bands have been identified at the Emmet Showing, ranging in apparent width from three to twenty-one metres. Pisolites were found within the uppermost magnesite band, and both oolite and pisolites are hosted by dolomite below the lowermost magnesite band. It appears that both drill holes completed during 1989 were stopped short of the lowermost magnesite band.

NE

SW



LEGEND

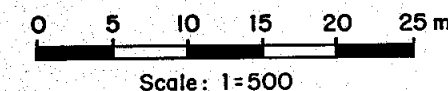
TEXTURES

- Oolites
- ⊙⊙⊙ Pisolites

LITHOLOGY

- Overburden
- UNIT 8 Magnesite, massive, coarsely crystalline
- UNIT 7 Dolomite with varying amounts of magnesite crystals, commonly as bipolar blades

- UNIT 6 Dolomite
- 6a Limestone or limy Dolomite
- UNIT 5 Interbedded Dolomite and Argillite, locally platy Dolomite
- UNIT 4 Green Argillite, locally slaty and/or phyllitic
- UNIT 3 Quartzite

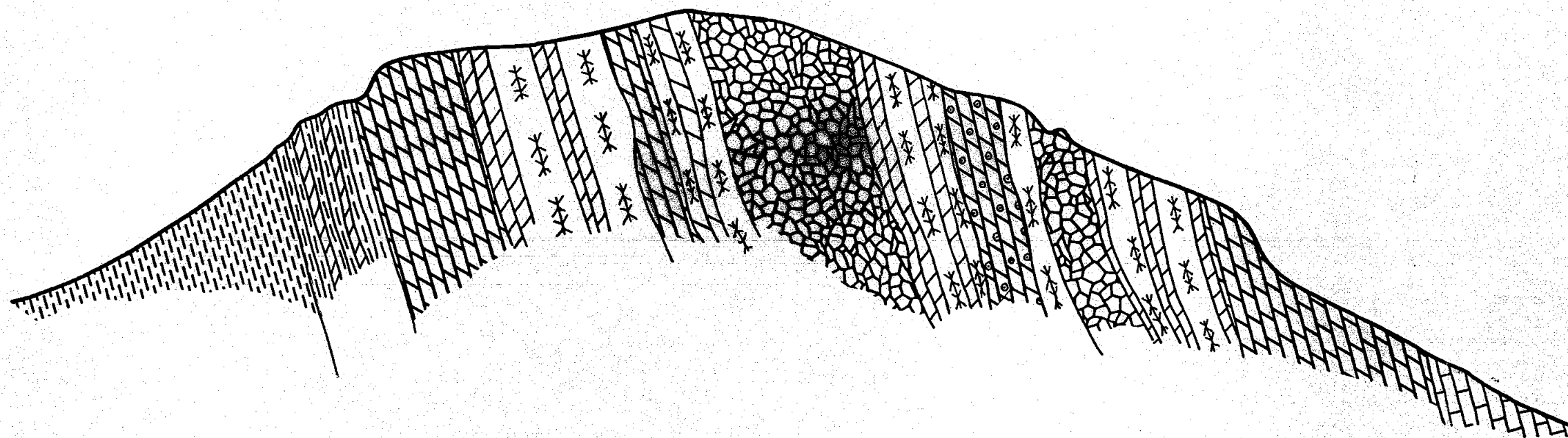


Geology by: G.J. Simandl, K.D. Hancock
B.C.M.E.M.P.R.

NORSK HYDRO, MAGNESIUM DIVISION			
ANZAC PROPERTY			
GEOLOGY			
HELA SHOWING			
CROSS SECTION			
Original: A.W.G.	Drawn: C.D.	Date: Aug.91	FIG. 9
Revision			
MINEQUEST EXPLORATION ASSOCIATES LTD.			

NE

SW



LEGEND

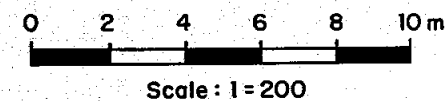
TEXTURES

- ooo Oolites
- ooo Pisolites

LITHOLOGY

- Overburden
- UNIT 8 Magnesite, massive, coarsely crystalline
- UNIT 7 Dolomite with varying amounts of magnesite crystals, commonly as bipolar blades

- UNIT 6 6b Dolomite
- 6a Limestone or limy Dolomite
- UNIT 5 Interbedded Dolomite and Argillite, locally platy Dolomite
- UNIT 4 Green Argillite, locally slaty and/or phyllitic
- UNIT 3 Quartzite



NORSK HYDRO, MAGNESIUM DIVISION

ANZAC PROPERTY

GEOLOGY
 ODIN SHOWING
 CROSS SECTION

Original: A.W.G.	Drawn: C.D.	Date: Aug'91
Revision:		

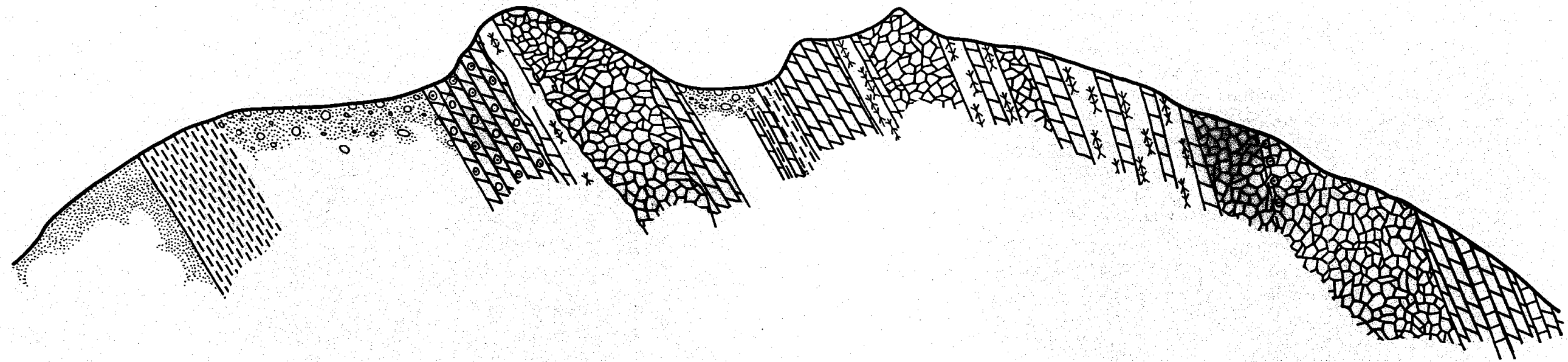
FIG. 10

Geology by: G.J. Simandi, K.D. Hancock
B.C.M.E.M.P.R.

MINEQUEST EXPLORATION ASSOCIATES LTD.

NE

SW



LEGEND

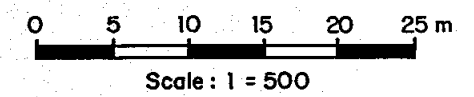
TEXTURES

- oo Oolites
- ooo Pisolites

LITHOLOGY

- Overburden
- UNIT 8 Magnesite, massive, coarsely crystalline
- UNIT 7 Dolomite with varying amounts of magnesite crystals, commonly as bipolar blades

- UNIT 6b Dolomite
- UNIT 6a Limestone or limy Dolomite
- UNIT 5 Interbedded Dolomite and Argillite, locally platy Dolomite
- UNIT 4 Green Argillite, locally slaty and/or phyllitic
- UNIT 3 Quartzite



NORSK HYDRO, MAGNESIUM DIVISION			
ANZAC PROPERTY			
GEOLOGY			
EMMET SHOWING			
CROSS SECTION			
Original: A.W.G.	Drawn: C.D.	Date: Aug '91	FIG. 11
Revision			
MINEQUEST EXPLORATION ASSOCIATES LTD.			

Geology by : G.J. Simandl, K.D.Hancock
B.C.M.E.M.P.R.

West dipping thrust faults and eastward verging folds characterize the Misinchinka Ranges, which are one of series of fault-bounded blocks in this region."

2.2 Property Geology

The following nine lithologic units were used for reconnaissance mapping in 1987 and diamond drilling during 1989;

- Unit 9: Phyllite, slate
- Unit 8: Magnesite
- Unit 7: Magnesite-bearing Dolomite
- Unit 6: Dolomite
- Unit 5: Dolomitic phyllite
- Unit 4: Phyllite
- Unit 3: Quartzite
- Unit 2: Slate
- Unit 1: Slate, quartzite

These lithologic units have been retained for the current mapping program. The detailed mapping was focused on Units 3 through 8, with particular attention being paid to the massive magnesite and its position within the Magnesite-bearing Dolomite (Unit 7).

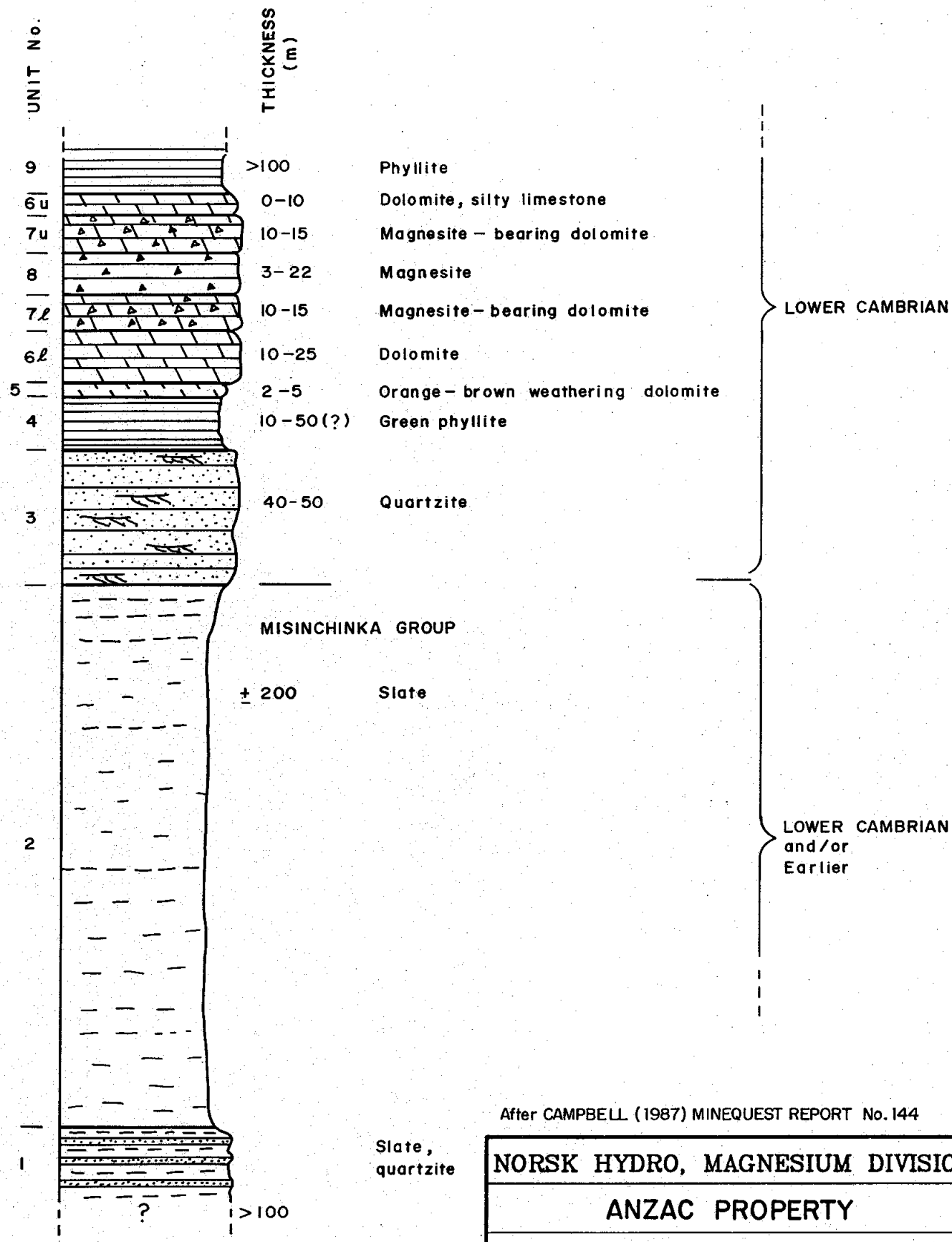
Units 1 and 2 have been described as follows;

Unit 1: SLATE, QUARTZITE

These are the oldest rocks in the area, cropping out in thick exposures east of the Parsnip River. Thin bedded, light to dark grey quartzites, weathering light brownish grey are interbedded with strongly cleaved black slate.

Unit 2: SLATE (+-200 m)

Black, thinly laminated slate.



After CAMPBELL (1987) MINEQUEST REPORT No. 144

NORSK HYDRO, MAGNESIUM DIVISION		
ANZAC PROPERTY		
LOCAL STRATIGRAPHIC COLUMN		
DATE: Jan. 1987	N.T.S.: 93J/16, 0/1	FIGURE: 5
MINEQUEST EXPLORATION ASSOCIATES LTD.		

2.4 Results

Magnesite is found in a series of outcrops that trend northwest-southeast between the five known occurrences, parallel to the regional strike. Mapping has extended the known magnesite occurrences and it is inferred that the mineralization may be continuous between outcrops.

Magnesite appears to be continuous between the Emmet and Knob Showings. Outcrops of both massive magnesite and magnesite-bearing dolomite have extended the Knoll Showing to the southeast, and the strike length of the Fria Showing to both the northwest and southeast. The distribution of these four occurrences suggests that the massive magnesite is at different stratigraphic levels within the magnesite-bearing dolomite. This may be due to faulting, or more likely, to the presence of several distinct magnesite bands within the dolomite. It is not clear whether the magnesite is stratabound or is slightly discordant with the host dolomite. The replacement textures observed in drill core (MineQuest Report #221) and in the field suggest that the magnesite may be both stratabound and discordant on a local scale.

The magnesite is hosted within a magnesite-bearing dolomite that displays well developed bipolar growths of magnesite crystals radiating from stylolites and fractures. Magnesite forms up to 10% of the dolomite. The dolomite is locally pisolitic and oolitic, the internal structure of which has been obscured by dolomitization. The dolomite is overlain by limestone and the contact between the dolomite and limestone is often marked by sinkholes.

To the northwest, at Odin and Hela Showings, mapping has extended the known magnesite occurrences up to 200 metres along strike in two magnesite bands.

3.0 **GEOCHEMISTRY**

3.1 Sampling Procedure

Both grab and chip samples were collected in doubled plastic sample bags that were sealed individually. The samples were placed in burlap sacks and shipped to Acme Analytical Laboratories Ltd. of Vancouver, B.C. for analyses. A single duplicate sample was sent to Min-En Laboratories Ltd. of North Vancouver, B.C.

3.2 Analytical Results (see Figure 8)

All the samples collected were of massive, coarsely crystalline magnesite, or very coarsely crystalline dolomite.

Table 2 lists the results for the eighteen samples collected, and complete results are tabulated in Appendix II.

TABLE 2

Summary of Analytical Results

<u>Sample Number</u>	<u>MgO %</u>	<u>SiO₂ %</u>	<u>Al₂O₃+Fe₂O₃ %</u>	<u>CaO/MgO %</u>
91001	39.70	1.62	1.52	0.170
91002	30.10	0.59	1.07	0.625
91003	41.02	0.36	1.21	0.135
91004	42.76	0.64	1.22	0.074
91005	40.68	1.22	1.12	0.135
91006	42.92	0.56	1.17	0.075
91007	43.56	1.28	1.22	0.043
91008	38.55	5.53	2.25	0.108
91009	39.35	1.36	1.84	0.162
91010	41.74	1.17	1.92	0.084
91011	43.81	1.93	1.22	0.024
91012	44.81	0.46	1.01	0.027
91013*	32.26	0.67	1.38	0.499
91014	20.33	3.22	1.09	1.468
91015	19.47	5.57	1.01	1.506
91016	19.65	0.96	0.74	1.653
91017	19.10	0.86	0.87	1.699
91901*	33.81	1.21	1.47	0.409

* Duplicate Samples

Samples 91001 through 91003 are grab samples collected from isolated outcrops between Emmet and Knob Showings. MgO values ranged from 30.10 to 41.02%.

Approximately 75 metres south of the Knoll Showing, Sample 91004 returned 42.76% MgO.

In the vicinity of Fria Showing, samples 91005 through 91008, 91011, and 91012 returned MgO values of between 38.55 and 44.81%.

At Odin showing, two chip samples over 8 and 10 metres (91009 and 91010) produced 39.35 and 41.76 % MgO respectively.

To the north at Hela Showing five samples (91013 through 91017) returned 19.18% to 32.26% MgO from very coarsely crystalline, magnesite-bearing dolomite. Sample 91901, a duplicate to Sample 91013, returned 33.81% MgO.

4.0

DISCUSSION

Preliminary geological mapping, completed in 1986, indicated that the coarse crystalline magnesite band has a strike length of about five kilometres, with apparent widths of up to 22 metres. Limited diamond drilling during 1989 confirmed the presence of the magnesite band to a depth of at least 115 metres, with individual bands of up to 14.5 metres true width. The drilling also established that there are at least two bands of coarse massive magnesite present at the Emmet Showing.

The geological mapping carried out in this phase of exploration, including the work carried out by the British Columbia Ministry of Energy, Mines, and Petroleum Resources, has established the presence of massive crystalline magnesite between and beyond the previously known five occurrences, and indicates that there are up to four individual bands of massive magnesite present.

The magnesite is hosted within a magnesite-bearing dolomite, characterized by bipolar growths of magnesite crystals radiating from stylolites, and occasionally from fractures. Magnesite forms up to 10% of the dolomite. The dolomite is locally pisolitic and oolitic, but the internal structure of individual oolites and pisolites has been obscured by dolomitization. The dolomite is overlain by limestone and the contact between the dolomite and limestone is often marked by sinkholes.

The magnesite band or bands appear to be continuous between the Emmet and Knob Showings. Mapping has confirmed the occurrence of magnesite to the southeast of the Knoll Showing, and has extended the length of the Fria Showing along strike to both the northwest and southeast. The distribution of these four occurrences suggests that the massive magnesite is at different stratigraphic levels within the magnesite-bearing dolomite. This may be due to faulting, or more likely, to the presence of several distinct magnesite bands within the dolomite.

To the northwest, at Odin and Hela Showings, mapping has extended the known magnesite occurrences up to 200 metres along strike. In both cases two magnesite bands are present.

The highest grade found on the property (44.81% MgO) is from outcrop south of the Fria Showing, an area that has not been drill tested.

In the author's opinion, the Anzac Property merits more work around the five main showings, and on the intervening ground.

5.0

CONCLUSIONS

The recent mapping program has shown that:

1. The massive crystalline magnesite can be traced discontinuously from the Emmet Showing to the Knob Showing, a strike distance of approximately 600 metres.
2. Massive crystalline magnesite has been found about 75 metres southeast of the Knoll Showing, and has been found in subcrop some 300 metres further to the southeast.
3. In the vicinity of the Fria Showing, magnesite occurs along strike 150 metres to the northwest and 200 metres to the southeast.
4. At Hela Showing a new outcrop has extended the mineralization about 100 metres along strike to the southeast.
5. North of Chuyazega Creek, the Odin showing has been extended 200 metres to the southeast in a series of outcrops along strike. It is unclear how far the mineralization extends along strike to the northwest.
6. Samples from the new magnesite occurrences have returned MgO values ranging from 19.10% to 44.81%. The highest values are in the vicinity of the Fria Showing, an area that has not been drill tested.

6.0

RECOMMENDATIONS

The following exploration program is recommended:

Phase I: Trenching and Detailed Geological Mapping.

The objective of this phase would be to establish the continuity and width of the magnesite bodies at surface, prior to the selection of drill targets. Trenching and detailed mapping would take place on a grid to provide control for follow-up drilling. The grid should cover an area from about 300 metres north of the Emmet Showing to approximately 400 metres southeast of the Fria Showing.

Phase II: Diamond Drilling

One thousand metres of diamond drilling would provide a first test of about 500 metres of strike length, on a drill hole spacing of 100 metres. The location of the drill holes would be dictated by the results of Phase I.

7.0

BIBLIOGRAPHY**Campbell, K.V., 1987**

Anzac Magnesite Property; Reconnaissance Geology and Proposal for Exploration

Unpublished report prepared for Norsk Hydro. **MineQuest Report #144**, 42 pp, appendices and maps

Campbell, K.V. and Peatfield, G.R., 1986

Regional Magnesite Survey, Western Canada - review of magnesite occurrences and proposal for exploration

Unpublished report prepared for Norsk Hydro. **MineQuest Report #126**, 29 pp, appendices and maps

Gourlay, A.W., 1989

Anzac Magnesite Property; Diamond Drilling - June 1989

Report prepared for Norsk Hydro. **MineQuest Report #221**, 22 pp, appendices and maps. Submitted for assessment credit.

Grant, D.B., 1987

Magnesite, brucite and hydromagnesite occurrences in British Columbia

British Columbia Ministry of Energy, Mines, and Petroleum Resources, Open File 1987-13

Muller, J.E., 1961

Pine Pass, British Columbia

Geological Survey of Canada, Map 11-1961, Scale 1:253,440

Muller, J.E. and Tipper, H.W., 1969

Notes on Geology - McLeod Lake, British Columbia

Geological Survey of Canada, Map 1204A, Scale 1:253,440

Peatfield, G.R., Moffat, L.M., and Campbell, K.V., 1986

Regional Magnesite Survey, Western Canada - Stratigraphic Compilation, Site Investigations, Chemistry and Proposal for Exploration

Unpublished report prepared for Norsk Hydro. **MineQuest Report #147**, 87 pp, appendices and maps

APPENDIX I

Laboratory Methods

APPENDIX I

Laboratory Methods

Acme Analytical Laboratories Ltd.

The samples were crushed to less than 3/16 inch size, from which a 200 gram split was pulverized to 98% minus 100 mesh. The 0.200 gram sub-sample was fused with LiBO_2 and then dissolved in 100 mls. of 5% HNO_3 for 1/2 hour. Determinations of the oxides were then made by ICP (inductively coupled plasma) analytical technique.

Minen Laboratories Ltd.

A duplicate sample was crushed by a jaw crusher and pulverizes to 90% minus 120 mesh. A 0.200 gram sub-sample was fused with lithium borate. The bead was dissolved in 100 mls. of 5% HNO_3 for 1/2 hour, and the oxides were then determined by computer operated ICP technique using either a Jarrell Ash 9000 ICAP or Jobin Yvon Type II spectrometer.

APPENDIX II

Laboratory Reports

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE (604) 253-3158 FAX (604) 253-1716

AA
LL

WHOLE ROCK ICP ANALYSIS

Minequest Exploration PROJECT ANZAC File # 91-3028
3rd Fl. 165 Water St., Vancouver BC V6B 1A7

AA
LL

P. 002/002

TO MINEQUEST EXPL

FROM ACME ANALYTICAL

AUG-07-1991 10:39

SAMPLE#	S102	Al203	Fe203	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr203	Ba	Sr	La	Zr	Y	Hf	LOI	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%
ANZ 91001	1.62	.22	1.30	39.70	6.74	.05	.06	.01	.10	.03	.007	11	25	18	10	5	20	50.0	99.24
ANZ 91002	.59	.19	.88	30.10	8.80	.05	.11	.01	.13	.03	.002	5	103	19	10	5	20	48.5	99.40
ANZ 91003	.36	.11	1.10	41.02	5.52	.05	.07	.01	.08	.03	.002	5	28	4	5	5	20	50.8	99.14
ANZ 91004	.64	.21	1.01	42.76	3.15	.05	.06	.01	.08	.03	.002	5	18	9	9	5	20	51.1	99.11
ANZ 91005	1.22	.22	.90	40.68	5.44	.05	.06	.01	.10	.03	.002	5	38	6	9	5	20	50.4	99.13
ANZ 91006	.56	.20	.97	42.92	5.20	.05	.07	.02	.09	.02	.006	5	25	4	5	5	20	51.1	99.19
ANZ 91007	1.28	.26	.96	43.56	1.86	.05	.09	.01	.08	.02	.005	5	14	14	7	5	20	51.0	99.15
ANZ 91008	5.53	.49	1.76	38.55	4.17	.06	.05	.02	.14	.04	.002	5	11	19	14	5	20	48.5	99.30
ANZ 91009	1.36	.36	1.48	39.35	6.36	.05	.10	.02	.13	.04	.002	5	16	16	10	5	20	50.0	99.23
ANZ 91010	1.17	.37	1.55	41.74	3.52	.05	.05	.01	.14	.04	.002	5	10	2	5	5	21	50.5	99.11
ANZ 91011	1.93	.24	.98	43.81	1.04	.06	.08	.01	.09	.02	.002	5	10	2	10	5	20	50.8	99.06
ANZ 91012	.46	.14	.87	44.81	1.23	.05	.05	.01	.10	.02	.002	5	10	2	5	5	20	51.4	99.06
ANZ 91013	.67	.13	1.25	32.26	16.11	.05	.05	.01	.08	.04	.002	5	32	2	7	5	20	48.8	99.38
ANZ 91014	3.22	.13	.96	20.33	29.85	.05	.05	.01	.08	.03	.002	23	92	87	11	5	20	45.1	99.74
ANZ 91015	5.57	.27	.74	19.47	29.33	.05	.05	.02	.08	.04	.002	17	81	46	24	5	20	44.1	99.67
ANZ 91016	.96	.06	.68	19.65	32.47	.05	.05	.04	.06	.04	.013	6	90	45	5	5	20	45.7	99.72
ANZ 91017	.86	.13	.74	19.10	52.44	.05	.05	.01	.06	.03	.004	24	91	2	5	5	20	46.0	99.40
STANDARD SO-4	68.05	10.15	3.38	.96	1.62	1.33	2.07	.54	.21	.07	.007	780	186	32	308	21	20	11.4	99.99

* 200 GRAM SAMPLES ARE FUSED WITH 1.2 GRAM OF LIBO2 AND ARE DISSOLVED IN 100 MLS 5X HNO3.
- SAMPLE TYPE: ROCK

DATE RECEIVED: JUL 30 1991

DATE REPORT MAILED: Aug 7/91

SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

TOTAL 6 Pgs

APPENDIX III

Statement of Qualifications

APPENDIX III

STATEMENT OF QUALIFICATIONS

I, Andrew W. Gourlay, hereby certify that:

- 1) I am presently employed by MineQuest Exploration Associates Ltd. as Senior Geologist.
- 2) I am a graduate of the University of British Columbia (B.Sc. Hons., 1977, in geology).
- 3) I am a Professional Geologist in good standing with the Association of Professional Engineers, Geologists, and Geophysicists of Alberta, and a Fellow of the Geological Association of Canada.
- 4) I have practised my profession as geologist for more than 14 years.
- 5) The information used in this report is based on reports, maps, and data on file at MineQuest Exploration Associates Ltd. and personal involvement with the field.

Signed _____



Dated at Vancouver B.C. this
23rd day of August, 1991

APPENDIX V

Cost Statement

APPENDIX V

Cost Statement

FEES:

A.W. Gourlay	75.75 hours at \$75/hour	\$ 5,681.25	
A.W. Gourlay	8.50 days at \$450/day	3,825.00	
G. Vernon	17.75 hours at \$43/hour	763.25	
G. Vernon	9.00 days at \$260/day	2,340.00	
C. Donders	45.50 hours at \$36/hour	1,638.00	
R. Longe	1.00 hours at \$96/hour	96.00	

		\$14,343.50	
G.S.T.		1,004.05	

			\$15,347.55

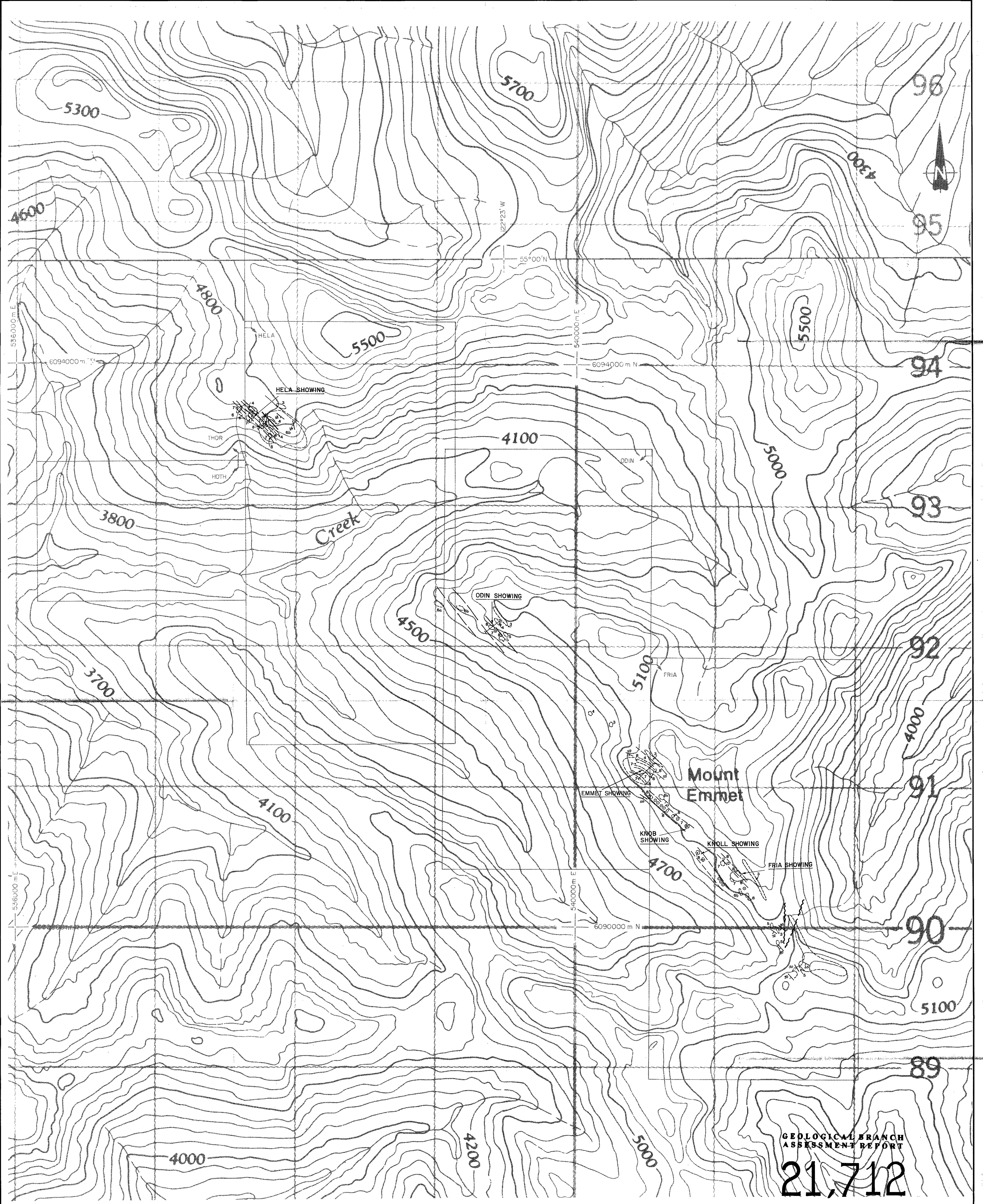
DISBURSEMENTS:

Airfares	\$ 960.00	
Analyses	277.13	
Charter Helicopter	8,331.50	
Courier (Est.)	150.00	
Food and Accommodation	234.31	
Freight	333.30	
Fuels and Lubricants	6.07	
Groceries	587.40	
Photocopies (Est.)	52.00	
Rental Vehicles (Est.)	185.85	
Reprographics (Est.)	400.00	
Supplies	566.50	
Taxi\Parking	122.77	
Telecommunications	2.20	
G.S.T. on Disbursements	854.63	

	\$13,063.66	
10% on Disbursements	1,306.37	
G.S.T.	91.45	

		\$14,461.48

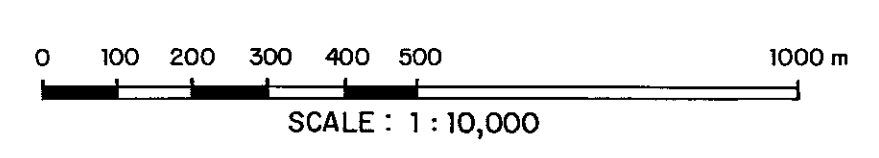
		\$29,809.03
		=====



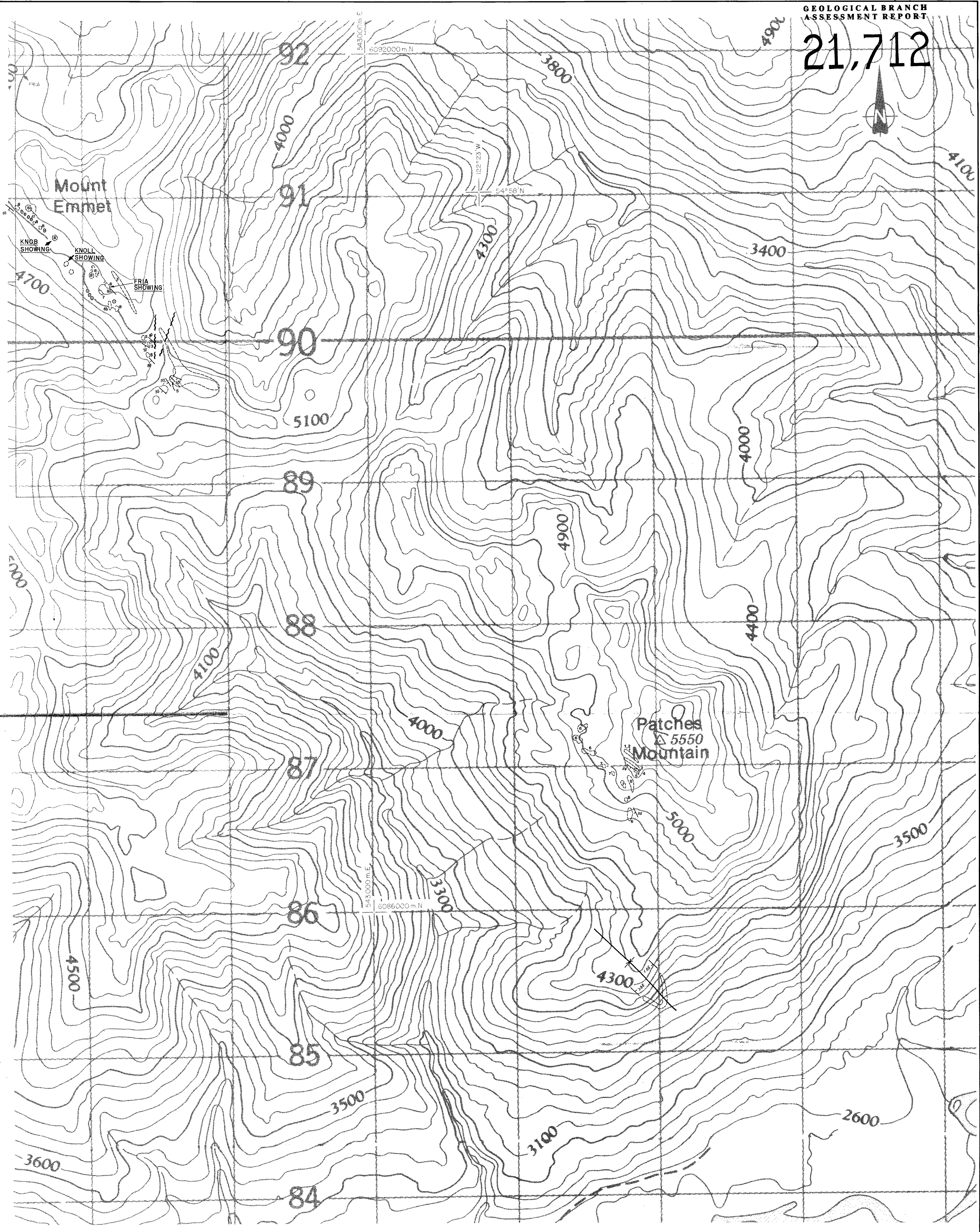
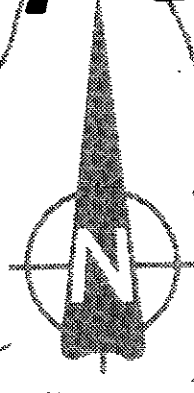
GEOLOGICAL BRANCH
ASSESSMENT REPORT
21,712

LEGEND

- | | | | |
|----------------------|--|---|--|
| TEXTURES | | Dolomite
Limestone or limy Dolomite | Bedding; dip
Outcrop
Subcrop; Magnesite-bearing Dolomite
Contact; Approximate
Fault
Syncline
Cross Section (See figures) |
| Oolites
Pisolites | | | |
| LITHOLOGY | | Overburden
Magnesite, massive, coarsely crystalline
Dolomite with varying amounts of magnesite crystals, commonly as bipolar blades
Interbedded Dolomite and Argillite, locally platy Dolomite
Green Argillite, locally slaty and argillitic
Quartzite | |
| UNIT 8 | | | |
| UNIT 7 | | | |
| UNIT 6 | | | |
| UNIT 5 | | | |

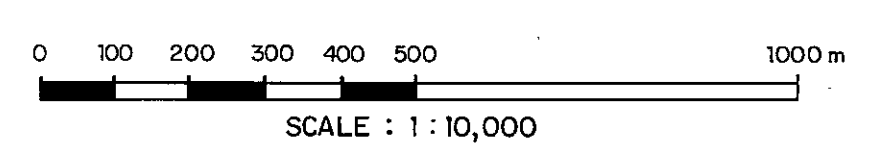


NORSK HYDRO - MAGNESIUM DIVISION				
ANZAC PROPERTY				
GEOLOGY				
NORTH MAP SHEET				
Original	Drawn	Date	PLAN NO.	FIG.
Revised	Revised	Revised	NT.S.	
			93J/16, 93-0/01	
MINEQUEST EXPLORATION ASSOCIATES LTD.				

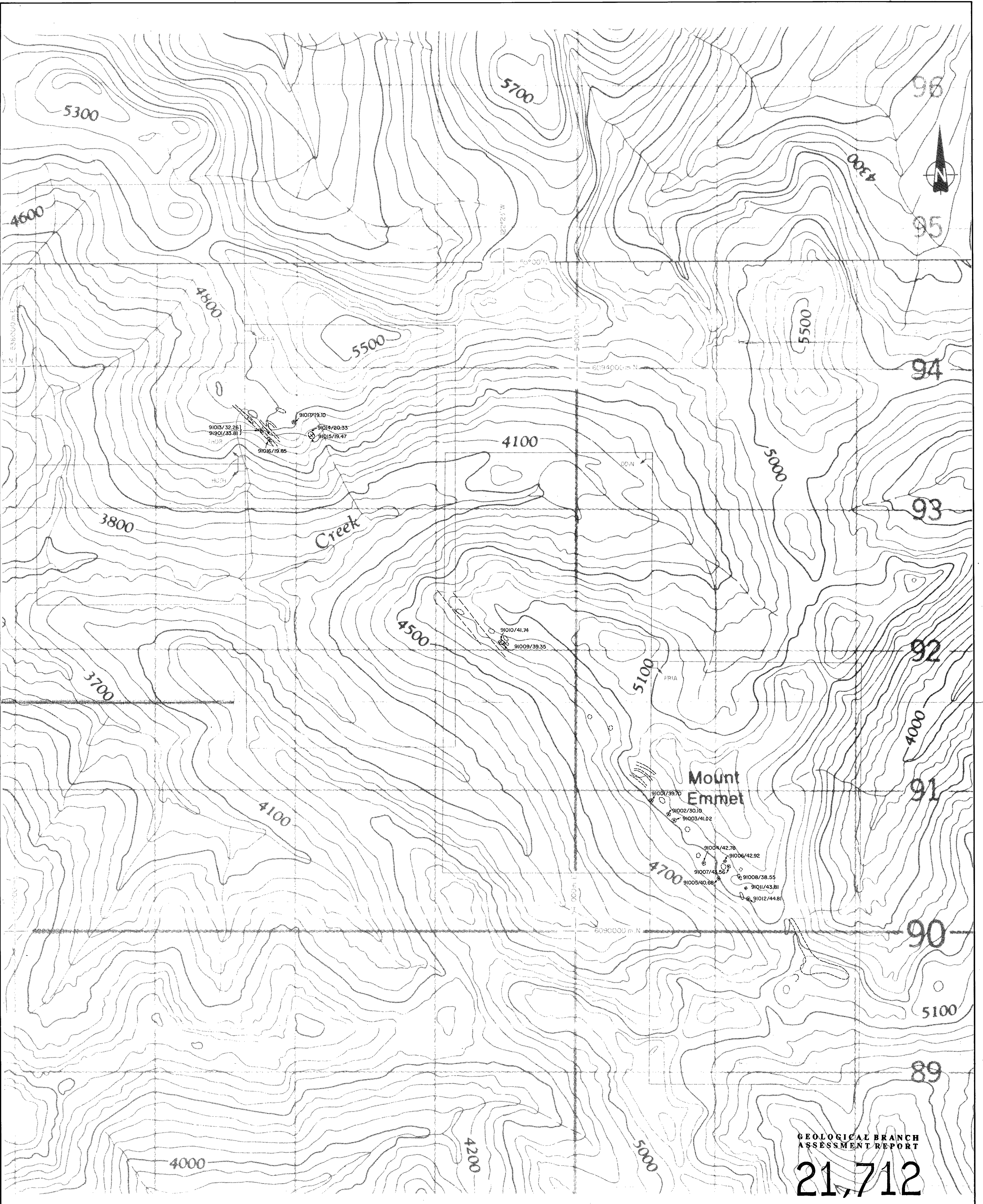


LEGEND

- | | | | |
|------------------|---|---------|--------------------------------------|
| TEXTURES | | | |
| ○ ○ ○ | Oolites | — / — | Bedding ; dip |
| ○ ○ ○ | Pisolites | ○ ○ ○ | Outcrop |
| LITHOLOGY | | ○ ○ ○ | Subcrop ; Magnesite-bearing Dolomite |
| ■ | Overburden | — · — · | Contact ; Approximate |
| UNIT 8 ■ | Magnesite, massive, coarsely crystalline | — / — | Fault |
| UNIT 7 ■ | Dolomite with varying amounts of magnesite crystals, commonly as bipolar blades | — / — | Syncline |
| UNIT 6 ■ | 6b ■ Dolomite | | |
| UNIT 6 ■ | 6a ■ Limestone or limy Dolomite | | |
| UNIT 5 ■ | Interbedded Dolomite and Argillite, locally platy Dolomite | | |
| UNIT 4 ■ | Green Argillite, locally slaty and/or phyllitic | | |
| UNIT 3 ■ | Quartzite | | |



NORSK HYDRO - MAGNESIUM DIVISION				
ANZAC PROPERTY				
GEOLOGY				
SOUTH MAP SHEET				
Original	Originator	Drawn	Date	PLAN NO.
Revised	A.W.G.	C.D.	Aug. '91	1650
				N.T.S.
				93/J/16
MINEQUEST EXPLORATION ASSOCIATES LTD.				



Legend

Sample Number / % MgO
 (X) 91007 / 43.56

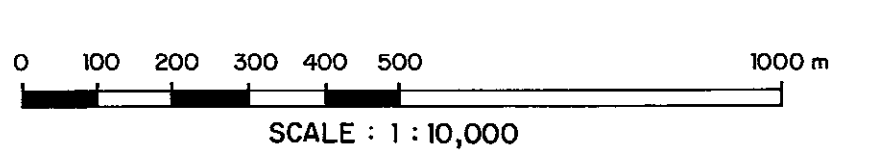
RESULTS

Sample Number	MgO	SiO ₂	Al ₂ O ₃ +Fe ₂ O ₃	CaO(MgO)
91001	39.70	1.62	1.52	0.170
91002	30.10	0.59	1.07	0.025
91003	41.02	0.36	1.21	0.135
91004	42.76	0.64	1.22	0.074
91005	40.68	1.22	1.12	0.135
91006	42.92	0.56	1.17	0.075
91007	43.56	1.28	1.22	0.043
91008	38.55	5.53	2.25	0.108
91009	39.35	1.36	1.04	0.162
91010	41.74	1.17	1.92	0.084
91011	43.81	1.93	1.22	0.024
91012	44.81	0.46	1.01	0.027
91013*	32.26	0.67	1.38	0.499
91014	20.33	3.22	1.09	1.468
91015	19.47	5.57	1.01	1.506
91016	19.65	0.16	0.74	1.653
91017	19.10	0.86	0.87	1.699
91018*	33.81	1.21	1.47	0.409

* Duplicate Samples

GEOLOGICAL BRANCH
 ASSESSMENT REPORT

21,712



NORSK HYDRO - MAGNESIUM DIVISION				
ANZAC PROPERTY				
GEOCHEMISTRY				
ROCK SAMPLE LOCATIONS and RESULTS				
NORTH MAP SHEET				
Original	Originator	Drawn	Date	PLAN NO. 1651
Revised	A.W.G.	C.D.	Aug '91	
Revised				N.T.S.
				93/J/16, 93-0/01
MINEQUEST EXPLORATION ASSOCIATES LTD				

FIG.
8