

54° 35' 125° 30'

GEOCHEMICAL AND GEOLOGICAL REPORT

**ON THE
OWL PROPERTY**

LOG NO: 10-16	RD.
ACTION:	
FILE NO:	

**NTS 93 K12E and 11W
OMINECA MINING DIVISION
LONG. 125° 30'
LAT. 54° 35'**

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

20,377

**BY W. HALLERAN AND
A.A.D. HALLERAN**

SEPT 22 1990

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INTRODUCTION

The Owl claims were staked to cover newly discovered silver-copper bearing veins and potential massive sulphide mineralization, hosted in mafic to felsic volcanics. These volcanics have previously been placed in the Cache Creek Group.

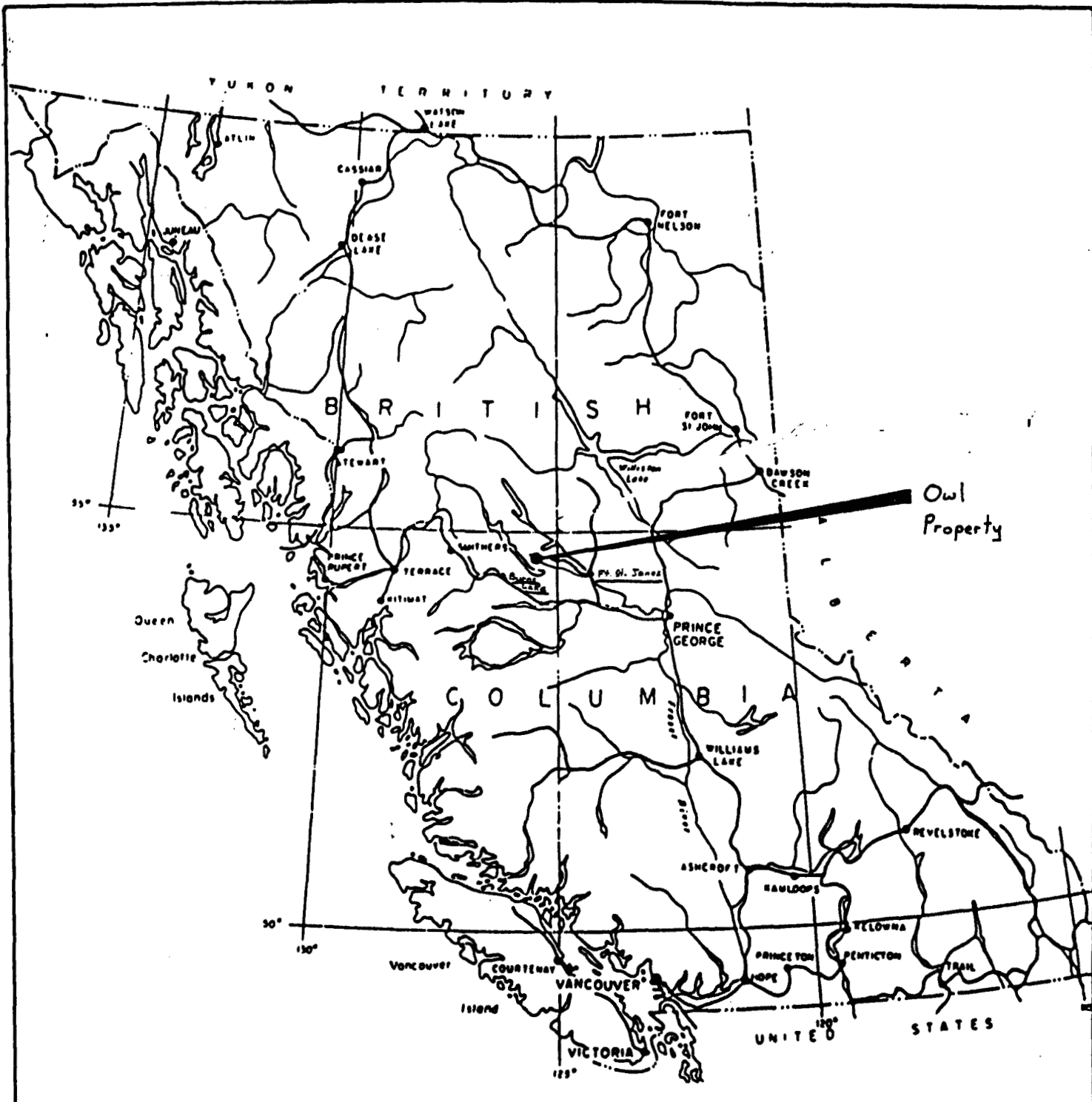
Logging access roads have exposed rocks that until recently have been covered by a thin layer of glacial till. Prospecting along these roads resulted in the discovery of silver (gold) rich epithermal veins, disseminated and veined chalcopyrite in volcanics, and a number of massive sulphide boulders.

Follow up work was aimed at evaluating the veins and disseminated copper and to locate any massive sulphides, and to determine the usefulness of a magnetometer survey.

LOCATION AND ACCESS

The Owl property is located in the Omineca mining division on NTS map sheets 93K 12E and 11W, 45 kilometers northeast of the town of Burnslake. (figure 1)

Access to the property is by the Cunningham Lake forestry road approximately 100 kilometers from Fort Saint James. (figure 2). *At Latitude 54° 35' and Longitude 125° 30'*



Northwest Geological Consulting Ltd.			
LOCATION Owl PROPERTY			
Scale	Date	NTS	Fig. No.
1:7000000	Aug. 89	93N/3	1

PHYSIOGRAPHY

Elevations range from 760 meters to 1100 meters above sea level. The hillsides are heavily forested with mature spruce, pine, balsam and douglas fir. North facing slopes have a thick cover of underbrush consisting of devil's club and alder, south facing slopes are more open often having meadows. The valley bottoms are treed with poplar, cottonwood and spruce.

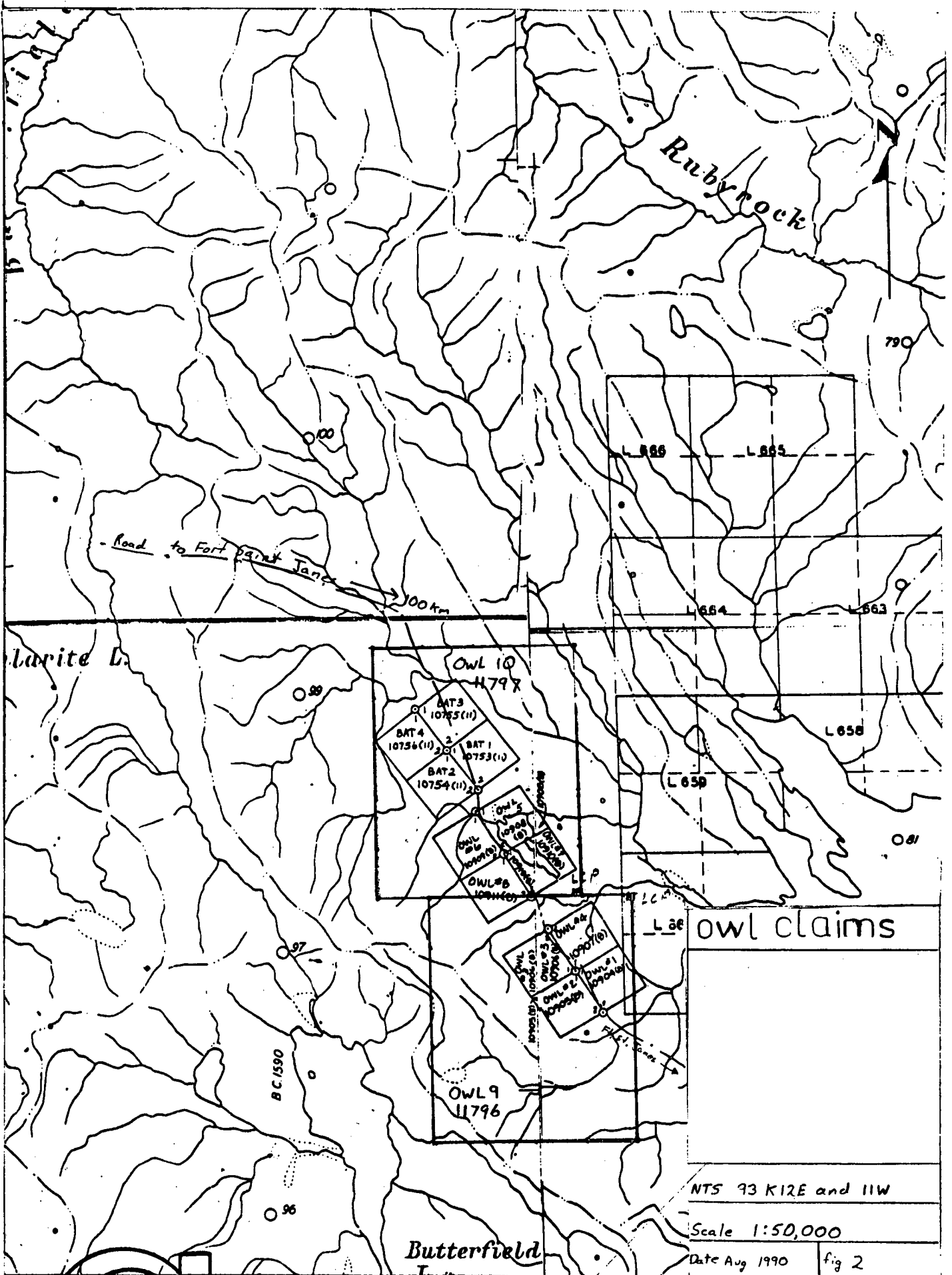
PROPERTY

The Owl property consists of 10 claims listed in the table below: (figure 2)

Claim name	Units	Record #	Staking date	Owner
Owl 1	1	10904	Aug.4/89	W. Halleran
Owl 2	1	10905	"	"
Owl 3	1	10906	"	"
Owl 4	1	10907	"	"
Owl 5	1	10908	"	"
Owl 6	1	10909	"	"
Owl 7	1	10910	"	"
Owl 8	1	10911	"	"
Owl 9	20	11798	May 4/90	"
Owl 10	20	11797	"	A. Halleran

HISTORY

There is no known previous work on the ground covered by the Owl claims. To the east along Cunningham lake, Equity Silver explored a lead-silver-zinc showing in the 1960's. There is no information available on this property. To the southwest a number of companies explored a package of mafic to ultramafic rocks. Information is available in the assessment reports.



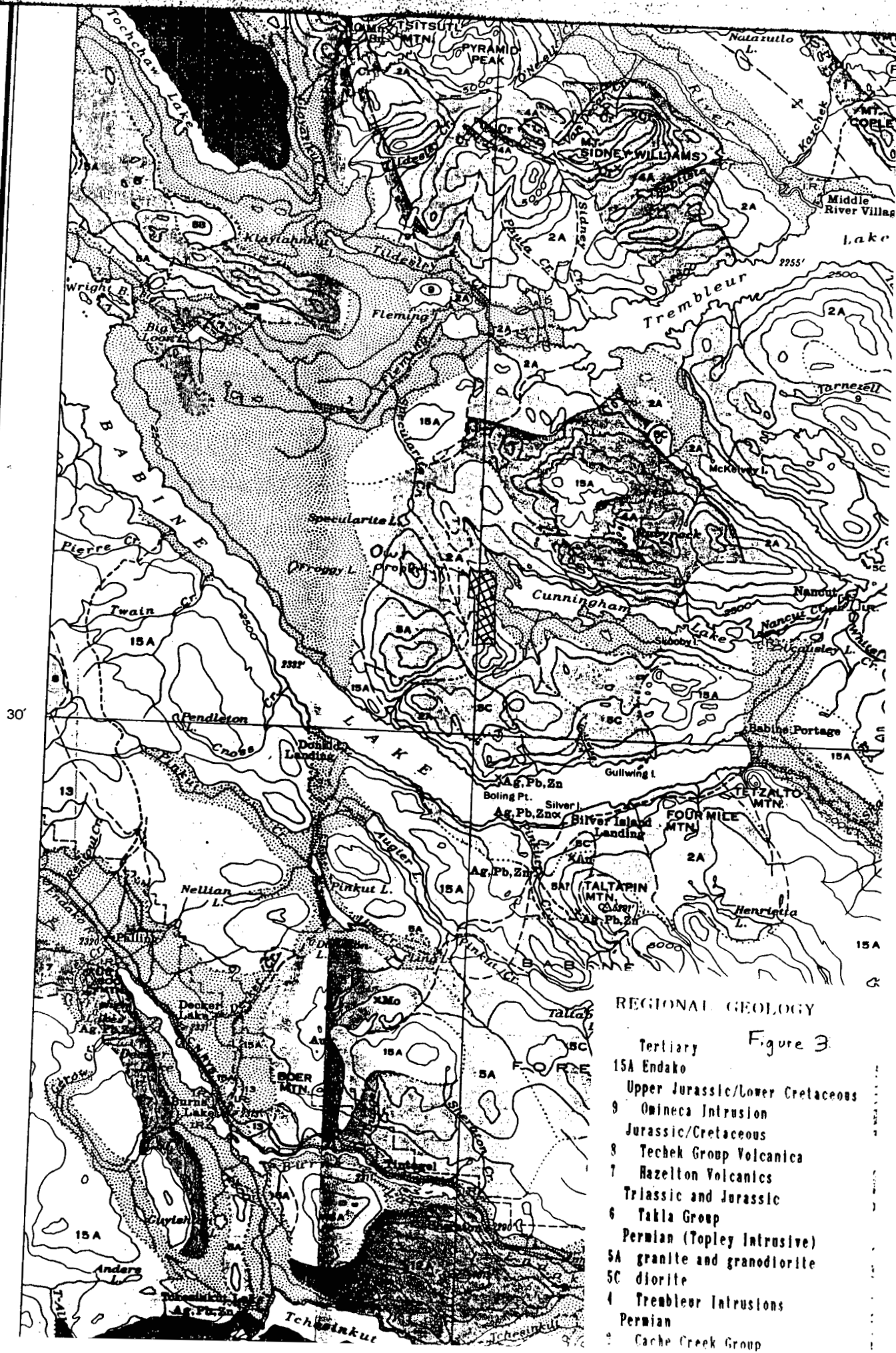
GEOLOGY

REGIONAL GEOLOGY:

The Owl property is situated in a belt of felsic to basic volcanics mapped as the Cache Creek Group, figure 3 (Armstrong 1948). The actual age is most likely different. On the east side of this belt of volcanics, north of Cunningham lake, is a large ultramafic intrusion placed in the Trembleur Intrusions. The western boundary is a serpentized peridotite to diorite intrusion. The GSC aeromagnetic map defines the intrusion very well, figure 4. Farther west the area is covered by the Tertiary Endako group of basalts.

PROPERTY GEOLOGY

The property is underlain by stacked sequence of banded to tuffaceous rhyolites and tuffaceous to massive andesites to rhyodacites. All the units, except for a few of the tuffs, are moderately to very strongly magnetic. Observed contacts are near vertical with strikes of 150 to 160 degrees. A megacrystic K-spar and quartz eye porphyry, tentatively labeled as a quartz-monzonite, intrudes the sequence in the northeast portion of the property. (figure 5 and 6)



REGIONAL GEOLOGY

Figure 3

- Tertiary
- 15A Endako
- Upper Jurassic/Lower Cretaceous
- 9 Omineca Intrusion
- Jurassic/Cretaceous
- 8 Techek Group Volcanics
- 7 Hazelton Volcanics
- Triassic and Jurassic
- 6 Takla Group
- Permian (Topley Intrusive)
- 5A granite and granodiorite
- 5C diorite
- 4 Trembleur Intrusions
- Permian
- 3 Cache Creek Group

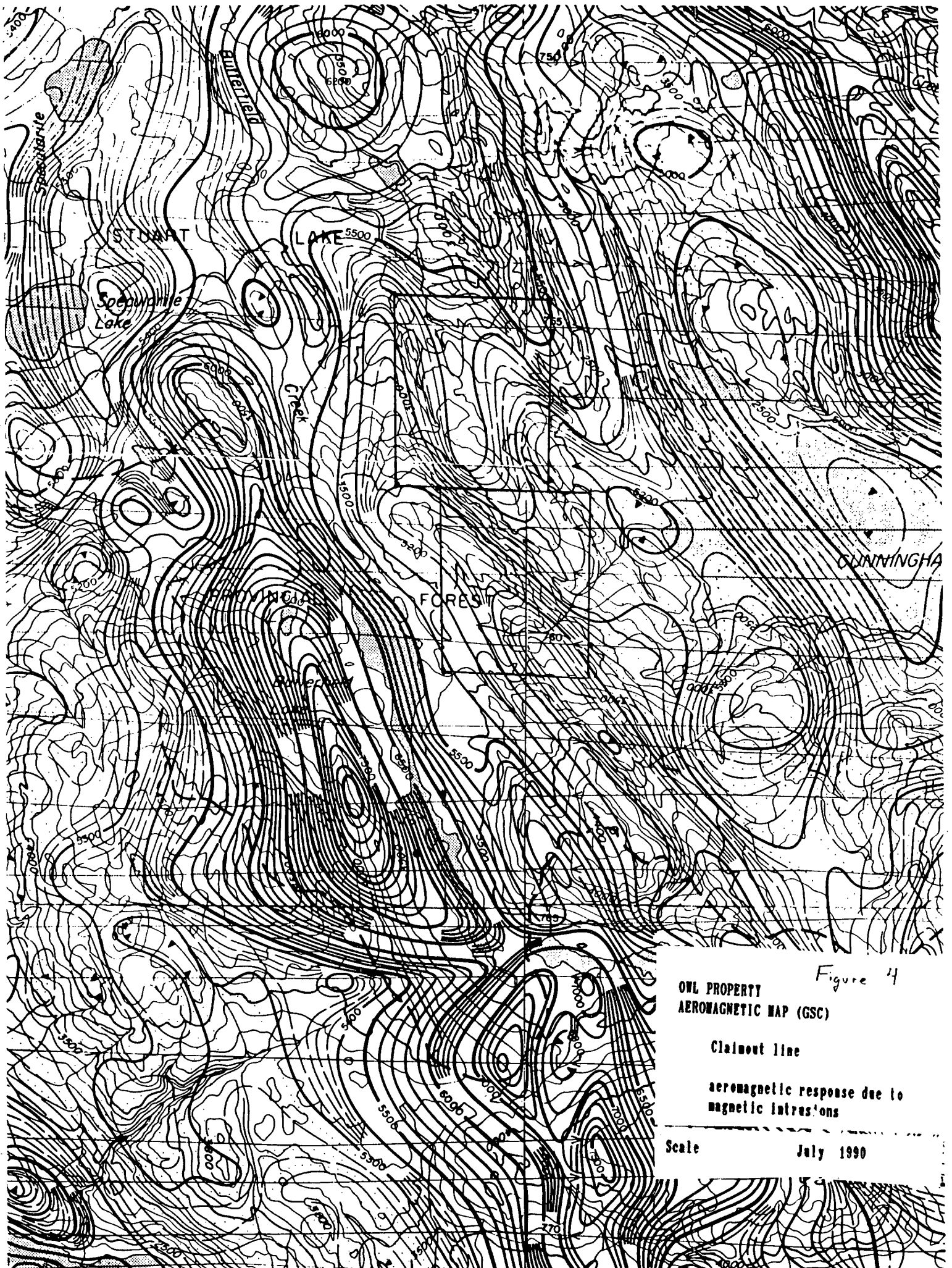


Figure 4

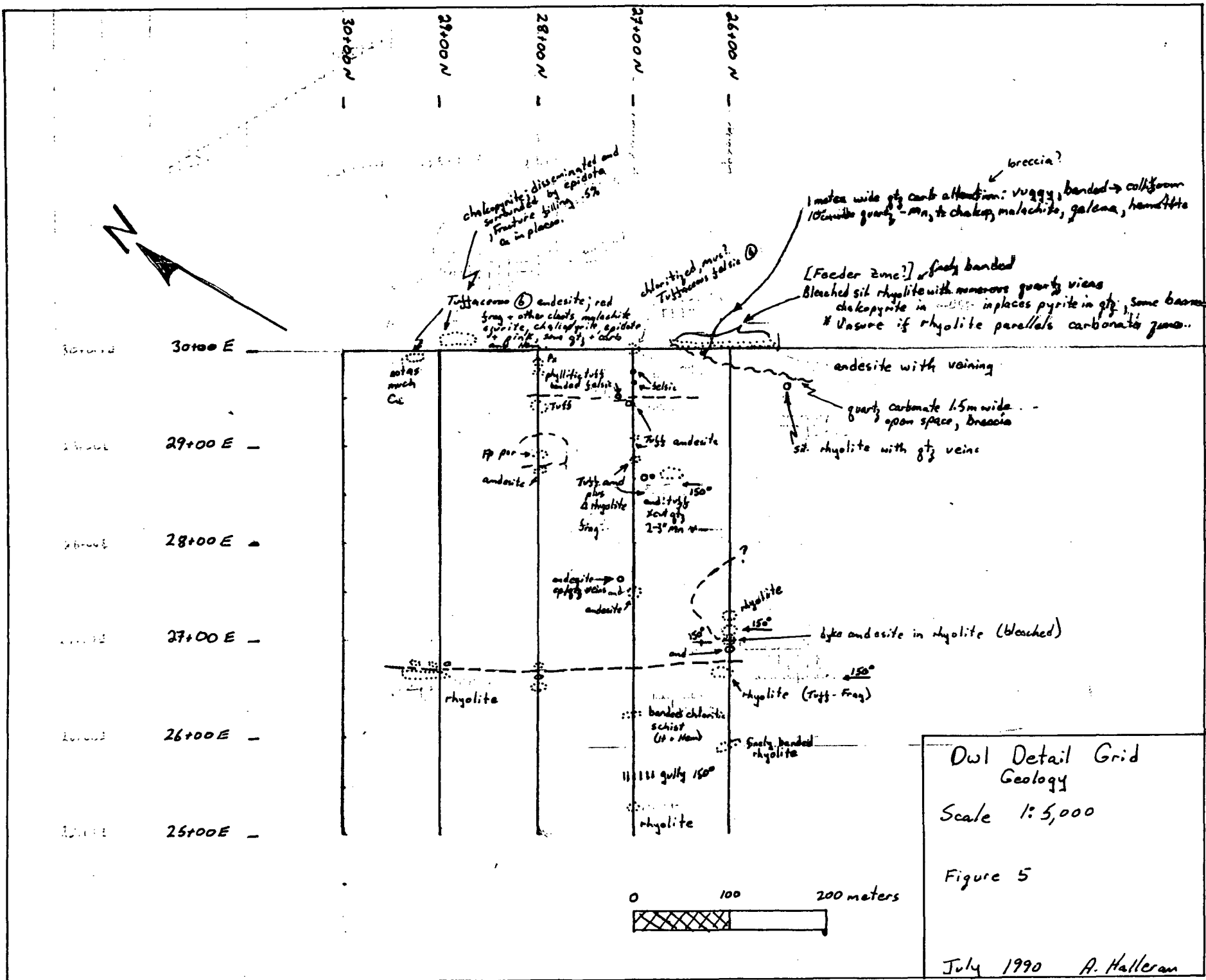
OWL PROPERTY
AEROMAGNETIC MAP (GSC)

Claimout line

aeromagnetic response due to
magnetic intrusions

Scale

July 1990



MINERALIZATION AND ALTERATION

To date four types of mineralization with associated alteration have been found.

1) Five massive sulphide boulders and cobbles have been located. Locations have been plotted on figure 6. A piece of the largest boulder (1x.5 meters) returned 1.28% copper, 0.17 oz/t Ag, and 0.007 oz/t Au. The host rock appears to be a chlorite (+ anthophyllite) altered andesite tuff. These rocks are not magnetic.

2) Disseminated chalcopyrite (with blebs up to 5 sq cm) with or without pyrite in tuffaceous and massive andesites, traced discontinuously for 400 meters and very sporadically for over 2 kilometers. Alteration varies from chlorite-epidote on Owl claims 5-8 to potassic (k-spar-quartz veins with sericite?) on Owl 9. Rhodochrosite blebs and veins have also been noted in this unit on Owl 9. Copper grades are highest on Owl 5-8 claims (blebs not sampled), 0.6% copper, 17.8 ppm silver, and 37 ppb gold. This unit is often extremely magnetic.

3) Stringer quartz with chalcopyrite in silified rhyolite tuffs and tuffaceous andesite. Traced continuously over 100 meters but found in place over kilometers of strike length. Highest geochem was 1.0% copper, 14.8 ppm silver, and 360 ppb gold.

4) Two basic types of mineralized veins are present

1) Vuggy, drusy quartz with colloform manganese, hematite, and trace chalcopyrite.

ii) Quartz-carbonate in quartz-carbonate altered volcanic breccia. Widths vary from centimeters to 1.5 meters. Highest values are 0.46% copper, 416.9 ppm silver and 0.063 oz/t gold.

Hematite and epidote are wide spread. The banded rhyolite contains bands and wisps (clasts?) of magnetite.

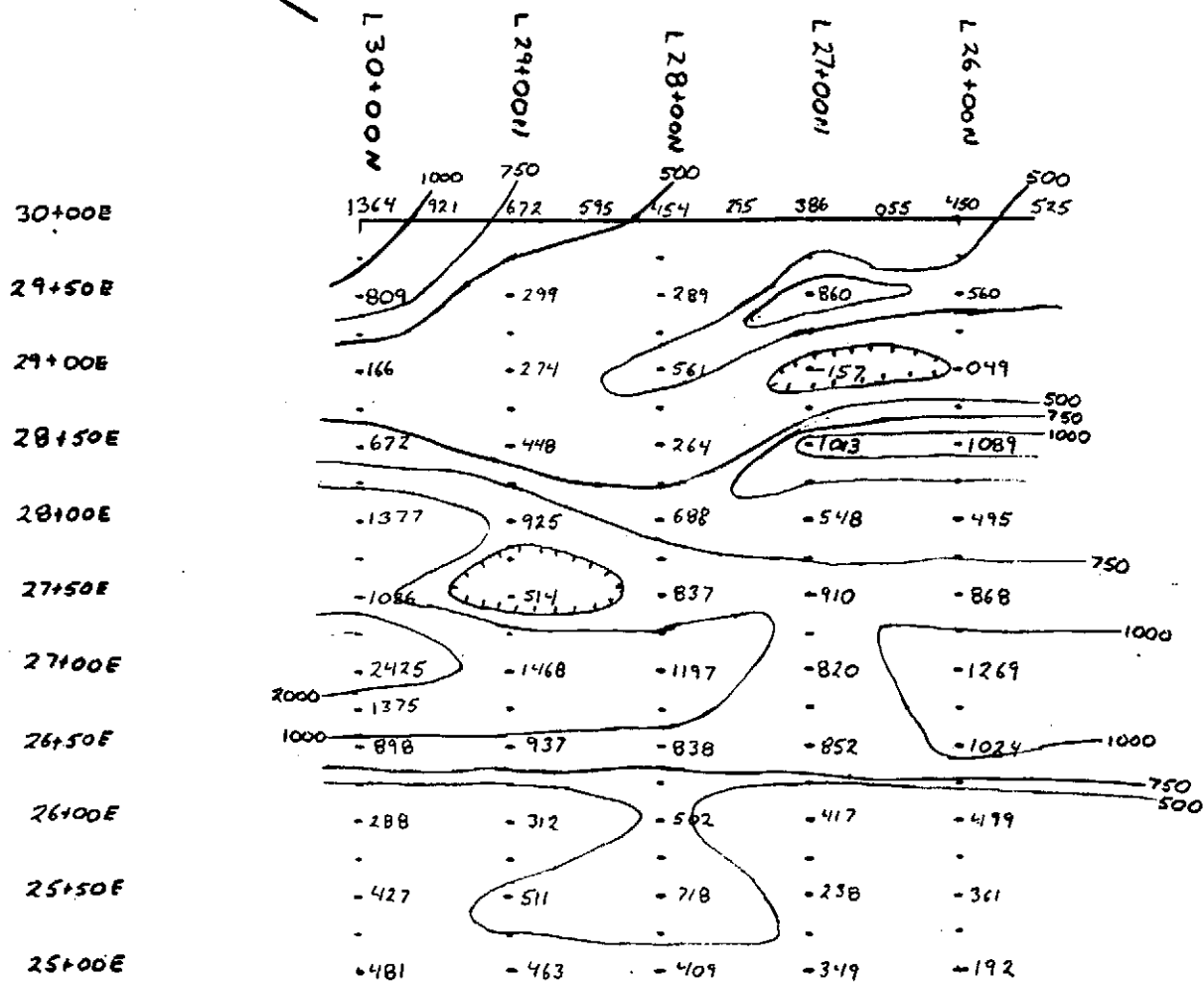
GRID

A small grid was placed over an area of good rock exposure in the vicinity of the massive sulphide boulders. This grid was placed to help in detailed mapping of this area and to test the magnetic response of the underlying units.

The grid covers an area of 2.0 square kilometers. Lines were marked by pink fluorescent flagging and were placed every 100 meters with stations marked every 50 meters with tyvek tags tied with blue and pink flagging.

MAGNETOMETER SURVEY

A magnetometer survey was conducted over the grid, utilizing a scintrex MP3 proton procession magnetometer. Base reading were taken along the baseline every 50 meters. Readings were taken every 50 meters along crosslines. Diurnal shift was so slight no corrections were needed on the readings. All values have had 57000 gammas subtracted from them to compensate for the background count. Values range from -157 to 2425 gammas above background. The values have been contoured at values of 0, 500, 750, 1000, and above 2000 gammas. (figure 7)



scale: 1:5000

owl detail grid

magnometer survey

instr: Scintrex MP-3 Proton Precession

Contours at 0
500
750
1000
2000 gammas

Date Aug 1970

fig. 2

BY WHITTIERAN

RESULTS

It would appear that the magnetometer survey delineates different rock units. Figure 8 shows the profile of lines 30+00N and 27+00N, the two most dissimilar lines, and corresponding rock units.

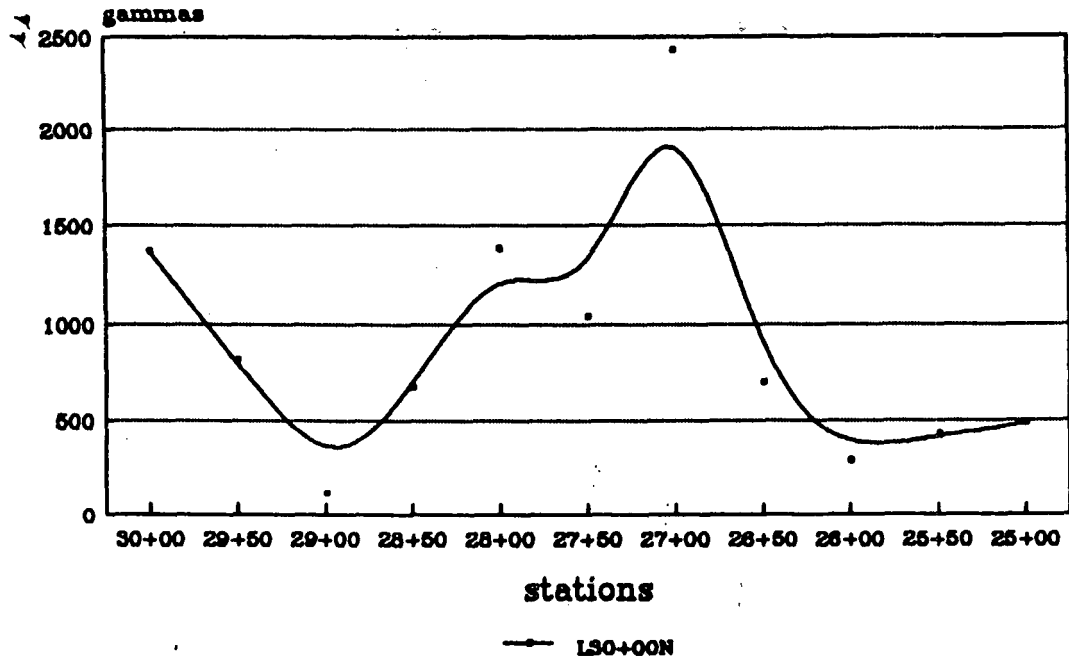
It is apparent from the contoured magnetic gradient map that the geology on the northeast portion of the grid is fairly complicated. The small magnetic anomaly that runs from L26+00N to 28+00N at stations 29+50E to 29+00E corresponds to the mapped "feeder" zone, and andesite containing feldspar phenocrysts. The magnetic high at station 29+00E L27+00N may be more massive mineralization or less altered andesite tuff.

The magnetic low found on lines 27+00N and 26+00N at station 29+00E may be caused by massive sulphide mineralization as the only rocks found on the property that weren't magnetic were the massive sulphide boulders. An outcrop just east of this low consists of a mixed andesite-rhyolite breccia. Immediately to the west is an andesite tuff cut by quartz veins. This unit is represented by a large increase in the magnetic gradient, over 1000 gammas.

The magnetic gradient map defines two general units in the western half of the grid. The central magnetic high appears to be andesite tuffs with some rhyolite (altered andesites). The most western portion is underlain by rhyolite which gives a response of between 238 and 718

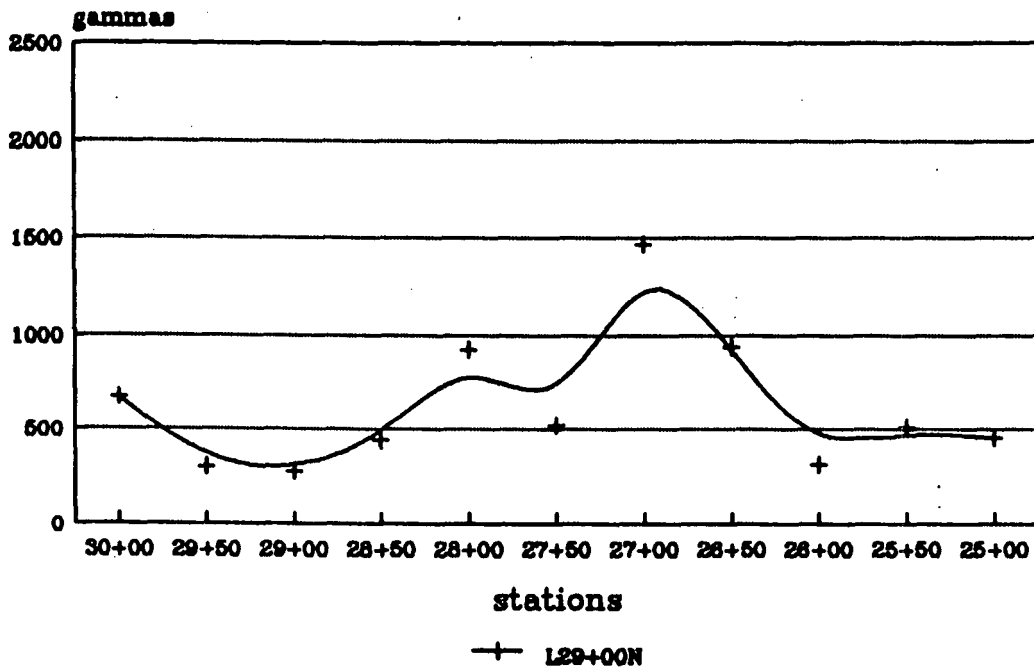
MAGNETOMETER PROFILE

L30+00N



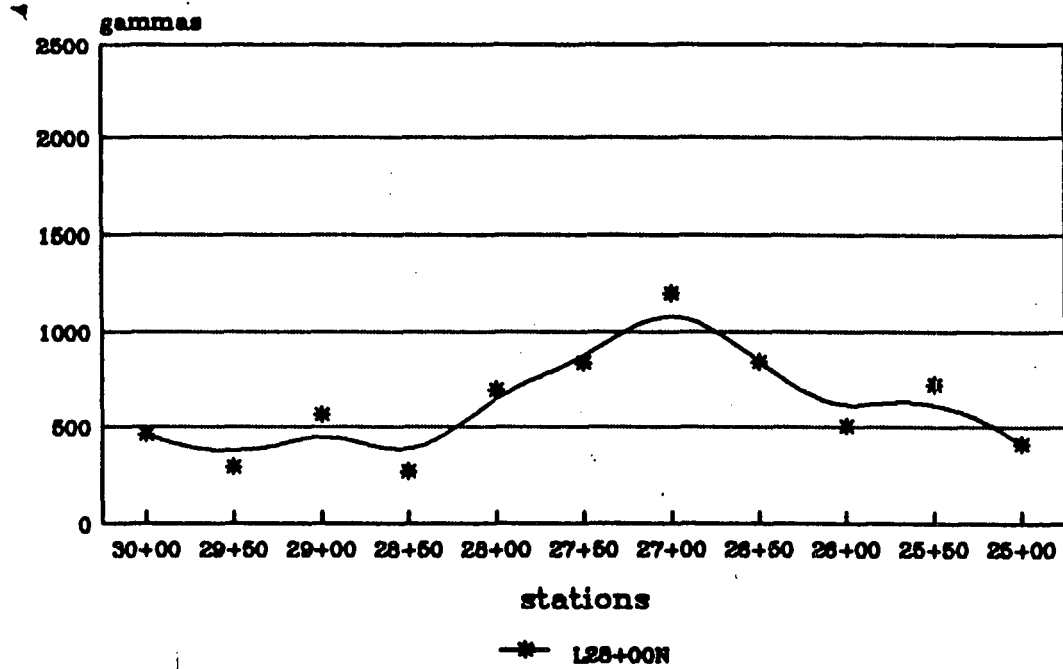
MAGNETOMETER PROFILE

L29+00N



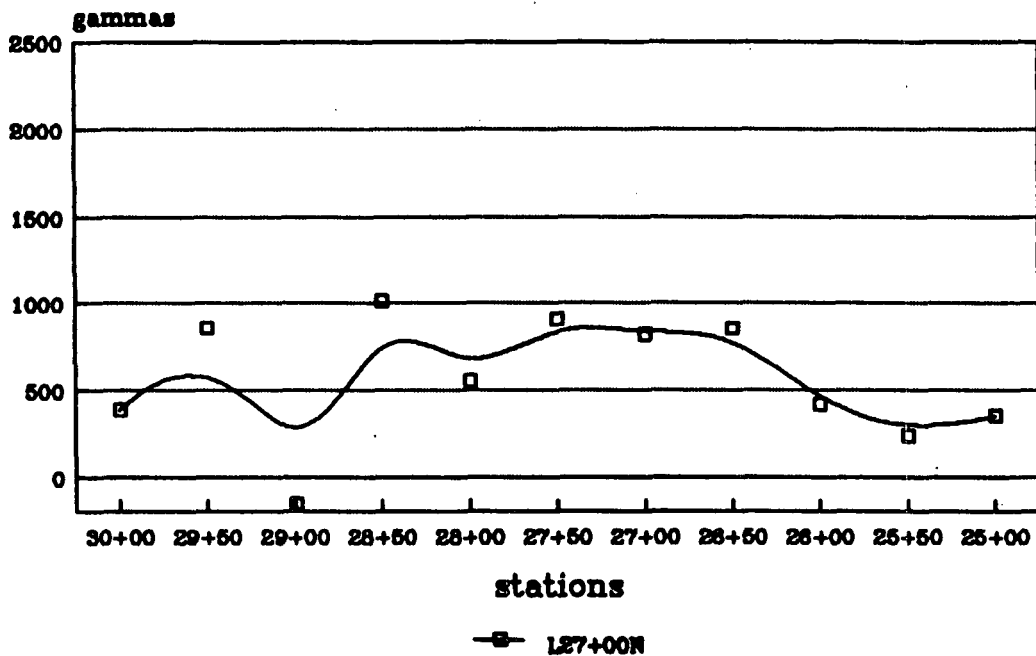
MAGNETOMETER PROFILE

L28+00N



MAGNETOMETER PROFILE

L27+00N



MAGNETOMETER PROFILE L26+00N

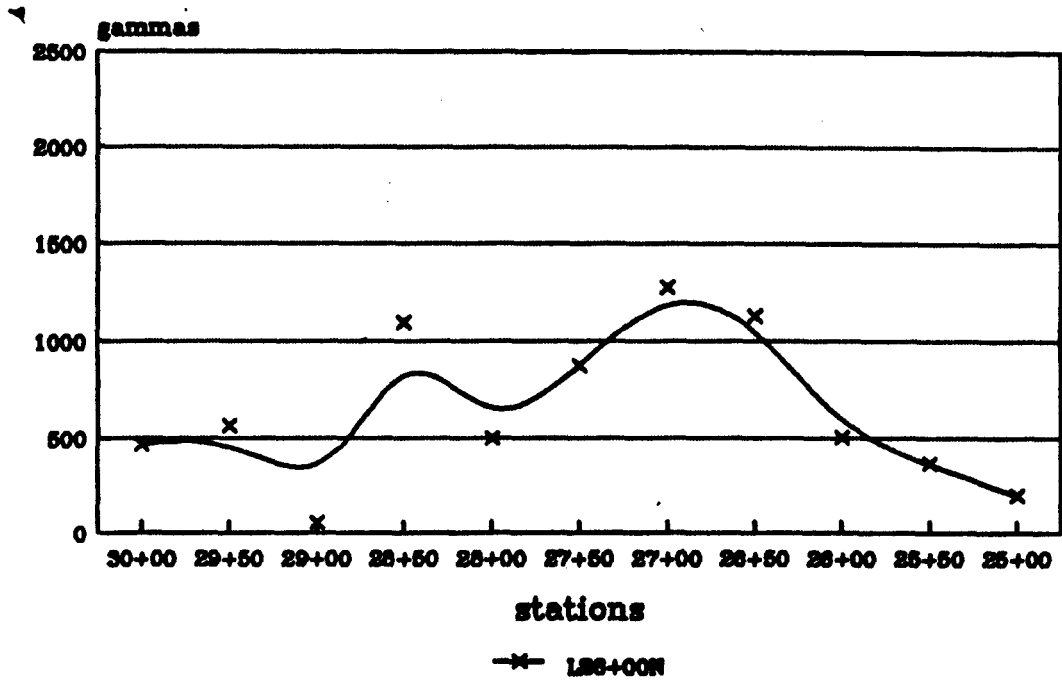
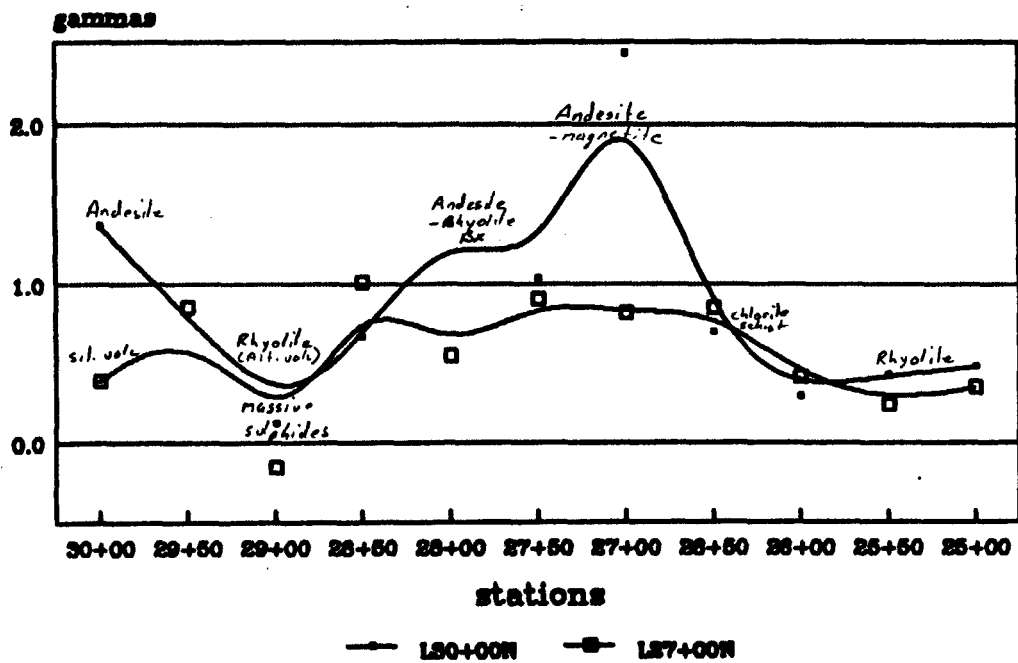


FIG 8

MAGNETOMETER PROFILE L30+00N and 27+00N



gammas. The contact between the two units above is marked by a very sharp drop in magnetic gradient, and is underlain by a chloritic schist. The gradient is from under 500 gammas to over 1000 gammas from west to east in less than 25 meters. Figure 9 is an interpretation of the geology utilizing the magnetic responses of the different rock units.

CONCLUSIONS AND RECOMMENDATIONS

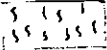
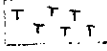
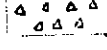
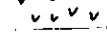
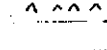
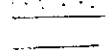


Geological mapping and prospecting have uncovered geology, mineralization, and alteration consistent with volcanogenic massive sulphide deposits. The geology is a stacked sequence of tuffaceous to massive andesites and rhyolites. The mineralization includes silver, gold, and copper epithermal veins. Some of which could be feeder zones to massive sulphide mineralization. Disseminated chalcopyrite throughout much of the rock indicates mineralization is wide spread. In addition massive sulphide boulders have been found which appear not to have traveled very far.

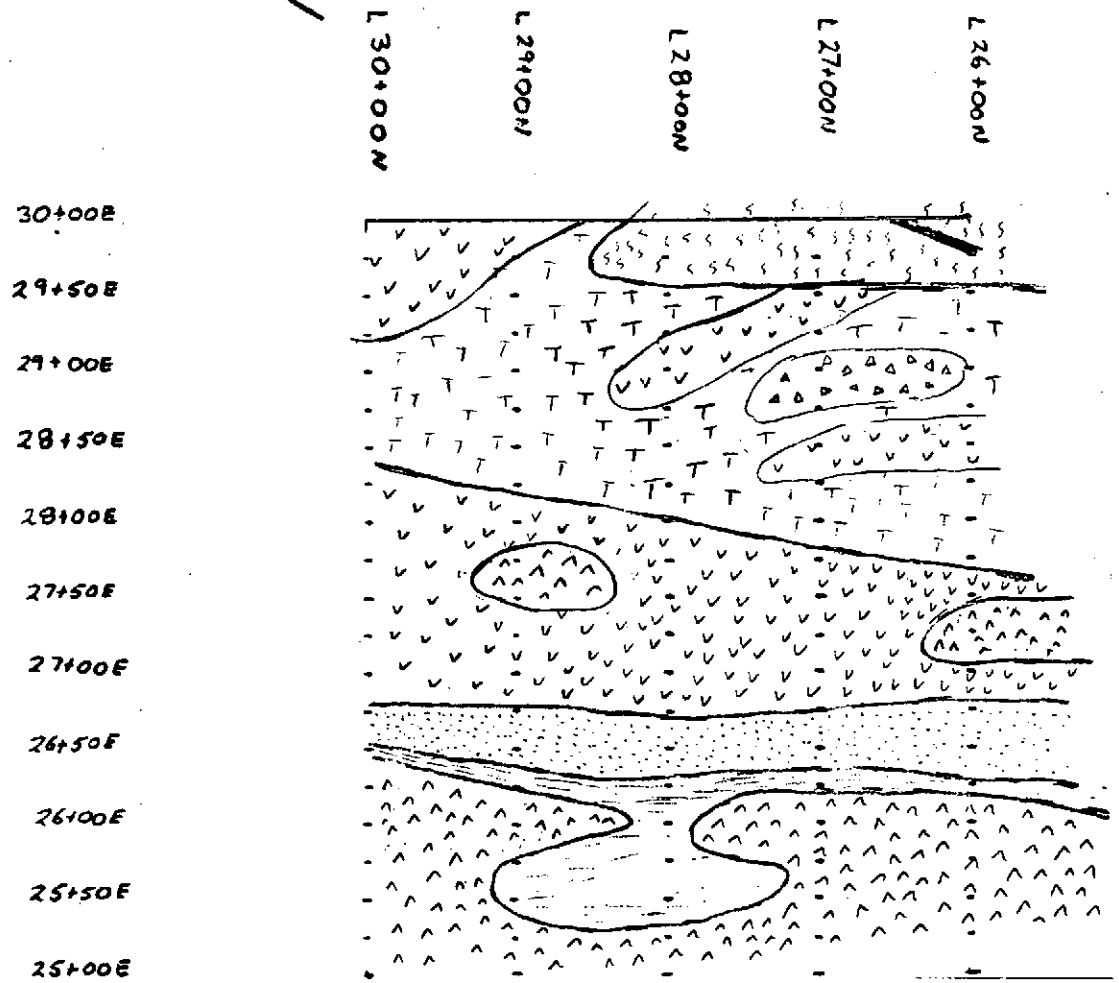
Alteration varies from potassic, distal to the area of feeder zones, to chloritic proximal to these veins.

The magnetometer low (to negative values) may represent massive sulphide mineralization. The magnetometer survey shows that a magnetometer would be a useful tool for geological mapping.

The property has very little work on it so a program including geological mapping, a magnetometer, an E.M., and geochemical survey should be conducted over the property.

LEGEND

- altered and silified
volcanics 
- Andesite Tuffs 
- Andesite and rhyolite breccia 
- Andesite 
- rhyolite (banded)
(some may be silified
Andesite) 
- rhyolite tuff with wisps
of magnetite 
- "chloritic" schist 
- quartz-carbonate vein 



owl detail grid

geology

Geology of this map is an
interpretation of outcrop and
magnetometer response.

Date Aug/90

fig. 9

BY W. Halleran

SAMPLE DESCRIPTIONS

SAMPLE NUMBER	DESCRIPTIONS
C-1	Manganese-iron oxide soil
C-2	Carbonate-manganese/iron oxide tuff breccia. Chalcopyrite associated with black oxides and minor chalcedony veining with minor malachite
C-3	1 large piece of siliceous tuff with a small stringer of chalcopyrite, minor pyrite and hematite (2 specks)
C-4	Quartz vein with epidote fragments with chalcopyrite and malachite in light green feldspar rich volcanic
C-5	Purplish tuff with quartz and chalcopyrite blebs with iron oxides
C-6	Hematite vein (antamosing) between siliceous tuff as above and greenish foliated volcanic
Owl-1	Calcite vein with black sulphide. 4 inch vein
Owl-2	Pyrite-chalcopyrite (10%) in in siliceous foliated tuff
Owl-3	Quartz and chalcopyrite along fractures in dark green volc.
831 A	Calcite and siderite veining in altered (schistose) volcanic 1 piece, fist size
831 B	Calcite, quartz, siderite and ankerite veins. Episodic, open spaces in bleached silicified volcanic with greenish-pinkish alteration. Blebs and stringers of bornite and grey sulphides with some malachite staining. 1 piece, fist size.
831 C	Quartz vein with hematite and grey sulphides in volcanic.

SAMPLE DESCRIPTIONS

Continued

Sample numbers**Descriptions**

831 D	Chalcedony-quartz veins with ankerite and hematite in schist
832	Altered brecciated volcanics with calcite, manganese minor bornite, chalcopryite, and malachite
833	Quartz-kspar-chalcopryite vein in fine grained greenish volcanic
835	Massive sulphides
844	1-2 cm wide quartz-manganese-iron oxide vein with chalcopryite

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: AUG 11 1989
DATE REPORT MAILED: Aug. 16/89...

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN PB SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

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

A.D. HALLERAN FILE # 89-2848

SAMPLE#	Cu PPM	Zn PPM	Ag PPM	As PPM	Ba PPM	Au* PPB
X 831A	11	251	.3	7	109	6
X 831B	1505	304	306.4✓	10	29	15
831C	14	113	2.0	7	63	2
831D	28	248	.2	2	41	153
X 832	1660	308	24.4	14	66	70
833	905	114	3.5	3	192	360
844	4647	250	24.1	10	70	123
STD C/AU-R	61	132	6.7	40	180	520

- ASSAY REQUIRED FOR CORRECT RESULT -

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: AUG 11 1989
DATE REPORT MAILED: Aug. 16/89...

ASSAY CERTIFICATE

- SAMPLE TYPE: ROCK

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

A.D. HALLERAN FILE # 89-2848A

SAMPLE#	Cu %	Zn %	Ag OZ/T	AU OZ/T
835	1.28	.01	.17	.007

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR Hg Pb Sr Ca P LA CR NG BA YU B W AND LIMITED FOR NA K AND AL. AN DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: ROCK AD* ANALYSIS BY ACID LEACH/AA FROM 10 GR SAMPLE.

DATE RECEIVED: JUL 25 1989 DATE REPORT MAILED: *July 29/89* SIGNED BY: *C. Long* D. TOYE, C. LEONG, J. HANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	V	AuP
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	%	%	%	PPM	PPM	
OML-1	1	27	58	470	.3	5	12	37049	10.63	52	5	ND	5	145	2	2	5	2	.15	.004	2	1	.09	783	.01	3	.02	.01	.01	1	12
OML-2	5	10435	2	176	16.8	17	51	1833	7.08	4	5	ND	1	16	2	2	2	32	1.76	.029	10	13	.75	38	.08	2	1.16	.01	.60	1	127
OML-3	6	1092	16	39	2.6	12	1	631	.90	2	5	ND	1	15	1	2	2	6	.64	.010	4	9	.14	628	.01	5	.22	.01	.08	1	18

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	V	AuP
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppb	
OML-AH-901	1	28	45	409	5.0	19	40	64599	32.51	36	5	ND	8	34	11.5	2	13	9	.04	.005	2	5	.12	9	.01	2	.10	.01	.03	1	37
OML-AH-902	1	6945	9	54	11.6	9	1	1964	6.02	2	5	ND	1	39	.7	2	3	55	2.75	.023	9	16	.09	81	.02	4	.39	.01	.14	1	25
STANDARD C/AU-R	17	62	37	132	7.2	67	30	1024	3.92	39	17	7	36	50	18.6	15	18	56	.50	.092	37	56	.88	180	.08	35	1.92	.06	.13	11	530

ET#	DESCRIPTION	AU(PPB)	AG	AL(%)	AS	B	BA	BI	CA(%)	CB	CC	CD	CE	CF(%)	K(%)	LA	MG(%)	NI	NO	NA(%)	NI	P	PB	SB	
212	-P1 OML on core	<5	1.8	.12	<5	<2	70	<5	9.56	<1	10	9	9	2.39	.06	<10	5.12	3591	4	.04	23	170	94	5	
212	-P2 OML on core	10	14.0	.29	5	<2	50	<5	9.02	<1	10	14	83	2.25	.10	<10	5.11	3623	2	.03	14	340	48	5	
212	-P3 OML Tuff?	4	5	.6	<5	<2	70	<5	.53	<1	13	84	1602	5.65	.28	<10	.42	982	8	.05	7	910	10	5	
212	-P4 OML in	5	>1000	5.6	.21	10	<2	35	<5	7.51	8	21	51	246	8.79	.16	<10	.91	3374	6	.04	13	390	148	10
212	-P5 OML R ₃ breccia	25	3.4	.23	<5	<2	5	<5	.81	2	303	12	4947	9.11	.01	<10	.27	573	7	.03	14	1860	8	40	
212	-P6 OML @ 1/2 Cap	110	7.8	.21	5	<2	20	<5	8.71	4	40	60	675	9.26	.10	<10	4.36	3500	8	.04	183	250	450	15	
212	-P7 OML wall line at above	480	15.0	.47	10	<2	45	<5	5.00	3	51	149	1011	9.06	.34	<10	.36	3434	9	.04	183	1100	684	10	

SM	SR	TI(%)	W	V	B	Y	ZN
<20	483	<.01	<10	14	10	3	298
<20	411	<.01	<10	18	<10	2	225
<20	12	.02	10	80	<10	1	77
<20	89	<.01	<10	23	20	3	<528
<20	4	.01	<10	13	500	1	100
<20	241	<.01	<10	37	30	6	869
<20	84	<.01	<10	69	40	6	951

Jutta Jealouse
 JUTTA JEALOUSE
 B.C. CERTIFIED ASSAYER

ECO-TECH LABORATORIES LTD. 7. 5. 1989

STATEMENT OF COSTS

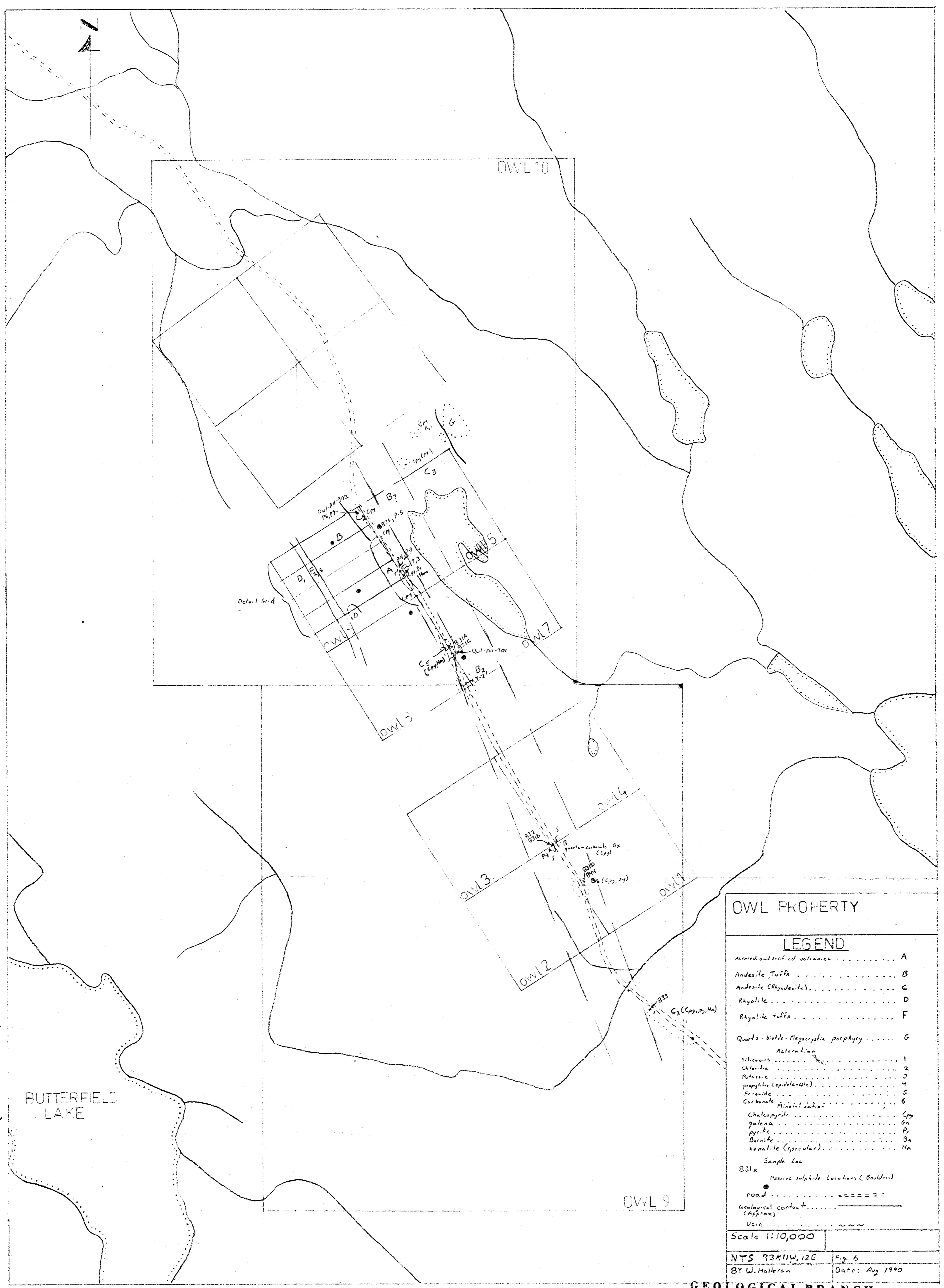
Personnel	Dates (1990)	Rate	Total
A.D. Halleran	April 27, June 15, 17-19	350/day	1750.00
A.A.D. Halleran	May 1-5, June 15 and 30	350/day	2450.00
W. Halleran	May 1-5, June 15, 17-19, 24, 30	350/day	3850.00
			8050.00
Camp and Field costs...23 mandays @ 50.00/day.....			1150.00
Rentals			
4x4 pickup...11 days @ 55.00/day.....			605.00
ATV.....11 days @ 45.00/day.....			495.00
Magnetometer (MP3) 2 days @ 25/day.....			50.00
Fuel.....27.36/trip x 3 trips.....			82.08
			1232.08
Office Costs (drafting, repro. etc).....			150.00
Analysis			
12 samples for 30 element ICP and Au by A.A.....			135.75
7 samples for 5 element ICP and Au by A.A.....			63.75
1 sample for 4 element Assay.....			19.00
			218.50
TOTAL.....			10,800.58

CERTIFICATION OF QUALIFICATIONS

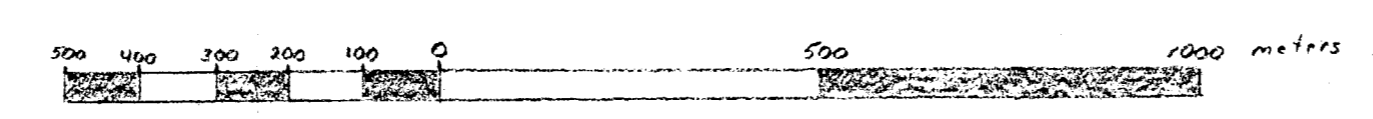
I, Will Halleran, of 406-1250 Comox Street, Vancouver B.C. do hereby declare:

- 1) I am a 1983 graduate of the University of British Columbia with a B.Sc. degree in Geology
- 2) I have practised my profession continuously since graduation in the Yukon, B.C. and N.W.T.
- 3) This report is based on my field examinations of the property and available government reports.

125° 30'



OWL PROPERTY	
LEGEND	
Asteroid and sulfid volcanics	A
Andesite Tuffa	B
Andesite (Rhyolite)	C
Rhyolite	D
Rhyolite tuffs	F
Quartz-biotite-Margaritic porphyry	G
Alteration	
Siliceous	1
Chlorite	2
Pyritic	3
Propylitic (epidote)	4
Ferrous	5
Carbonate mineralization	6
Chalcopyrite	Cpy
Galena	Gn
Pyrite	Py
Bornite	Bn
Wenatchite (specular)	Hn
Sample Loc	
B31x	Passive sulphide locations (Boulders)
road	=====
Geological contact (Approx)	-----
Vein	~~~~~
Scale 1:10,000	
NTS 93K11W, 12E	Fig. 6
BY W. Halloran	Date: Aug 1990



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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