4570

GEOLOGICAL, GEOCHEMICAL & MAGNETOMETER SURVEY

SHAS CLAIM GROUP

for

SHASTA MINES & OIL LTD. (N.P.L.)

by

A. Floyd, B. Sc., M. Sc.

W. Meyer, P. Eng.

August , 1973 Vancouver, B. C.

SHASTA MINES & OIL LTD. (N.P.L.)

GEOLOGICAL, GEOCHEMICAL & MAGNETOMETER SURVEY

SHAS Claim Group

Omineca Mining Division

Latitude 57° 14'

Longitude 127° 5'

by

A. Floyd, B.Sc., M.Sc.

W. Meyer, P. Eng.

on work performed July 1st - July 21st, 1973.

SHAS group 1 - 176

August, 1973

TABLE OF CONTENTS

APPENDIX

MAPS

INTRODUCTION:

Following the reconnaissance work carried out on the SHAS claim by D. Arscott in July, 1972, it was recommended that a follow-up program involving geological mapping, soil geochemistry and magnetometer work be initiated in order to evaluate the potential of the property with respect to gold, silver and copper mineralization.

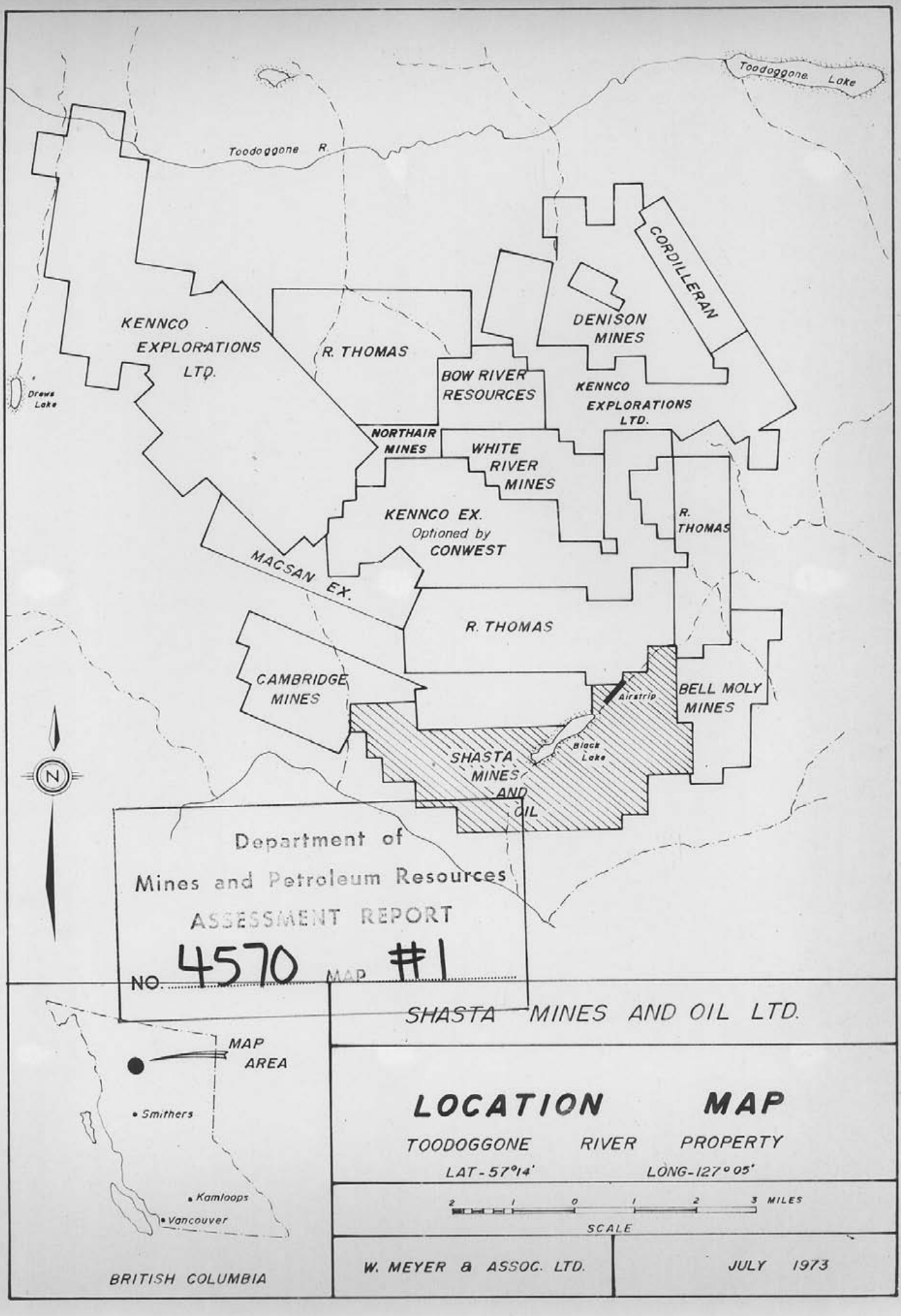
The geological mapping was carried out by A. Floyd, and the soil sampling and magnetometer work by 5 members of W. Meyer and Associates Ltd. The program was under the general direction of W. Meyer.

LOCATION and ACCESSIBILITY

The 176 SHAS claims are situated around Black Lake which lies in the Toodoggone River region some 180 miles north of Smithers, B. C., and 130 miles south of Dease Lake. It is accessible by float plane from Mackenzie and Smithers. An airstrip constructed by Conwest Exploration on the north-east tip of the claims allows the landing of planes up to DC3 size with wheels.

CLAIMS:

The SHAS group consists of 176 full size claims and


Toodoggone Lake
Toodoggone R.
CORDILLERAN
DENISON MINES
KENNCO EXPLORATIONS LTD.
R. THOMAS
BOW RIVER RESOURCES
KENNCO EXPLORATIONS LTD.
Drews Lake
NORTHAIR MINES
WHITE RIVER MINES
KENNCO EX.
Optioned by CONWEST
R. THOMAS
MACSAN EX.
R. THOMAS
CAMBRIDGE MINES
Airstrip
BELL MOLY MINES
Black Lake
SHASTA MINES AND OIL
N
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4570 MAP #1
MAP AREA
Smithers
Kamloops
Vancouver
BRITISH COLUMBIA
SHASTA MINES AND OIL LTD.
LOCATION MAP
TOODOGGONE RIVER PROPERTY
LAT - 57°14'
LONG - 127°05'
2 1 0 1 2 3 MILES
SCALE
W. MEYER & ASSOC. LTD.
JULY 1973

was originally recorded on July 21st, 1972.

GEOGRAPHY & VEGETATION

The relief on the property is in the region of 2,500 feet with Black Lake being 4,200 feet above sea level. The topographic slopes are fairly moderate and easily negotiable on foot.

The tree line would appear to be at about 5,000 feet. Below this level the timber is mainly jackpine and spruce - usually well spaced and of moderate diameter. A large part of the claim area, however, has a burn area with little mature vegetation and primarily small underbrush. In areas of little glacial overburden, the burn has rendered the outcrops moss free allowing easy examination of the rock.

GERMORPHOLOGY

The dominant landform control in the area has been glaciation which has produced cirques, aretes, U-shaped valleys and hanging valleys. Superimposed in this bedrock landform is a considerable amount of moraine especially thick in the valley bottom and rising up the valley sides in the form of kames which are mounds and terraces of polymict moraine parallel to the long axis of the valleys.

GEOLOGY

LITHOLOGY

The rocks of the Toodoggone River region are composed of a mixture of volcanics and sediments plus their metamorphic equivalent ranging in age from late Palaeozoic to Recent. Intrusive into these formations is the Omineca Batholith of Jurasic age.

On the Shas claims, takla group rocks are intruded by a large body of granodiorite related to the Omineca Intrusions. Takla group rocks underlie the extreme eastern part of the property and the Omineca Intrusions the remainder.

The granodiorite is intruded by north-west trending late acid dykes consisting of aplite, quartz monzonite and felspar hornblende porphyries.

Potash metasomatism, chlorite, epidote and biotite alteration and associated minor mineralization occurs at the Takla-granodiorite contact and in broad north-west trending zones near the late dykes.

The oldest rocks on the property are the Takla volcanics composed of agglomerate, conglomerate, tuff, minor flows and limestone probably belonging to the upper Takla. In faulted contact with these rocks is the younger granodiorite, a

rock made up of 30 - 40% mafics dominantly hornblende, 30% plagioclase felspar, 10% orthoclase felspar and 20 - 30% quartz.

Potash metasomatism along north-west trending joint planes has led to the production of an altered granodiorite with 10% plagioclase felspar and 30% orthoclase felspar often with aplite cores. At the same time there was an intrusion of late acid dykes probably closely associated with the granodiorite but with far less mafic constituents. One was a hornblende-felspar porphyry and the other a quartz monzonite, the latter characterized by large eyes of quartz.

Chlorite and epidote alteration is quite widespread and often associated with the potash metasomatism. The biotite alteration appears to be concentrated around the quartz monzonite intrusion and close to the eastern contact with the Takla volcanics.

STRUCTURE:

The Takla volcanics generally strike E - W or NE - SW and dip 40° - 60° towards the north or northeast. They are often faulted and folded, the folds having axes dipping at 45° towards the north.

The faulted contact between the Takla rocks and the granodiorite strikes at 152° and where it was examined the Takla rocks are pyrite rich, limonite stained and heavily fractured while

the granodiorite is orthoclase rich and heavily jointed.

METAMORPHISM:

There are minor indications of contact metamorphism of the Takla rocks close to the faulted contact. There is a buildup of secondary biotite and augite towards the contact and an increase in the presence of chlorite but the metamorphism is clearly minimal since no characteristic metamorphic minerals were found in the cherty limestone bands.

MINERALIZATION:

D. Arscott in his 1972 report on the Shas claim group noted copper mineralization on fracture planes in a diorite plus malachite staining in a heavily altered diorite near the intrusive contact.

During this current program this area was thoroughly examined and the first noted mineralization could not be extended.

In the region of the quartz monzonite at 88E on the baseline, however, heavy malachite staining and minor bornite were found some 600' from the quartz monzonite.

In the Takla volcanics no discernable mineralization other than pyrite was found.

GEOCHEMISTRY:

A total of 1,900 soil samples were collected at 200 feet intervals along grid lines 800 feet apart. Using one of the east-west claim lines as baseline, 76 miles of cross lines were compassed, chained, blazed and flagged, simultaneously with collection of samples. Samples were collected with spades and mattocks from the "B" horizon, where possible, at depths of a few inches to a foot.

Samples were shipped to Acme Analytical Laboratories in Burnaby for analysis of Cu, Au, Ag.

Samples were dried and screened to - 80 mesh. A portion was weighed out, digested in concentrated nitric and perchloric acids and analyzed by Atomic Absorption.

RESULTS:

COPPER

A frequency plot of the values reveals a background population of less than 100 ppm with a mode of 20 ppm over the whole claim group. This threshold of 100 ppm was chosen as the lower limit of the weakly anomalous values while > 150 ppm was chosen as strongly anomalous. If we disregard the isolated high values the only area that can be regarded as anomalous

with respect to copper is the extreme northeast corner of the property.

SILVER

A similar procedure was adopted for the analysis of the silver and gold values whereupon it was decided that > 3.0 ppm Ag was strongly anomalous and > 1.0 ppm silver was weakly anomalous. The background population had a range of 0 - 1.0 ppm with a mode of 0.2 ppm. Again disregarding isolated high values the only anomalous area was the extreme northeast corner of the property.

Thirdly, gold was deemed to be significant if detectable and again it was the extreme northeast corner of the property which had repeatable signs of gold up to .31 ppm.

This Ag, Cu, Au anomaly does not lie close to bedrock. It is clearly transported for at this point there is at least 50 feet of moraine lying on bedrock. However, the contrast of the anomaly is 50 times background with respect to silver and averages seven times for copper. Coverage of that area, however, was not completed due to a lack of time. Combined with the fact that it occurs near the claim group boundary it is difficult to see the trend of the anomaly from the data and therefore speculate on its source. It

may be quite local since the contrast of the anomaly is so high.

MAGNETOMETER SURVEY

A magnetometer survey was carried out on the property by P. Dunsford and A. Elmes, using a McPhar M-700 instrument. Measurements of the vertical field were taken at 200 feet intervals along chained and flagged lines 800 or 1600 feet apart. Control stations were located along a 30,000 feet long baseline.

The purpose of the survey was to establish the position of the contact between the intrusion and Takla volcanics and check the main body of the intrusion for roof pendants of Takla volcanics possibly hidden under glacial overburden.

A total of 31.5 line miles of work was completed.

Examination of the contoured map clearly shows a contrast between the granodiorite and the Takla volcanics, the former generally giving values of greater than 1,000 gammas and the latter less than 1,000 gammas. While the contact between the two units clearly shows as a fault with values of less than 500 gammas. Of interest is the area of less than 1,000 gammas in the south of the property which lies in an area of deep overburden and it will seem likely that this marks the southern boundary of the intrusion.

Generally, it is clear that the different phases of the

intrusion do not have any marked magnetic differences nor do the different units of the Takla group.

Overall the technique was successful in following the contact between the intrusion and the Takla Volcanics but it was aided by the presence of a faulted contact which produced a distinct magnetic low.

CONCLUSIONS:

Prospecting of the outcropped areas revealed very little mineralization in either the granodiorite or the Takla volcanics and this was born out by the results of the soil sampling.

However, a very clear silver, gold, copper anomaly was outlined on the edge of the property in the northeast corner. It is 2,000 feet X 800 feet in dimensions with a peak value of 19.0 ppm silver and 0.31 ppm gold. It is known that the anomaly lies in moraine whose derivation has a NNE - SSW trend but the grouping of values is such as to suggest a fairly local source.

The remainder of the claim block although having some isolated high values of silver, gold or copper does not indicate presence of any undetected mineralization.

Respectfully Submitted,

A. Floyd, B.Sc., M. Sc.

W. Meyer, P. Eng.

CLAIMS

Claim	Record Number	Expiry Date	Title
BLACK GROUP			
Shas 55 - 57	113638 - 113640	July 21, 1974	Shasta Mines & Oil Ltd. (N.P.L.)
58	113640A	"	"
97 - 114	113679 - 113696	"	"
141 - 148	113723 - 113730	"	"
CHRIS GROUP			
Shas 39 - 48	113622 - 113631	July 21, 1974	Shasta Mines & Oil Ltd. (N.P.L.)
59 - 70	113641 - 113652	"	"
79 - 88	113661 - 113670	"	"
150	113732	"	"
154 - 160	113736 - 113742	"	"
ALF GROUP			
Shas 49 - 54	113632 - 113637	July 21, 1974	Shasta Mines & Oil Ltd. (N.P.L.)
133 - 140	113715 - 113722	"	"
151 - 152	113733 - 113734	"	"
161 - 170	113743 - 113752	"	"
STUR GROUP			
Shas 71 - 78	113653 - 113660	July 21, 1974	Shasta Mines & Oil Ltd. (N.P.L.)
89 - 96	113671 - 113678	"	"
115 - 132	113697 - 113714	"	"

171 - 176	113753 - 113758	July 21, 1974	Shasta Mines & Oil Ltd. (N.P.L.)

RENE GROUP

Shas 1 - 38	113584 - 113621	July 21, 1974	Shasta Mines & Oil Ltd. (N.P.L.)
149	113731	"	"
153	113735	"	"

CERTIFICATE

I, William Meyer, do hereby certify that:

1. I am a geologist with residence at 911 Jarvis St., Coquitlam, B.C.

2. I am a graduate of the University of British Columbia (B.Sc., 1962).

3. I am a registered member of the Association of Professional Engineers of the Province of British Columbia.

4. I have worked as an exploration geologist for eleven years for the following companies: Phelps Dodge Corporation of Canada Ltd., Gibraltar Mines Ltd., Associated Geological Services Ltd., Western Geological Services Ltd., (senior partner). I am presently a senior partner in W. Meyer & Associates Ltd.

5. I personally did not participate in the survey described. I have, however, previously visited the project area and planned and directed the survey carried out by the W. Meyer & Associates Ltd. staff.

6. I have no interest, direct or indirect, nor do I anticipate receiving any, in the properties or securities of Shasta Mines & Oil Ltd. (N.P.L.)

W. Meyer, P. Eng.

August 20, 1973

CERTIFICATE

I, Anthony Floyd, hereby certify:

1. That I am a geologist residing at #802-1521 Burnaby St., Vancouver 5, British Columbia.

2. That I am a graduate of University of Nottingham, England with a B.Sc. degree and a graduate of the University of Leicester, England with an M.Sc. degree.

3. That I have been employed in mineral exploration for 18 months in United Kingdom, Eire, Ontario and British Columbia.

4. That I have no financial interests, either direct or indirect in the subject property, in the securities of Shasta Mines & Oil Ltd. and that I do not expect to obtain any such interest.

5. That the information contained in this report is based on my personal examination of the property from 11th July, 1973 to 21st July, 1973.

A F Floyd

Anthony Floyd, B.Sc, M.Sc.

COST OF SURVEY

90 line miles geochemical sampling and magnetometer surveys

at $200 per line mile per agreement = $18,000.00

AFFIDAVIT re: COST OF SURVEY

I, William Meyer of 911 Jarvis Street in the Municipality of Coquitlam in the Province of British Columbia, DO SOLEMNLY DECLARE that the geological, geophysical and geochemical surveys of the Shasta Mines & Oil Ltd. (N.P.L.) were conducted during the field season of 1972 and are described in this report. The data was obtained by consultants to Shasta Mines & Oil Ltd. (N.P.L.) at a total property related cost of at least $17,600.00.

AND I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act".

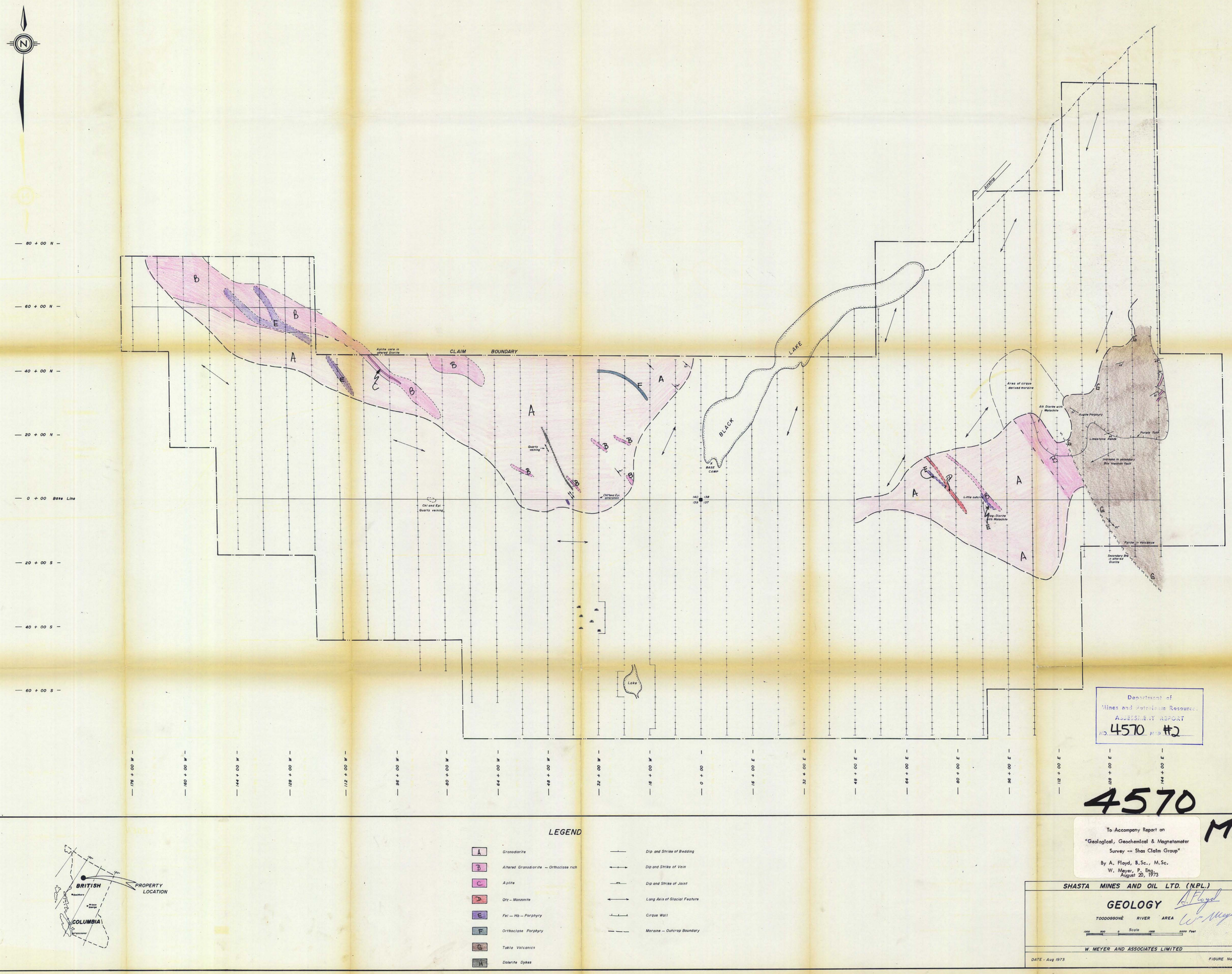
DECLARED before me at the City of Vancouver, in the Province of British Columbia, this 30 day of August, A.D. 1973.

W. Meyer, P. Eng.

A SUBMINING PROSPECTOR

PERSONNEL:

	POSITION	DATES OF WORK	NO. OF DAYS
W. Meyer #1015-470 Granville St.	Geologist	1/7/73 - 21/7/73	2 days
A. Floyd #1015-470 Granville St.	Geologist	11/7/73 - 21/7/73	10 days
P. Dunsford #1015-470 Granville St.	Magnetometer Operator	11/7/73 - 18/7/73	8 days
R. Fassler #1015-470 Granville St.	Soil Sampler	30/6/73 - 21/7/73	22 days
M. Steven #1015-470 Granville St.	Soil Sampler	30/6/73 - 21/7/73	22 days
D. Bacon #1015-470 Granville St.	Soil Sampler	30/6/73 - 21/7/73	22 days
M. Opsal #1015-470 Granville St.	Soil Sampler	11/7/73 - 21/7/73	11 days
A. Elmes #1015-470 Granville St.	Soil Sampler/ Magnetometer Operator	30/6/73 - 21/7/73	22 days



4570 M2

LEGEND

A	Granodiorite		Dip and Strike of Bedding
B	Altered Granodiorite — Orthoclase rich		Dip and Strike of Vein
C	Aplite		Dip and Strike of Joint
D	Qtz – Monzonite		Long Axis of Glacial Feature
E	Fel — Hb — Porphyry		Cirque Wall
F	Orthoclase Porphyry		Moraine — Outcrop Boundary
G	Takla Volcanics		
H	Dolerite Dykes		

To Accompany Report on
"Geological, Geochemical & Magnetometer Survey -- Shas Claim Group"
By A. Floyd, B.Sc., M.Sc.
W. Meyer, P. Eng.
August 20, 1973

SHASTA MINES AND OIL LTD. (N.P.L.)

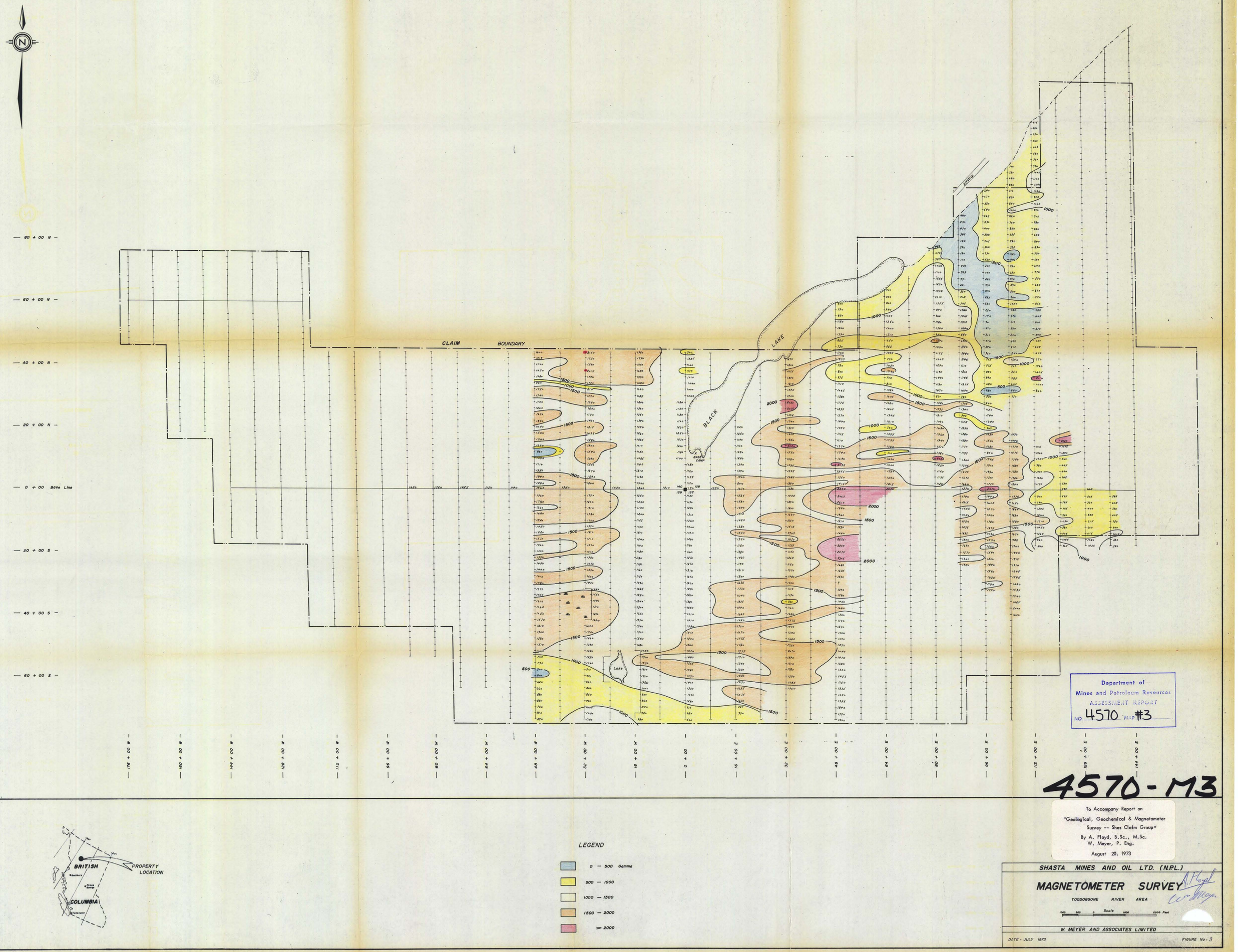
GEOLOGY

TOODOGGONÉ RIVER AREA

Scale 1000 800 0 1000 2000 Feet

W. MEYER AND ASSOCIATES LIMITED

DATE - Aug 1973 FIGURE No - 2



4570 - M3

LEGEND

	0 — 500 Gamma
	500 — 1000
	1000 — 1500
	1500 — 2000
	> 2000

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SHASTA MINES AND OIL LTD. (N.P.L.)

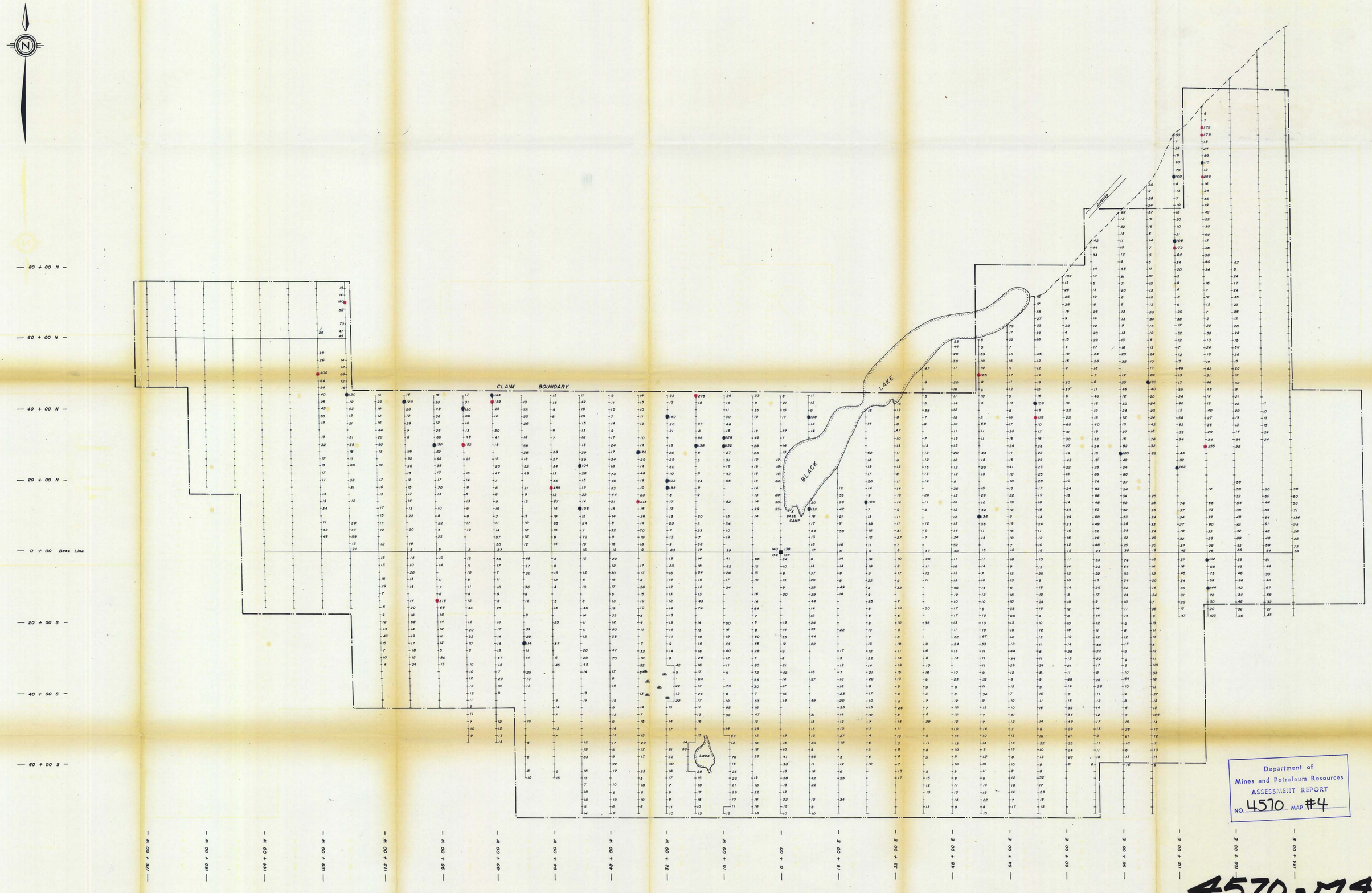
MAGNETOMETER SURVEY

TOODOGGONE RIVER AREA

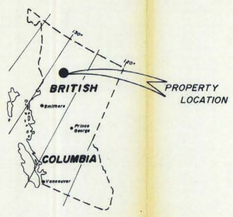
Scale 1000 500 0 1000 2000 Feet

W. MEYER AND ASSOCIATES LIMITED

DATE - JULY 1973 FIGURE No - 3



4570-M4



LEGEND

● - 100 ppm

● - 150 ppm

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SHASTA MINES AND OIL LTD. (N.P.L.)

COPPER IN SOIL

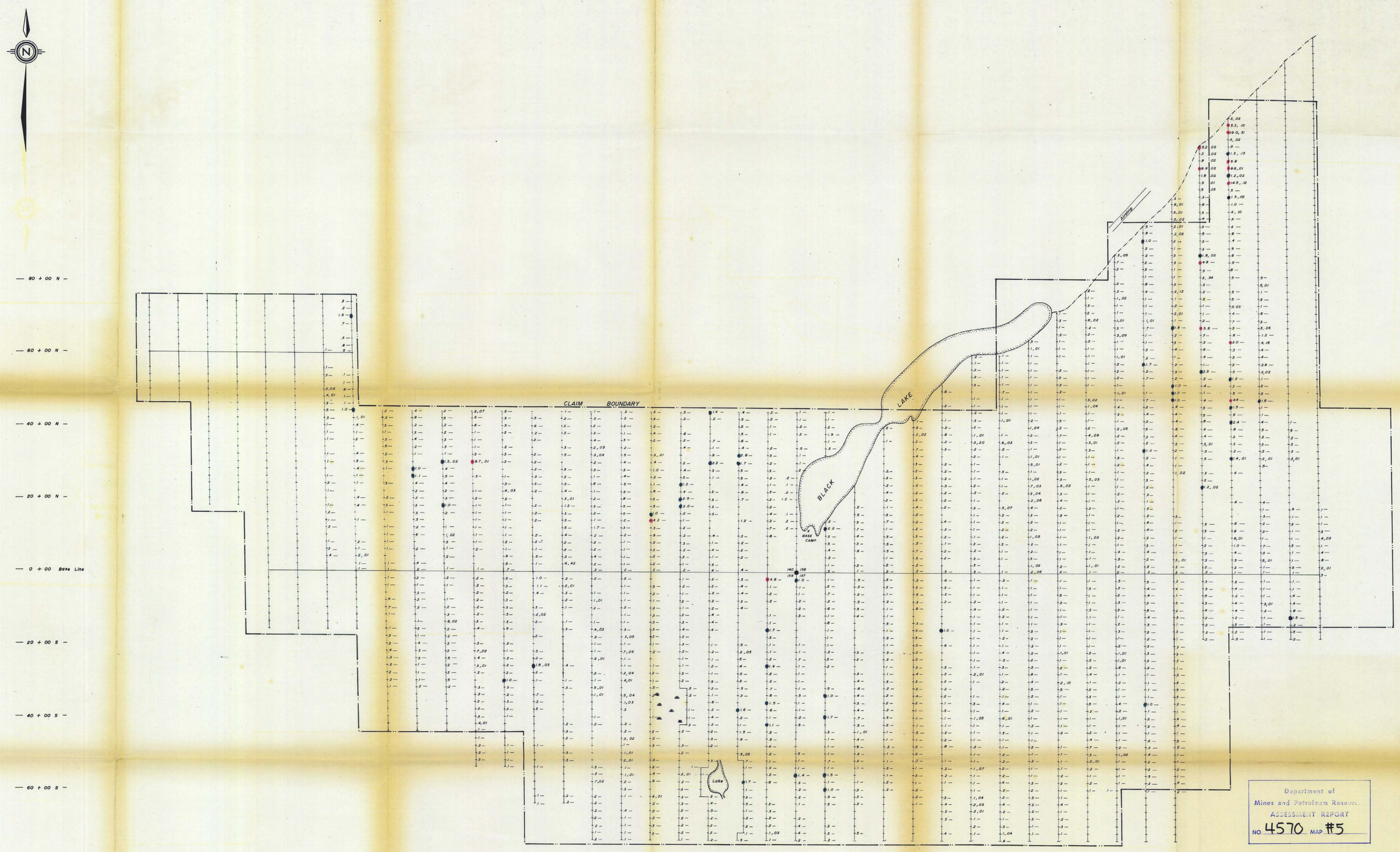
TOODOGGONE RIVER AREA

Scale 1000 500 0 1000 2000 Feet

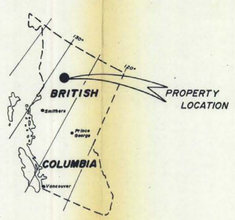
W. MEYER AND ASSOCIATES LIMITED

DATE - Aug 1973

FIGURE No - 5



4570-M5



LEGEND

● = 3.0 ppm Ag

● = 1.0

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SHASTA MINES AND OIL LTD. (N.P.L.)

SILVER & GOLD IN SOIL

TODDOGGONE RIVER AREA

Scale 1000 500 0 1000 2000 Feet

W. MEYER AND ASSOCIATES LIMITED

DATE - Aug 1973 FIGURE No - 4