

86-627-13893

PRELIMINARY GEOCHEMICAL AND GEOPHYSICAL REPORT
ON THE MORNING TOAD PROPERTY
NELSON MINING DISTRICT, BRITISH COLUMBIA
DIVISION

SUB-RECORDER
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MINISTRY OF ENERGY, MINES
AND PETROLEUM RESOURCES
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OCT 27 1986
SUBJECT
FILE
VANCOUVER, B.C.

A.G.
A.G. 1-6
Whiskers
Black Witch c.g.
Tough Nut c.g.

N.T.S. reference
Latitude
Longitude

82 F/6W
49° 26' N.
117° 30' W.
20.5'

Author: Gordon Addie, Geologist
Work Dates: August 10 - September 3, 1985
July 29, 1986
Report Date: October 26, 1986

FILMED

Owner(s): Gordon Addie
Lloyd Addie
Operator: Gordon Addie

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,893

TABLE OF CONTENTS

		<u>Page</u>
1.	<u>Introduction</u>	
1.1	Location and Access	1
1.2	Claims and Ownership	1
1.3	Physiography and Vegetation	1
1.4	Past Work	5
1.5	Summary of Present Work	5
2.	<u>Geology</u>	
2.1	Regional Geology	6
2.2	Local Geology	6
3.	<u>Geochemistry</u>	
3.1	Soil Geochemistry	9
3.1.1	Sampling Procedures	9
3.1.2	Determination of Anomalous Values	9
3.1.3	Discussions of Results (Ag, Au, Pb, Zn, Hg, Sb)	14
3.1.4	Follow-up sampling Procedure and Results	14
3.2	Rock Geochemistry	14
3.2.1	Sampling Procedures	14
3.2.2	Determination of Anomalous Values	14
3.2.3	Discussion of Results	15
3.2.4	Follow-up-procedure and Results	15
4.	<u>Geophysics</u>	
4.1	Proton Magnetometer-Type and Procedure	17
4.2	Discussion of Results	17
5.	<u>Conclusions</u>	18
6.	<u>Recommendations</u>	19
7.	<u>Bibliography</u>	20

FIGURES

Figure No.	Title	Page
1	Location Map	2
2	Detailed Map Location	3
3	Claim Map	4
4	Regional Geology	7
5	Preliminary Property Geology	8
6a, b	Gold - Soil Geochemistry	10,11
6c	Lead - Soil Geochemistry	12
6d	Zinc - Soil Geochemistry	13
7	Rock Geochemistry	16

Appendices Following Text

Appendix A:	Statement of Qualifications
B:	Laboratory Procedures and Certificates of Analyses
C:	Table of Magnetometer Data
D:	Itemized Cost Statement

1. INTRODUCTION

1.1 Location and Access (Figures 1 & 2)

The Morning Toad claim group is located on Toad Mountain, seven kilometres south west of Nelson in the Nelson Mining Division, B.C.

Directions:

From Highway 6, turn up the Giveout Creek Forestry Road and continue until crossing Give-out Creek. The four-wheel drive road on the uphill side is the old Silver King Mine road. Continue up this road until crossing the West Branch of Give-out Creek. The skid trail leading up the creek continues to the showings on the ridge.

One-way travel time is 40 minutes from Nelson by truck and another 40 minutes walking up to the showings.

Alternatively, an Okanogan helicopter is permanently based in Nelson and can provide quick access directly to the ridge.

1.2 Claims and Ownership (Figure 3)

The property consists of twelve claims and two crown-granted claims. Claim data is as follows:

Name:	Record No.:	Units:	Record Date:	Registered Owner:
A.G.	4248	1	Oct 9, 1985	L. Addie
A.G. 1-6	3829-3834	6	July 27, 1984	L. Addie
Whiskers 1-5	3926-3940	5	Oct 9, 1984	R. Palmer
Black Witch c.g. L. 199		1		R. Palmer
Tough Nut c.g. L. 4146		1		R. Palmer

1.3 Physiography and Vegetation

The elevation of the property varies from 1500 to 2000 meters. Glacial erosion has rounded the ridges and the lower slopes have accumulations of glacial drift. The relief is moderate to steep. Outcrop is limited to small bluffs and outcrops on steeper slopes, the ridge, and in the stream gullies. Soil horizons are generally well developed, with the depth to bedrock less than one meter near the ridge. The snow-free season is June to October.

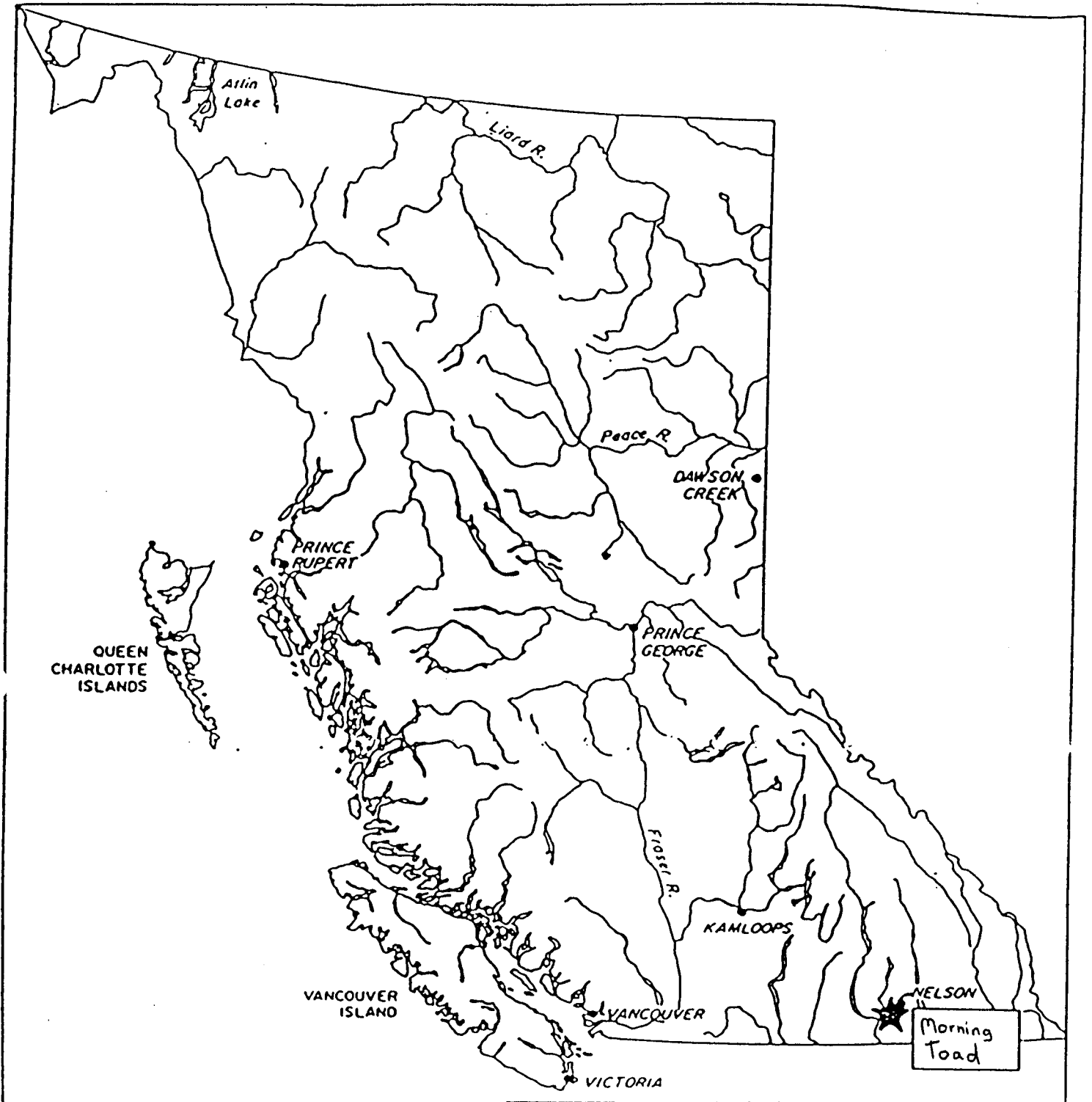
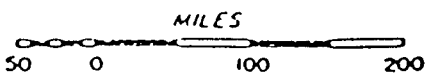
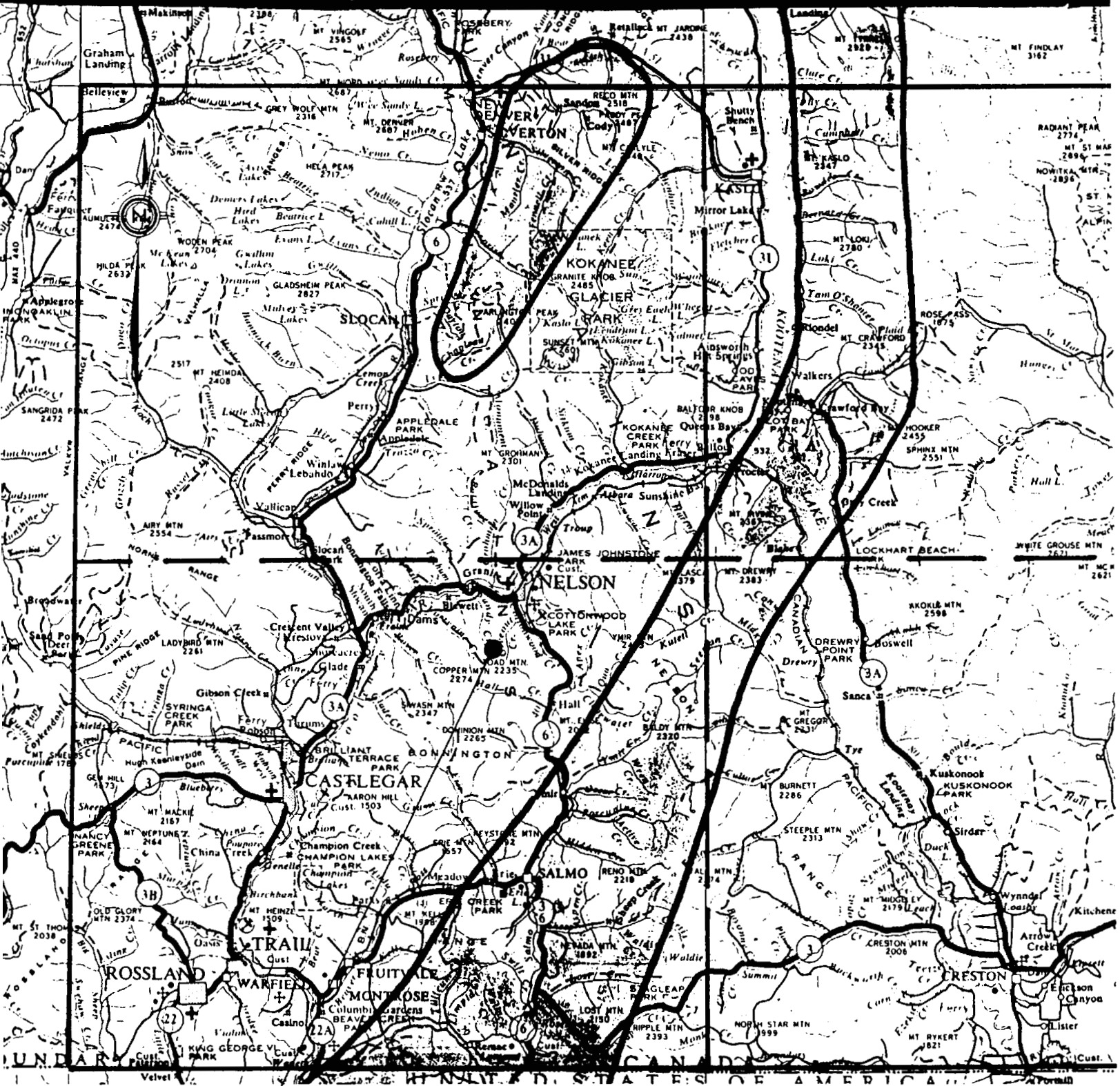


Figure 1. Location Map

Morning Toad Claim Group





Morning Toad Group

Figure 2. Detailed location Map (1:250 000 scale)

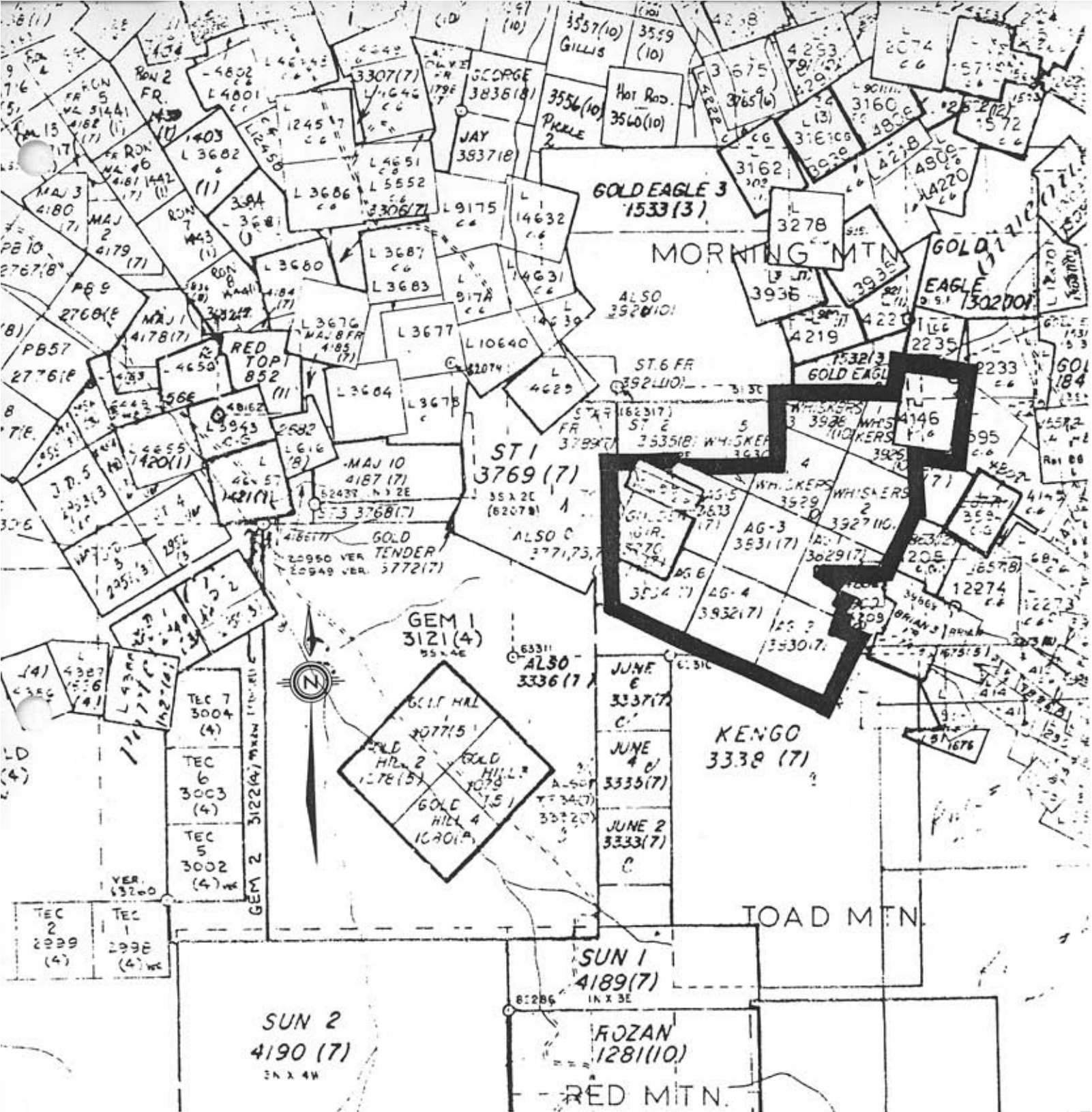


Figure 3. Morning Toad Claim Group.

Vegetation is second growth conifers with moderate undergrowth. Heavy "buckbrush" and Devils's Club grow in stream valleys and on saturated slopes.

1.4 Past Work

Prospecting in the area commenced in 1880 and by 1886 the Hall brothers had brought the nearby Silver King mine into production. The 1890-91 G.S.C. Annual Report (p.172s) mentions some of the workings within the present claim group.

On the Sandy Creek slope of the mountain are some important locations, among which are the Toughnut and Evening. On the former a shaft has been sunk 80 feet, and a tunnel run 127 feet. The vein is from four to eight feet wide, and contains ore of a high grade character...A tunnel has been run in the Evening, which is an extension of the Toughnut, a distance of 137 feet, in addition to an incline 65 feet.

The property also contains several shafts, drifts, and inclines for which there is no record.

In 1974, Granby Mining Co. Ltd. drilled three holes totalling 610 feet. Drill results were negative.

1.5 Summary of Present Work

A preliminary exploration programme was carried out over an area of known mineralization. Trail-clearing and placement of a 400x700m grid over the area of interest commenced on August 15, 1985. Soil sampling then resulted in a total of 59 samples being collected at 40m intervals on lines spaced 100m apart. A magnetometer survey was then carried out along the same grid lines, with a station every 5 or 10m. The last day on the property, September 3, 1985, was spent mapping old showings and prospecting. This resulted in the collection of 19 rock samples for analysis, three thin sections, and two lead samples for possible age-dating.

July 25, 1986 was spent resampling a gold anomaly found during the first stage. Sixteen soil samples were collected, along with 11 rock samples, nine of which were from the soil pits.

2. GEOLOGY

2.1 Regional Geology (Figure 4)

The Morning Toad claims are within the Elise Formation of the Rosslund Group. The rocks are lower Jurassic marine volcanics with minor interbedded sediments. The formation is mainly comprised of andesite and basalt, metamorphosed to greenschist facies. Agglomerates, flow breccia, tuff, minor shales and siltstones also occur. The top of the formation is interbedded with soft carbonaceous sediments of the Hall Formation. The thickness of the unit is from 1000 to 2750m. (Little, 1985)

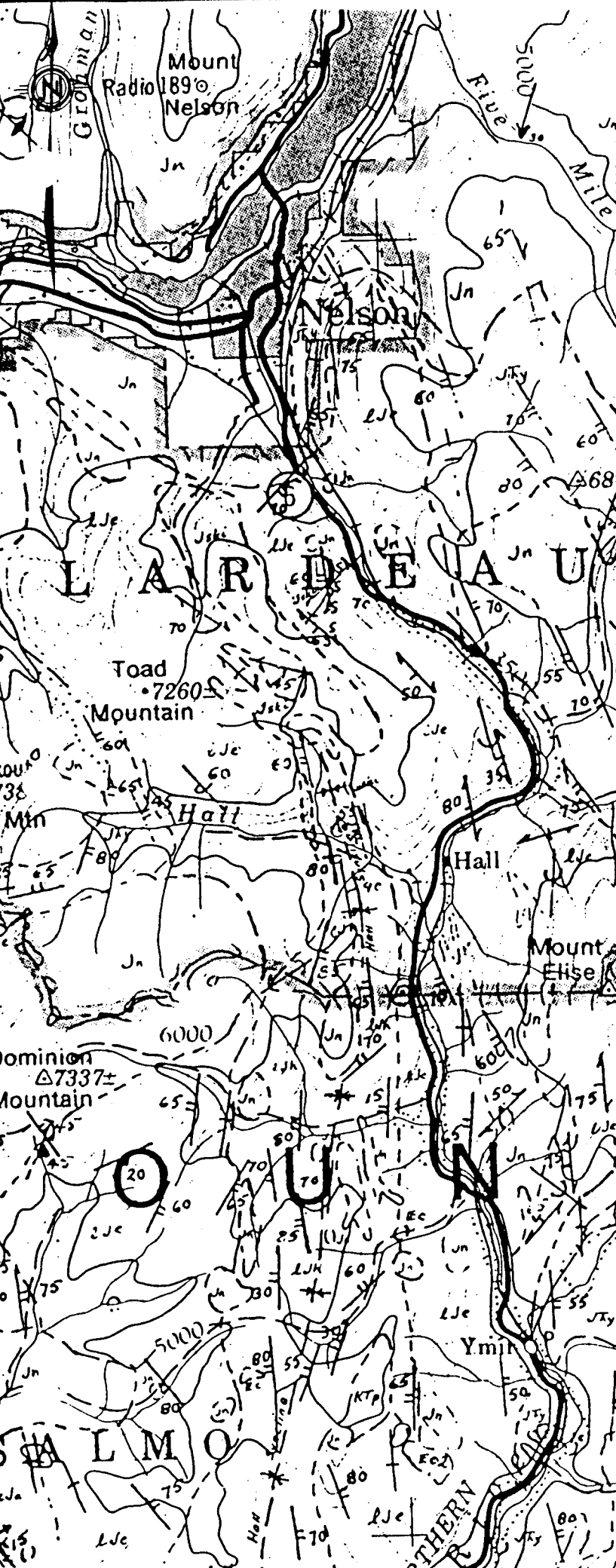
Intrusions proximal to the property have been mapped as pre-Nelson (Batholith) to early Nelson. The intrusion to the west of the property is mapped as a pseudo-diorite (formed by melting of the country rock).

2.2 Property Geology (Figure 5)

The volcanics on the property are dominantly augite porphyry flows that have been moderately to pervasively altered to greenschist facies metavolcanics. Minor tuffs and interbedded sediments have previously been mapped in drill core.

Pervasive shearing trend parallel to stratigraphy (Bearing 116°) and mineralization.

Some shears are mineralized and they contain variable amounts of the following minerals: gold, silver, tetrahedrite, galena, chalcopyrite, pyrite, sphalerite and pyrolusite in a quartz-carbonate gangue. Sulphide mineralogy varies between shears and the dominant base and precious metals sometimes vary within a specific shear. In addition, mineralization appears to be proximal to a previously unmapped intrusion. This intrusion is sheared, bleached in appearance and pervasively altered. It is interpreted as a shallow level intrusion related to the Nelson batholith.



Geology of 82F/W_{1/2}, 1985

compiled by H.W. Little
Open File 1195

LEGEND

- Ec Coryell Intrusions
 - Jski Silver King Porphyry
 - Jn Nelson Intrusions
 - Jsh Hall Fm.
 - Jse Elise Fm.
 - Jky Ymir Group
- } Rossland Group

Scale: 1:125 000

FIGURE 4 - Regional Geology

3. GOECHEMISTRY

3.1 Soil Geochemistry

3.1.1 Sampling Procedures

Soils: "B" soil horizon was collected by digging a 15 to 25cm deep hole with a mattock. Roots and rock fragments were removed and the soil was bagged in kraft paper soil bags. Samples were dried at room temperature and sent to the U.S. Borax assay lab in California, U.S.A.

3.1.2 Determination of Anomalous Values

Anomalous values for Gold, Lead and Zinc were determined by calculating the mean, one and two standard deviations. Values were calculated for both normal and log-normal sample populations. Histograms were plotted and from the histograms a log-normal population was assumed. (Comparisons with values calculated for adjacent properties suggest that the entire grid area is anomalous with regard to gold.)

3.1.3 Discussion of Results - Preliminary

3.1.3a Gold, Silver (Gold - Figure 6a,6b)

Gold values varied from <.02 to 0.39p.p.m. The calculated mean is .102 with a standard deviation of .82. The strongest anomaly occurs at 4+00E,0+40N and 5+00E,0+40N. It has a coincident mag anomaly.

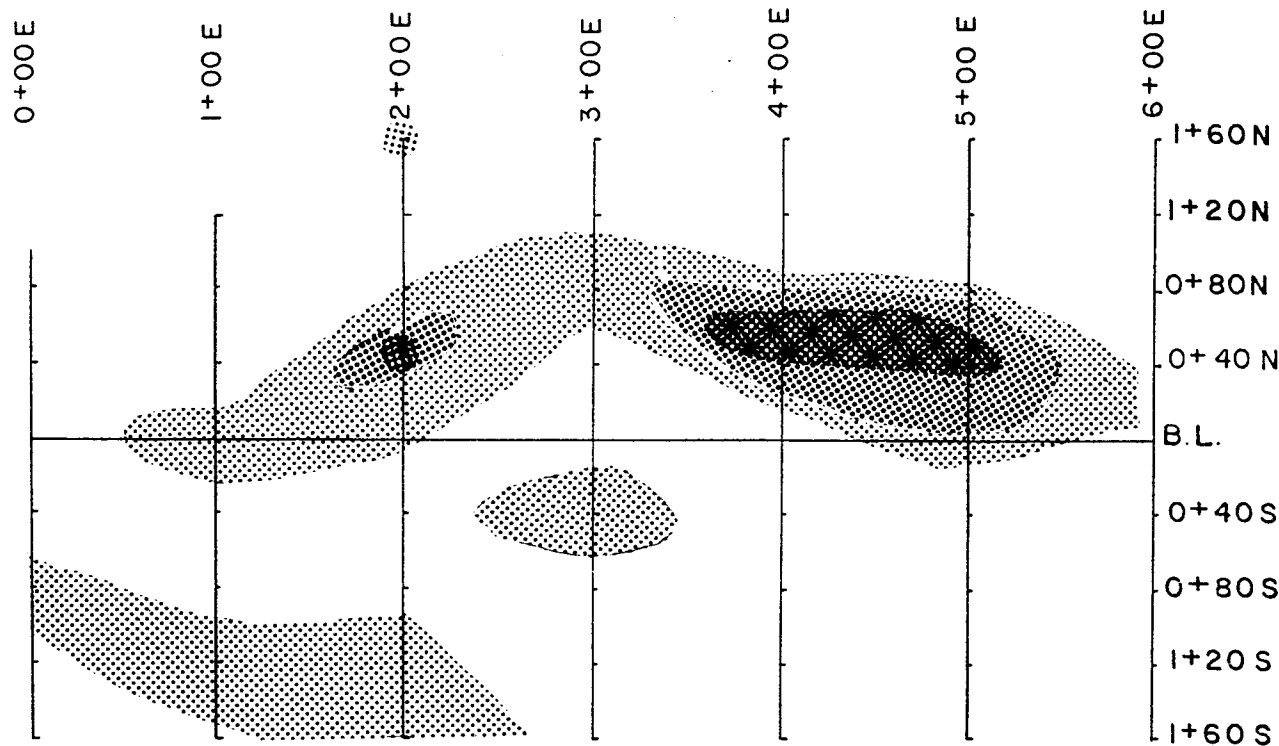
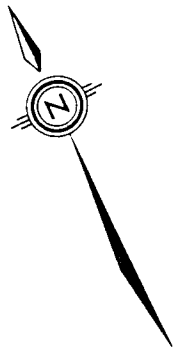
Silver values were not anomalous.

3.1.3b Lead - Zinc (Figures 6c,6d)

Lead values vary from 22 to 226 p.p.m. The mean value is 53.3 and one standard deviation is +39.65. The strongest anomaly is coincident with the Toughnut workings. The soil is contaminated by these early workings.

Zinc values vary from 98 to 1670 p.p.m. The mean value is 246 p.p.m. and one standard deviation is +215. The strongest anomaly is coincident with the Toughnut workings. The soil is contaminated by these early workings.

Note the coincidence of the lead and zinc anomalies (correlation coefficient .815). The strong correlation is also evident in the rock values collected from old workings. Note too that the gold anomaly appears to be independent of the known Cu-Pb-Zn mineralization of the area.



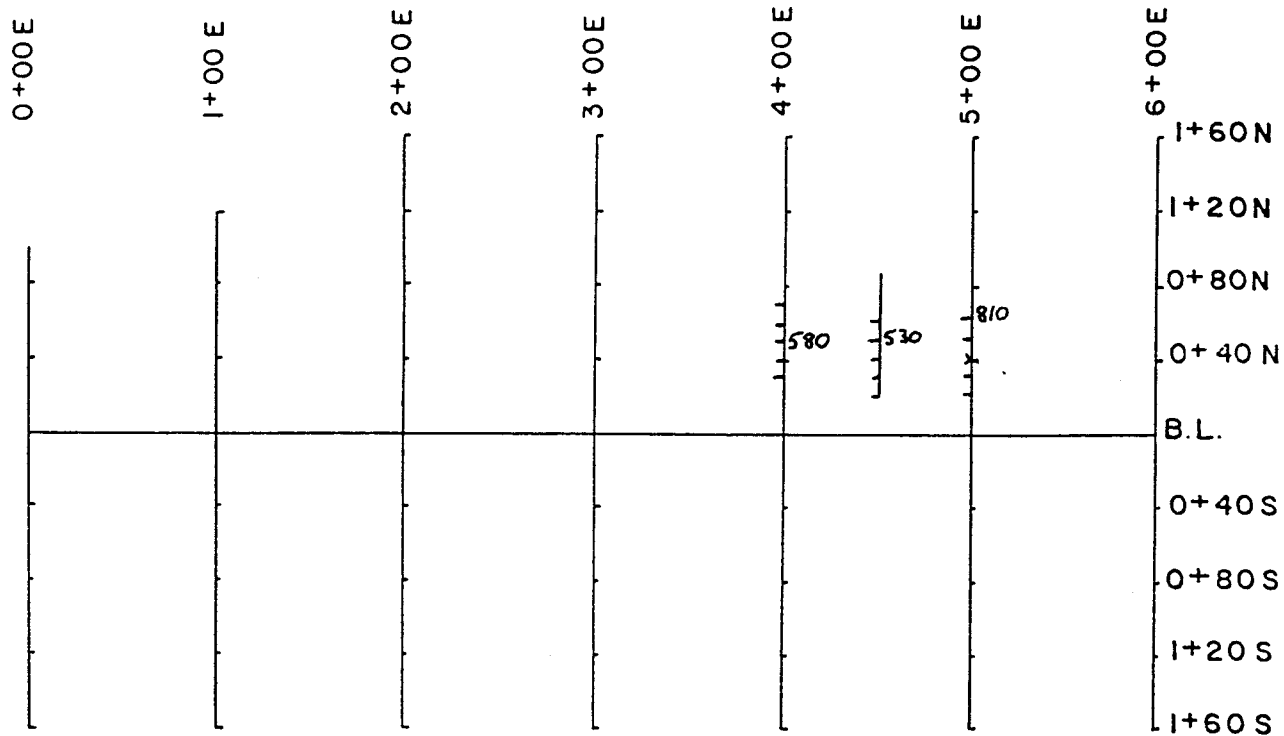
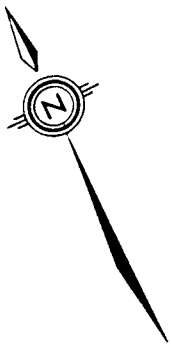
LINE

0 E 1 E 2 E 3 E 4 E 5 E 6 E

STATION

1+60 N			120	—	60	30	?
1+20 N		60	90	50	60	50	80
0+80 N	30	80	60	150	90	?	60
0+40 N	50	50	320	90	390	360	80
0+00	80	120	110	80	90	230	120
0+40 S	60	90	80	150	30	50	—
0+80 S	140	60	ins.	50	—	—	—
1+20 S	30	210	120	—	—	—	—
1+60 S	50	80	170	60	30	—	—

Gold - Soil Geochem. (p.p.b.)		
SCALE: 1:5000	APPROVED BY:	DRAWN BY <i>G. Adde</i>
DATE: Oct. 26, 1986		REVISED
Mean(+102)	+1 S.D.(+184)	+2 S.D.(+266)
		DRAWING NUMBER Figure 6a



LINE

0 E 1 E 2 E 3 E 4 E 4+50 E 5 E

STATION	0 E	1 E	2 E	3 E	4 E	4+50 E	5 E
0+70 N					100		
0+60 N					360	185	810
0+50 N					580	530	155
0+40 N					80	215	85/100
0+30 N					190	160	420
0+20 N						60	275

Gold-Soil Geochem. (follow up) in p.p.b.

SCALE: 1:5000

APPROVED BY:

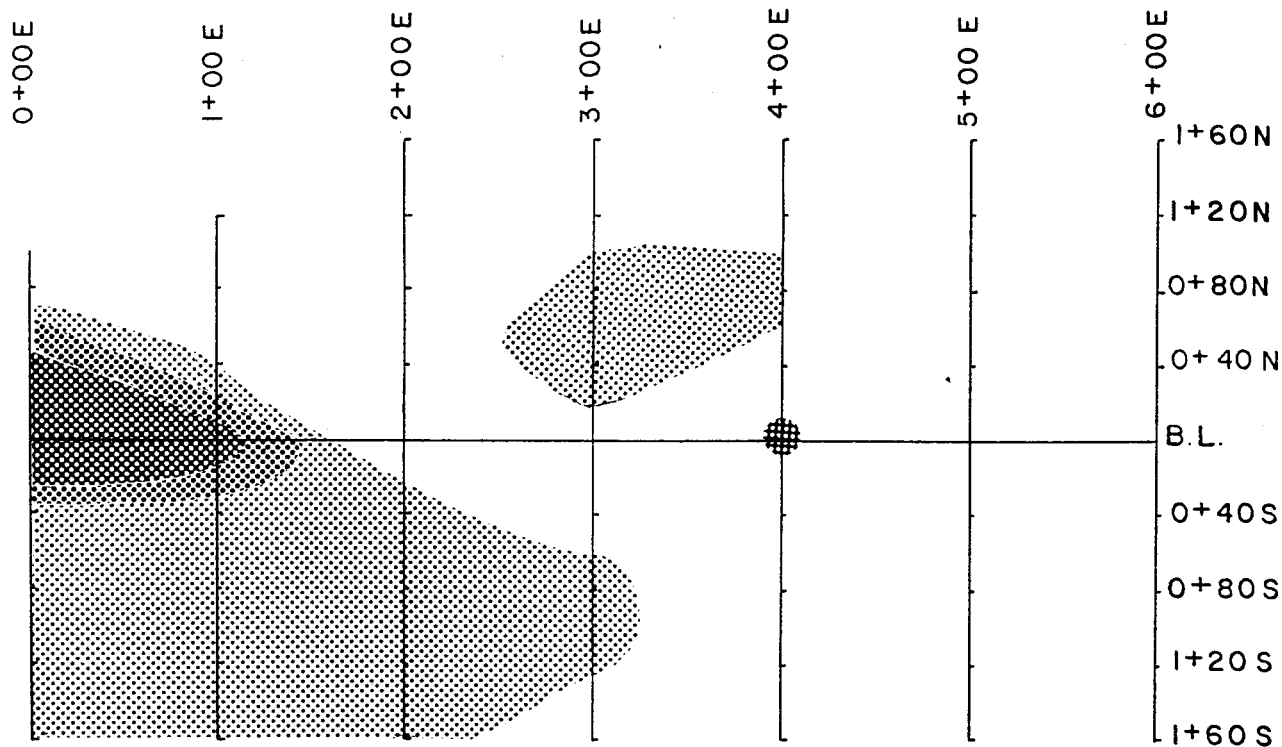
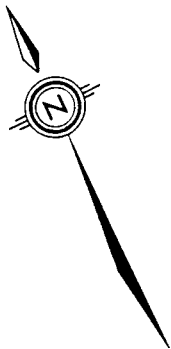
DRAWN BY *L. Adelle*

DATE:

REVISED

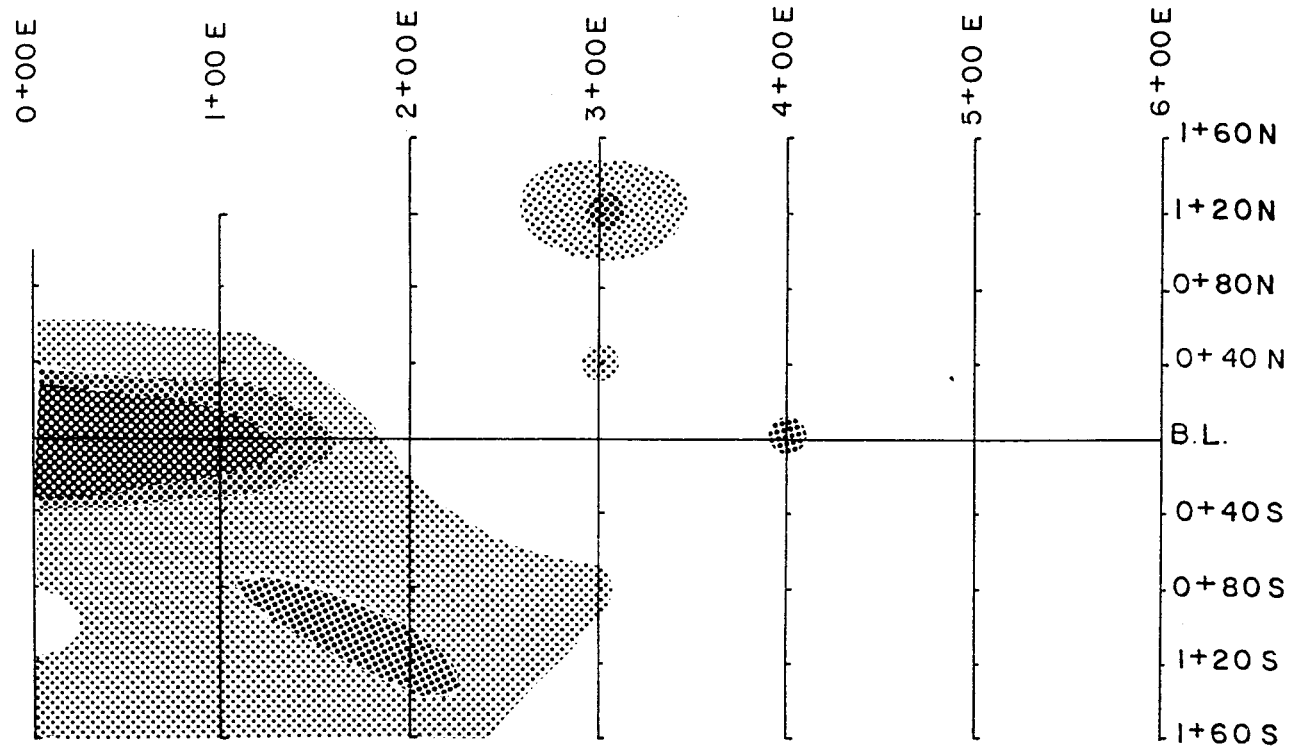
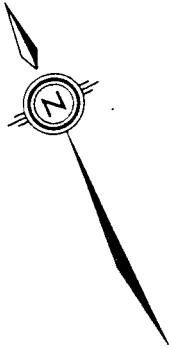
DRAWING NUMBER

Figure 6b.



STATION	LINE						
	0E	1E	2E	3E	4E	5E	6E
1+60 N			41	48	34		
1+20 N		31	38	43	24		
0+80 N	26	26	29	58	72		
0+40 N	174	53	24	84	34		
0+00	226	154	22	41	134		
0+40 S	74	62	77	34	36		
0+80 S	53	79	62	79			
1+20 S	65	74	67	55			
1+60 S	65	50	70	24			

Lead-Soil Geochem. (p.p.m.)		
SCALE: 1:5000	APPROVED BY:	DRAWN BY <i>J. Adde</i>
DATE: Oct 26, 1986		REVISED
Mean (+53)	+1.S.D.(93)	+2.S.D.(133)
		DRAWING NUMBER Figure 6c



LINE

0 E 1 E 2 E 3 E 4 E 5 E 6 E

	0 E	1 E	2 E	3 E	4 E	5 E	6 E
1+60 N			156	202	143		
1+20 N		143	179	530	131		
0+80 N	115	160	131	172	98		
0+40N	396	318	114	265	148		
0+00	1670	967	122	161	560		
0+40 S	445	285	393	161	114		
0+80 S	237	460	365	283			
1+20 S	299	453	532	192			
1+60 S	286	340	333	123			

STATION

Zinc - Soil Geochem. (p.p.m.)

SCALE: 1:5000

APPROVED BY:

DRAWN BY *G. Adelle*

DATE:

REVISED

Mean(246)

+1S.D.(46)

+2S.D.(676)

DRAWING NUMBER

Figure 6d.

3.1.3c Mercury

Although the mercury values are anomalous there does not appear to be a strong correlation with zinc. A mercury-zinc correlation was expected as a result of a strong correlation in the rock geochem samples. Also, downhill dispersion does not appear to explain the variation in anomalies. The strongest anomaly is in the vicinity of the Toughnut workings.

3.1.3d Antimony

Antimony values in soil were not anomalous.

3.1.4 Follow-Up Results

The gold anomaly at 0+40N,4+00E to 5+00E was resampled at 10m intervals along lines 4E and 5E. In addition, a line of samples was collected at 4+50E. These follow-up samples were run for Gold +30 Element I.C.P. at Acme Analytical Labs in Vancouver. Values over 500 p.p.b gold were reported in each of the three lines. The highest value in soil is 810 p.p.b.

3.2 Rock Geochemistry (Figure 7)

3.2.1 Sampling Procedures - Preliminary

Samples were hand-picked from the old workings. Thirteen samples were sent to U.S. Borax assay lab in California, U.S.A. and run for Gold, Silver, Copper, Lead, Zinc and Mercury. In addition, three samples were sent to Chemex Labs in Vancouver and run for Gold, Arsenic, Mercury and 30 element I.C.P. One of these samples was subsequently run at Chemex for Tellurium and Germanium.

3.2.2 Determination of Anomalous Values (See Table 1 - Rock Correlation Co-efficients)

Normal and log-normal histograms were constructed to determine population type. A better fit from log-normal histograms was apparent so a log-normal distribution was assumed. Correlation co-efficients were then calculated between all pairs of the following elements: Au, Ag, Cu, Pb, Zn, Hg.

3.2.3 Discussion of Results - Preliminary

Despite the small sample size (17) certain relationships are worth noting:

Hg-Zn (+.865) The mercury-zinc relationship is a common one but had not previously been noted in this area.

Au-Pb (+.636), Ag-Pb (+.696) The suggestion here is that gold and silver values may be more closely linked to galena than with sphalerite or chalcopyrite in the polymetallic mineralization.

This association may vary on strike (it does at the Silver King mine).

TABLE 1 - ROCK CORRELATION CO-EFFICIENTS

	Au	Ag	Hg	Cu	Pb
Au	-				
Ag	.611	-			
Hg	.488	.692	-		
Cu	.613	.523	.583	-	
Pb	.636	.696	.765	.348	-
Zn	.582	.537	.865	.65	.667
Population:				17	
Degrees of Freedom:				15	
95% Confidence limit =				0.482	
99% Confidence limit =				0.606	

3.2.4 Sampling Procedures - Follow-Up

Where possible, a bedrock or subcrop sample was collected at the base of the follow-up soil pits. These samples were run for Gold and 30 element I.C.P. at Acme Analytical Labs in Vancouver, B.C.

Results of up to 6450 p.p.b. Gold (0.191oz/ton) were reported from the follow-up sampling.

4. GEOPHYSICS

4.1 Proton Magnetometer - Type and Procedure

A Geometrics G-836 proton magnetometer (10 gamma resolution) was used on this property.

Each morning the magnetometer was placed on a fixed point on the grid (a flagged stump) and a measurement would be taken. This would be compared to the value from the first day, and, if different, the correction required to return it to its original value would be noted. The first day stations were measured along the base line on the way down the hill and again on the way back up. The mag line was then closed (within one hour) by remeasuring the stump. As there was no diurnal variation and no variation in the duplicate readings these points became valid stations to tie into. On subsequent days diurnal variation remained low (-30 gammas). These diurnal variations were corrected by dividing the variations into the time between closures. This variation per minute was then calculated for each 10 or 20m station in that loop. These variations were insignificant when data was plotted. Values were drawn as line-profiles rather than as contoured data for the following reasons.

1. The 10:1 elongation of line spacing to station spacing cannot fairly be contoured without losing even slightly oblique structures.
2. The signature of structures can be identified more readily, especially if they are oblique to the grid.
3. The decrease both in average value and attenuation of anomalies becomes apparent as you go down hill (towards L0 + 00E).

4.2 Results and Discussion (Figure 8)

Variations of up to 4500 gammas were measured. The mag seems to pick up the shears very well. Luckily, the gold anomaly identified in the preliminary sampling appears to be coincident with a strong mag anomaly.

5. CONCLUSIONS

A previously unrecognized gold anomaly has been identified in an area with numerous old workings. This gold anomaly has a coincident mag. anomaly which should enable rapid tracing of the structure on strike. Resampling of the anomaly has confirmed +500 p.p.b. soil values over the entire strike length that was rechecked (100m).

Magnetometer lines should have been run at a 50m spacing. Sample stations should be no more than 10m.

6. RECOMMENDATIONS

Extend the grid over the entire property at 100m line spacings.

Sample soils at 20m stations for 30 element I.C.P. and geochem. gold.

Run mag. at 10m stations and profile the data.

Map geology, paying particular attention to foliation direction, amount of shearing, original lithology (if recognizable), cross-cutting structures and mineralization.

The property should be looked at for the following types of mineralization.

1. It has the same style of mineralization as the Silver King mine and is on strike.
2. A previously unmapped intrusion is proximal to the new gold anomaly identified.
3. Extensions of auriferous pyritic schists should be checked in the vicinity of the Black Witch c.g.

7.

BIBLIOGRAPHY

- Gale, R.E. Assessment Report #8614, Aberdeen Group, 1980
- Little, H.W. Geological Notes Nelson West Half (82,W1/2)
Map Area
Geological Survey of Canada Open File 1195,
1985
- Mulligan, R. Bonnington Map Area, B.C.
Geological Survey of Canada Paper 52-13, 1952
- Paxton, J. Assessment Report #5074, Par 74 Group, 1974

APPENDICES

APPENDIX A

Statement of Qualifications

I, GORDON ALEXANDER ADDIE, state that:

1. I am a Geologist residing at #D-806, 1600 Beach Avenue, Vancouver, British Columbia.
2. I received a B.Sc. (Geology) from the University of British Columbia in May, 1986.
3. I am a student member of the Geological Association of Canada and the Canadian Institute of Mining and Metallurgy.
4. I have eight years of geochemical and geophysical exploration experience (seasonal).
5. The findings of this report are derived from data as acknowledged and from personal examinations of this property between August, 1985 and July, 1986.



Gordon A. Addie

October 26, 1986

APPENDIX B

Laboratory Procedures and Certificates of Analysis



Chemex Labs Ltd.

-Analytical Chemists -Geochemists -Registered Assayers

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1
Telephone: (604) 984-0221
Telex: 043-52597

CERTIFICATE OF ANALYSIS

TO : ADDIE, G.
UNIVERSITY OF BRITISH COLUMBIA
BOX 6, 2525 WEST MALL
VANCOUVER, B.C.
V6T 1W9

AA CERT. # : A8516640-001-A
INVOICE # : 18516640
DATE : 1-OCT-85
P.O. # : NONE

Semi quantitative multi element ICP analysis

Nitric-Aqua-Regia digestion of 0.5 gm of material followed by ICP analysis. Since this digestion is incomplete for many minerals, values reported for Al, Sb, Ba, Be, Ca, Cr, Ga, La, Mg, K, Na, Sr, Tl, Ti, W and V can only be considered as semi-quantitative.

COMMENTS :

Sample description	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Cs %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Hg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm		
# 1	0.08	1.0	70	50	<0.5	<2	18.70	4.5	21	19	12	4.76	40	<0.01	<10	7.38	>9999	5	<0.01	26	300	188	30	210	<0.01	<10	<10	13	<10	950	--	--
# 2	0.03	52.0	100	50	<0.5	36	4.38	>99.9	18	129	4633	3.00	<10	<0.01	<10	1.70	7241	77	<0.01	41	830	2724	810	60	<0.01	<10	<10	5	130	>9999	--	--
# 3	0.17	32.0	80	30	<0.5	46	4.83	>99.9	28	45	584	6.14	<10	<0.01	<10	2.49	4313	90	<0.01	24	970	>9999	570	247	<0.01	<10	<10	78	140	>9999	--	--

Certified by Hart Bichler



Chemex Labs Ltd.

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1
Phone: (604) 984-0221
Telex: 043-52597

Analytical Chemists • Geochemists • Registered Assayers

CERTIFICATE OF ANALYSIS

TO : ADDIE, G.
UNIVERSITY OF BRITISH COLUMBIA
BOX 6, 2525 WEST MALL
VANCOUVER, B.C.
V6T 1W9

** CERT. # : A8516950-001-A
INVOICE # : I8516950
DATE : 1-OCT-85
P.O. # : NONE

Sample description	Prep code	AS ppm	Hg ppb	Au ppb FA+AA			
# 1	214	17	1200	--	--	--	--
# 2	214	46	35000	150	--	--	--
# 3	214	12	19000	1400	--	--	--

Certified by Hart Bichler



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1
Phone: (604) 984-0221
Telex: 043-52597

CERTIFICATE OF ANALYSIS

TO : ADDIE, G.

D-806 1600 BEACH AVE.,
VANCOUVER, B.C.
V6G 1Y8

** CERT. # : A8610885-001-A
INVOICE # : I861C885
DATE : 25-FEB-86
P.C. # : NCNE

Sample description	Prep code	Te ppm	Ge ppm				
#3	214	9.80	5	--	--	--	--

Certified by *Hart Bichler*

U.S. BORAX

Geochemical Analysis of Cu, Pb, Zn & Ag* & Mo

Sample preparation

Soil samples are dried at 75⁰C and sieved to -80 mesh.

Rock samples are ground to -100 mesh.

Digestion

A .50 gram sample is digested with dilute aqua regia in boiling water bath and diluted to 10 mls with demineralized water.

Determination

All the above elements are determined by Atomic Absorption from the solution.

* With background correction.

Geochemical Analysis of Au

Digestion and extration

A 10 gram sample which has been ignited over night at 600⁰C is digested hot with dilute aqua regia, and the clear solution is extracted with Methyl Isobuthyl Ketone.

Determination

Au is determined by AA from the MIBK extractant with background correction.

Geochemical Analysis of Ba

A .100 gram sample is digested hot with NaOH and EDTA solution. The solution is analysis for Ba by Flame Emission.

USBRC CHEMICAL ANALYSIS REPORT

13-JAN-86
 SET NUMBER : CN86RX01
 REMARKS :

PROJECT: CAN RYAN EXP 86
 SUBMITTED BY: TH

FIELD NUMBER	AU/AA PPM	AG/AA PPM	HG PPM
0+00E 0 +80N	0.03	1.6	0.24
0+00E 0 +40N	0.05	1.7	0.19
0+00E 0 +00S	0.08	2.2	0.22
0+00E 0 +40S	0.06	1.4	0.22
0+00E 0 +80S	0.14	1.0	0.13
0+00E 1 +20S	0.03	1.2	0.26
0+00E 1 +60S	0.05	1.7	0.42
1+00E 1 +20N	0.06	1.0	0.24
1+00E 0 +80N	0.08	1.4	0.29
1+00E 0 +40N	0.05	1.4	0.35
1+00E 0 +00N	0.12	1.7	0.29
1+00E 0 +40S	0.09	1.2	0.05
1+00E 0 +80S	0.06	1.2	0.05
1+00E 1 +20S	0.21	1.2	<0.05
1+00E 1 +60S	0.08	1.0	<0.05
2+00E 1 +60N	0.12	1.7	0.05
2+00E 1 +20N	0.09	1.7	0.09
2+00E 0 +80N	0.06	1.2	0.09
2+00E 0 +40N	0.32	1.2	0.09
2+00E 0 +00N	0.11	1.2	0.05
2+00E 0 +40S	0.08	1.4	0.07
2+00E 0 +80S	INS	1.4	0.06
2+00E 1 +15S	0.12	1.7	0.08
2+00E 1 +60S	0.17	2.2	0.12
3+00E 1 +60N	<0.02	2.2	0.12
3+00E 1 +20N	0.05	1.2	0.10
3+00E 0 +80N	0.15	1.2	0.14
3+00E 0 +40N	0.09	1.2	0.14
3+00E 0 +00N	0.08	1.0	0.06
3+00E 0 +40S	0.15	1.7	0.10
3+00E 0 +80S	0.05	1.9	0.13
3+00E 1 +20S	<0.02	1.4	0.07
3+00E 1 +60S	0.06	1.0	<0.05
4+00E 1 +60N	0.06	1.4	0.05
4+00E 1 +20N	0.06	1.2	0.07
4+00E 0 +80N-A	0.09	1.2	0.05
4+00E 0 +80N-B	0.11	1.9	0.13
4+00E 0 +40N	0.39	1.2	0.07
4+00E 0 +00N	0.09	1.7	0.13
4+00E 0 +40S	0.03	1.2	0.07

USBRC CHEMICAL ANALYSIS REPORT

13-JAN-86
 SET NUMBER : CN86RX02
 REMARKS :

PROJECT: CAN RYAN EXP 86
 SUBMITTED BY: TH

FIELD NUMBER	AU/AA PPM	AG/AA PPM	HG PPM
4+00E 0+80S	<0.02	1.4	0.17
4+00E 1+20S	<0.02	1.1	0.09
4+00E 1+60S	0.03	1.2	0.12
5+00E 1+60N	0.03	1.7	0.12
5+00E 1+20N	0.05	1.2	0.10
5+00E 0+40N	0.36	1.4	0.12
5+00E 0+00N	0.23	1.2	0.12
5+00E 0+40S	0.05	1.0	0.10
5+00E 0+80S	<0.02	1.0	0.14
5+00E 1+20S	<0.02	0.7	0.10
5+00E 1+60S	<0.02	1.0	0.10
6+00E 1+20N	0.08	1.2	<0.05
6+00E 0+80N	0.06	1.0	<0.05
6+00E 0+40N	0.08	1.2	0.11
6+00E 0+00S	0.12	1.0	0.08
6+00E 0+40S	<0.02	1.7	<0.05
6+00E 0+80S	<0.02	1.7	<0.05
6+00E 1+20S	<0.02	1.2	0.15
6+00E 1+60S	<0.02	1.0	0.11

USBRC CHEMICAL ANALYSIS REPORT

15-JAN-86
 SET NUMBER : CN86RX03
 REMARKS :

PROJECT: CAN RYAN EXP 86
 SUBMITTED BY: TH

FIELD NUMBER	AU/AA PPM	AG/AA PPM	HG PPM	CU PPM	PB PPM
1.2	0.22	20.0	5.83	579.	9360.
1.23 CU	0.15	199.1	23.05	8730.	3480.
1.24 FE	0.53	153.4	4.44	11000.	5760.
2	0.21	6.7	0.58	254.	974.
6	0.26	3.6	<0.05	55.	307.
7.1	0.21	79.7	38.60	189.	23000.
9 WORKINGS HIGHGRADE	0.30	8.9	4.43	322.	2570.
10 DUMP TUNNEL	1.23	13.4	0.89	5210.	967.
11	0.73	35.3	1.13	118.	17700.
14	0.12	11.8	5.79	371.	8140.
15	<0.02	1.0	<0.05	20.	245.
16	1.02	489.6	24.40	324.	34700.
88	0.05	1.7	0.06	70.	178.

FIELD NUMBER	ZN PPM
1.2	>10000.
1.23 CU	>10000.
1.24 FE	5840.
2	2580.
6	684.
7.1	>10000.
9 WORKINGS HIGHGRADE	>10000.
10 DUMP TUNNEL	2670.
11	1350.
14	>10000.
15	600.
16	>10000.
88	86.

USBR CHEMICAL ANALYSIS REPORT

21-NOV-85

PROJECT:

CAN RYAN EXP 85

SET NUMBER : CN85RX59

SUBMITTED BY:

TH

REMARKS :

FIELD NUMBER	AU/AA PPM	AG/AA PPM	HG PPM	CU PPM	PB PPM
--------------	-----------	-----------	--------	--------	--------

^{INCL} ¹⁰ MK-85-166	0.30	4.8	2.27	778.	310.
^{INCL} ⁷ MK-85-167	0.42	35.8	1.01	157.	19200.
¹³ MK-85-168	0.74	15.6	5.16	296.	22000.
²⁰ MK-85-169	<0.02	0.5	0.28	8.	134.

} Morning Toad Group

FIELD NUMBER	ZN PPM	MO PPM
--------------	--------	--------

MK-85-166	9430.	20.
MK-85-167	1540.	5.
MK-85-168	>10000.	13.
MK-85-169	171.	25.

MORNING STAR CO. (1-2-86)
S.F. B.C.

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.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 LEAD IS PARTIAL FOR MN, FE, CA, P, CR, MG, BA, TI, B, AL, NA, K, W, SI, ZR, CE, SN, Y, NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.

- SAMPLE TYPE: SOIL - BONESH AU ANALYSIS BY AA FROM 10 GRAM SAMPLE. HG ANALYSIS BY FLAMELESS AA.
R2 - 3 Rocks

DATE RECEIVED: AUG 2 1986 DATE REPORT MAILED: Aug 9/86 ASSAYER: D. Toyer DEAN TOYE, CERTIFIED B.C. ASSAYER.

LACANA MINING PROJECT - 6101/6919 FILE # 86-1825

PAGE 1

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	W	Au1	Hg	
	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH
4+00E 0+70N	2	116	34	139	.9	34	20	809	5.83	10	5	ND	3	12	1	2	2	116	.07	.109	8	76	1.42	105	.18	5	2.82	.03	.13	1	100	20	
4+00E 0+50N A	7	108	25	131	1.1	39	25	784	7.48	20	5	ND	3	9	1	2	2	93	.06	.146	9	72	1.13	112	.15	5	2.49	.04	.12	1	580	30	
4+00E 0+50N B	2	87	27	145	1.0	29	17	1134	5.22	10	5	ND	3	13	1	5	3	90	.10	.114	8	54	.75	128	.13	5	2.38	.03	.12	1	360	40	
4+00E 0+40N	2	97	21	157	.6	55	21	825	5.85	11	5	ND	3	9	1	2	4	101	.07	.113	10	104	1.20	91	.15	5	2.58	.03	.14	1	80	40	
4+00E 0+30N	2	81	29	167	.9	73	22	520	6.34	14	5	ND	3	9	1	2	2	101	.08	.136	9	103	1.16	117	.16	6	2.76	.03	.13	1	190	70	
4+50E 0+60N	1	53	34	100	.8	25	13	496	5.54	11	5	ND	4	11	1	2	2	104	.06	.101	10	54	.94	66	.14	5	2.49	.03	.12	2	185	80	
4+50E 0+50N	2	61	32	124	.9	27	15	753	5.69	12	5	ND	3	10	1	2	2	106	.06	.100	9	62	1.08	80	.15	8	2.60	.03	.13	1	530	30	
4+50E 0+40N	2	67	27	142	1.0	38	19	1348	5.38	6	5	ND	2	9	1	2	2	100	.06	.104	11	76	1.23	82	.15	5	2.42	.03	.14	1	215	50	
4+50E 0+30N	2	64	18	141	.3	46	21	640	6.02	7	5	ND	3	8	1	2	2	107	.05	.123	6	96	1.27	69	.18	6	2.42	.03	.16	1	160	40	
4+50E 0+20N	1	45	12	136	.4	50	19	420	6.40	8	5	ND	2	6	1	2	2	143	.04	.068	9	137	2.19	48	.22	4	2.65	.03	.11	1	60	50	
5+00E 0+60N	1	45	19	124	.3	28	14	777	4.97	11	5	ND	3	14	1	6	2	110	.09	.095	7	67	1.12	90	.20	4	2.56	.03	.10	1	810	70	
5+00E 0+50N	2	67	30	111	.9	25	14	633	4.51	11	5	ND	4	14	1	4	2	93	.08	.150	9	54	1.06	78	.18	3	3.11	.03	.12	1	155	90	
5+00E 0+40N	1	70	19	113	1.0	28	18	780	5.62	8	5	ND	3	7	1	2	2	132	.04	.101	9	65	1.55	60	.21	5	2.89	.03	.11	1	85	60	
5+00E 0+30N	1	91	21	156	.6	38	19	617	5.91	10	5	ND	4	7	1	2	2	117	.04	.097	8	76	1.45	77	.20	5	3.02	.03	.16	1	100	50	
5+00E 0+30N	2	50	27	108	.6	31	15	493	5.39	12	5	ND	3	8	1	2	2	104	.05	.094	9	65	.95	62	.15	8	2.21	.03	.12	1	420	50	
5+00E 0+20N	1	51	49	84	.3	26	11	309	7.51	10	5	ND	3	17	1	2	2	124	.03	.144	8	64	.88	96	.15	4	1.79	.03	.15	1	275	30	
STD C/AU 0.5	20	60	41	139	7.3	71	29	1131	3.96	42	15	7	35	49	19	17	21	70	.48	.107	38	62	.88	186	.08	35	1.73	.06	.14	14	495	1300	

MORNING TOAD

82F610

LACANA MINING PROJECT 6101/6919 FILE# 86-1825

PAGE# 2

SAMPLE Au* Hg Au
opb ppb oz/t



Kenna
North

Pit

8068	L5+00E	0+20N	6450	60	.191
8069	L4+50E	0+60N	21	10	-
8070			85	20	-
8071	L4+00E	0+30N	41	20	-
8072	L4+00	0+50N	1600	5	.042
8073	L4+00E	0+40N	17	30	-
8074	L4+00E	0+50N	52	20	-
8075			80	70	-
8076	L4+00E	0+70N	29	40	-
8077	L25+00E	0+40N	8	20	-
8078			430	10	-

INCLUDE TOTAL CATIONS
ERFEW

LACANA MINING PROJECT - 6101/6919 FILE # B6-1825

PAGE 2

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Hg	Ba	Ti	B	Al	Na	K	M
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	I	PPM	PPM	I	PPM	I	PPM	I	I	I	PPM
B068 L5+00E 0+20N	3	459	169	101	1.2	25	21	538	9.40	8	11	6	3	190	1	2	2	56	.02	.122	4	26	.19	166	.03	4	.87	.06	.43	2
• B069 L4+50E 0+60N	1	80	21	15	.2	3	4	788	1.15	4	5	ND	3	32	1	2	2	6	.46	.084	9	2	.04	100	.01	5	.48	.03	.28	14
B070	1	44	9	58	.2	6	8	871	2.14	2	5	ND	3	81	1	2	2	10	1.53	.091	9	6	.42	58	.01	4	.78	.05	.21	2
• B071 L4+00E 0+30N	2	126	17	54	.2	39	18	2064	6.59	5	5	ND	3	27	1	4	2	58	.37	.179	9	40	.22	216	.03	7	.83	.03	.45	1
• B072 L4+00 0+50N	9	10	66	36	.9	10	10	1267	3.12	2	5	ND	1	59	1	2	3	12	2.22	.091	6	3	.22	105	.01	6	.26	.05	.16	12
• B073 L4+00E 0+40N	1	53	15	240	.3	84	27	2272	7.77	7	5	ND	3	20	1	4	2	101	.28	.149	7	164	1.97	245	.14	9	1.97	.04	.58	3
• B074 L4+00E 0+50N	3	29	14	141	.2	64	17	2012	8.08	2	5	ND	2	29	1	4	2	66	.36	.156	12	197	.44	117	.05	10	1.03	.03	.56	2
B075	1	112	672	961	1.0	7	15	2927	3.77	4	5	ND	1	81	6	2	2	35	2.24	.222	6	1	.20	90	.01	7	.30	.03	.24	9
• B076 L4+00E 0+70N	2	148	18	236	.5	127	38	3073	8.62	2	5	ND	2	17	1	4	2	214	.32	.124	6	395	5.90	254	.10	5	4.23	.04	.47	3
B077 L25+00E 0+40N	1	255	9	124	.4	52	34	1695	8.51	2	5	ND	2	12	1	2	2	259	.27	.139	5	126	5.01	182	.29	6	3.78	.05	.96	1
B078	70	252	165	35	2.2	16	12	639	22.19	10	5	ND	3	83	1	2	2	81	.02	.113	2	29	.14	96	.02	2	.45	.14	.26	1
STD C	21	59	42	138	7.2	71	29	1120	3.93	39	18	8	35	49	18	15	20	69	.48	.106	38	59	.88	184	.08	38	1.72	.08	.13	15

B070 100 m Down from outcrop on ridge @ 120°

B075 Galena Flats road split in road on corner

B078 L4+00E/ 0+70N

APPENDIX C

Table of Magnetometer Data

Appendix C: Table of Magnetometer Data

(S)	6+00E	5+00E	4+00E	3+00E	2+00E	1+00E	0+00E
1+70					57 980		
			57 650		58 240		
1+60	58 810	58 180	57 450	57 870	57 710	57 400	57 370
	59 140		57 870	58 100	57 520		
1+50	56 320	58 470	58 060	58 380	57 210	57 420	57 430
	58 460		58 540	60 030 56 640	57 767		
1+40	58 580	58 390	58 420	57 880	57 720	57 420	57 440
	60 810			57 960	57 370	57 320	
1+30	60 840	57 940	58 030	58 280	57 490	57 720	57 520
	58 650			58 460	57 510		
1+20	59 990	57 930	58 170	58 270	57 580	57 540	57 570
	60 240			58 480	57 630		
1+10	60 520	58 440	58 100	58 120	57 750	57 610	57 610
	58 330		57 540 58 180	57 860	57 920		
1+00	57 370	58 010	57 640	57 860	57 940	57 550	57 500
	58 600		57 900	57 870	57 840		
0+90	58 670	58 240	57 730	57 930	57 620	57 570	57 430
	57 950			57 970	57 870	57 500	
0+80	58 070	58 730	57 630	58 080	57 770	57 460	57 470
	58 010		58 100	58 180	57 730	57 330	
0+70	58 290	57 930	57 700	58 000	57 760	57 520	57 730
	58 880			58 080	57 940	57 500	
0+60	58 500	58 180	58 090	58 110	58 180	57 860	57 770
	58 200			58 150	58 040	58 020	
0+50	58 090	58 550	58 260	58 180	58 250	58 220	57 690
	58 130			58 130	58 710	58 330	
0+40	58 360	58 430	58 220	58 150	58 420	57 910	57 540
	58 470		58 340	58 060	58 670 58 843	58 190	57 470
0+30	58 460	59 030	57 540	58 020	57 730	57 850	57 550
	58 430			58 020	57 510	57 850	57 690
0+20	59 000	58 550	57 550	58 040	57 840	58 070	58 030
	59 780			57 960	58 080	58 040	58 080
0+10	58 970	59 050	57 600	58 040	57 760	58 490	57 940
	58 520			57 960	57 690		57 510
0+00	60 080	58 420	57 740	57 790	58 000	59 310	57 540

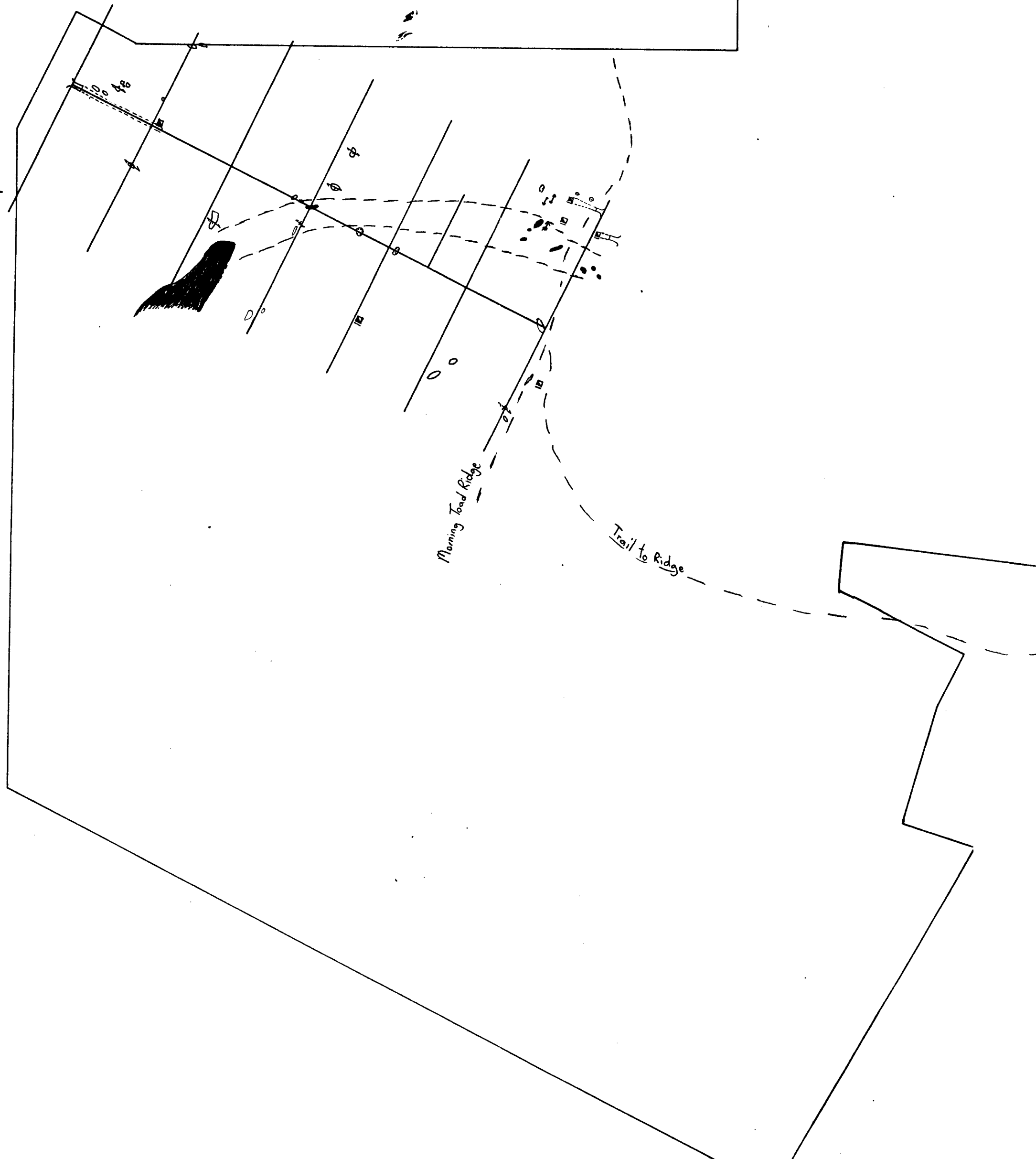
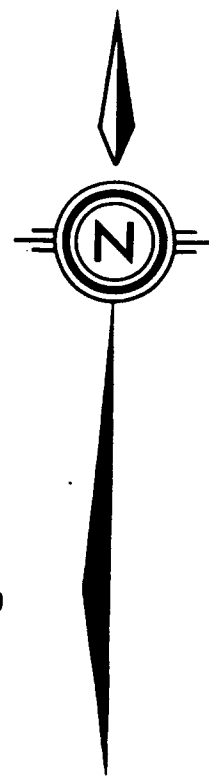
Appendix C: Table of Magnetometer Data

(N)	6+00E	5+00E	4+00E	3+00E	2+00E	1+00E	0+00E
1+70							
1+60	58 270	58 760	58 070	58 150	57 960		
	58 840			58 030	57 803		
1+50	58 420	58 380	57 980	58 010	58 080		
	58 430			58 110	58 140 58 190		
1+40	58 420	58 480	57 820	58 130	57 860		
	58 300			57 940	57 960 58 040		
1+30	58 190	58 110	57 920	57 880	57 910		
	58 080			57 870	57 930		
1+20	58 030	57 780	57 790	57 930	57 920	57 530	
	58 040			57 660	57 900 57 780	57 620	
1+10	58 020	57 790	57 580	57 660	57 640	57 510	
	57 950	57 460		57 773	57 740	57 470	
1+00	57 960	59 230	57 670	57 770	57 770	57 540	57 460
	57 900		57 390	57 650	57 580	57 590	57 490
0+90	58 260	58 660	57 610	57 600	57 620	57 580	57 520
	57 900			57 670	57 620	57 520	57 470
0+80	58 890	58 480	58 040	57 750	57 620	57 450	57 640
	58 890			57 770	57 650	57 350	57 570
0+70	58 890	58 340	57 820	57 750	57 670	57 310	57 440
	58 410			57 730	57 610	57 270	57 440
0+60	58 210	58 350	58 000	57 750	57 690	57 330	57 100
	58 050		57 600	57 750		57 440	
0+50	57 810	58 030	57 600	57 760	57 590	57 530	57 310
	57 930			57 670		57 510	57 310
0+40	57 890	57 650	58 250	57 620	57 550	57 490	57 150
	57 170		58 180	57 630	57 600	57 350	57 040
0+30	57 960	58 200	58 020	57 680	57 760	57 640	57 100
	58 020	57 500 56-5700	58 710	57 720	57 840	57 650	57 140
0+20	58 820	59 670 59 660	58 470	57 780	57 810	57 660	57 210
	58 820	58 570	58 470	57 820	57 990	57 775	57 270
0+10	59 070	58 230	58 080	57 960	58 170	57 540	57 470
	58 460			57 900	58 020	57 660	57 850
0+00	60 080	58 420	57 740	57 790	58 000	59 310	57 540

APPENDIX D

Itemized Cost Statement

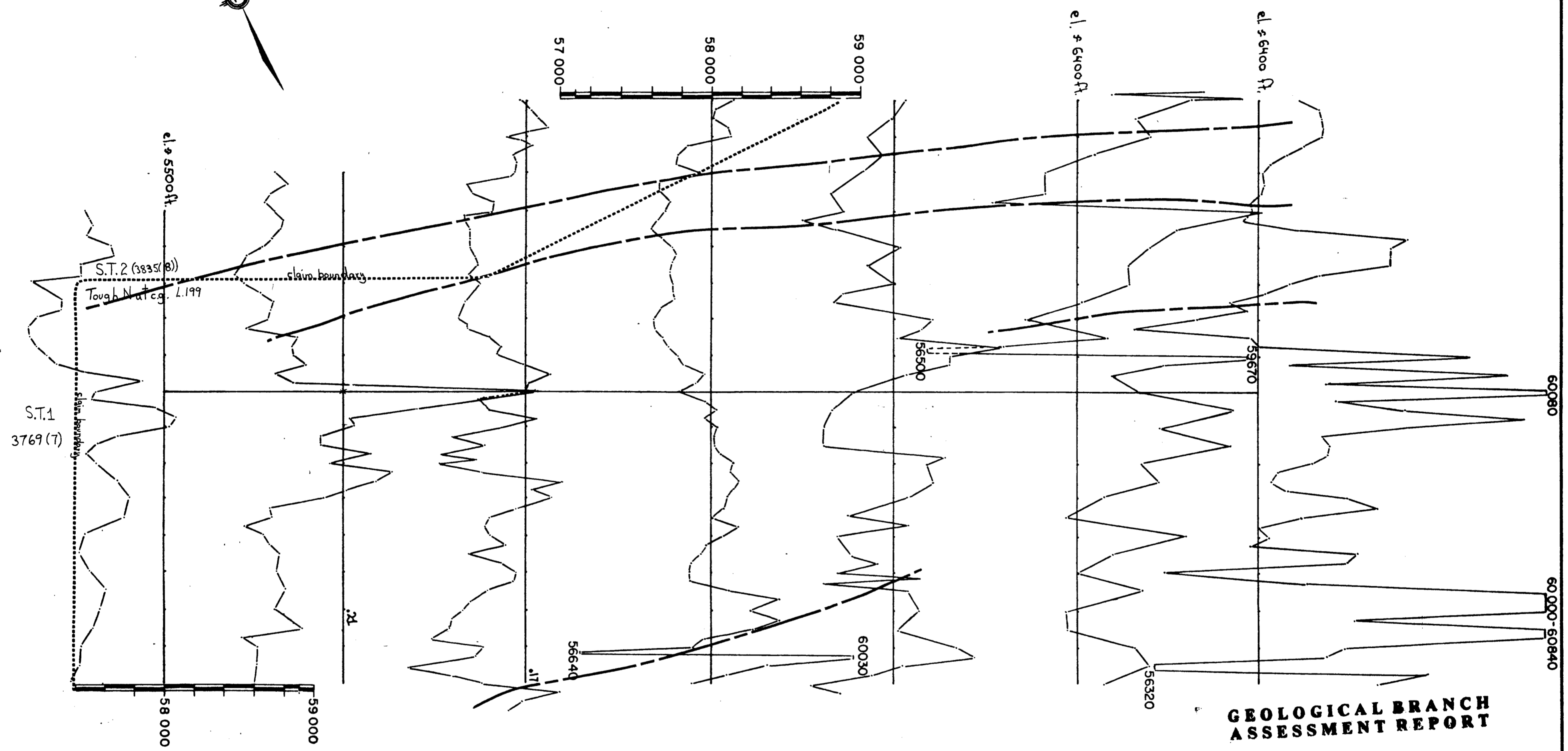
<u>Field Personnel:</u>	Lloyd Addie	3 days @ 100	300.00
	Gordon Addie	13 days @ 150	1,950.00
Food			157.23
Mobilization/Demobilization	Van-Nelson-Van Bus		
	2 @ 90		180.00
Vehicle Rental - 4X4	2 weeks @ 30/day		420.00
Gas			75.00
Equipment Rentals and Supplies:			
	Magnetometer 1 week		
	@ 35/day		245.00
Flagging	One case		12.10
Pickets	200		20.00
Laboratory Analysis:	Total rocks & soil	1,775.12	
Report Preparation:	Wages 3 days @ 150	450.00	
	Drafting	130.00	
	Typing & Duplication	110.00	
			<hr/>
			\$5,824.45
			=====



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,893

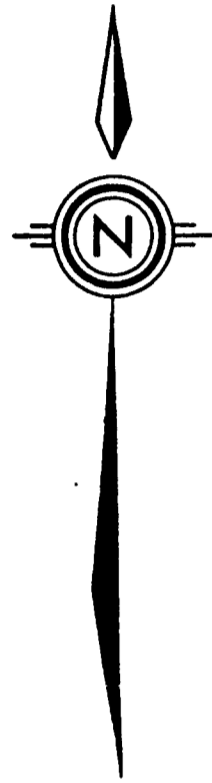
Preliminary Geology - Morning Toad Group		
SCALE: 1:5000	APPROVED BY:	DRAWN BY: <i>b.a.a.</i>
DATE:		REVISED
Legend: Elise Fm. Volcanics <input type="checkbox"/> Nelson(?) intrusion <input type="checkbox"/>		
		DRAWING NUMBER Figure 5



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,893

Morning Toad - MAGNETOMETER SURVEY		
SCALE: 1: 2000	APPROVED BY: <i>Total Field</i>	DRAWN BY G. Addie
DATE: Sept. 12/1985		REVISED
INSTRUMENT: Geometrics G-836 (+/- 10 gammas)		
Note: Readings Taken Facing North		DRAWING NUMBER



Au	Ag	Hg	Cu	Pb	Zn	Sample #
.22	20	5.8	579	9360	>10000	1.2
.15	199	23	8730	3480	>10000	1.23 Fe
.53	153	4.4	11000	5760	5840	1.24
.15	52	3.5	4633	2724	>10000	13
.21	6.7	.58	254	974	2580	2

Au	Ag	Hg	Cu	Pb	Zn	Sample #
.04	.7	.02	126	17	54	8071
.07	.3	.03	53	15	240	8073
.052	.2	.02	29	14	141	8074
1.6	.9	-	10	66	36	8072
.049	.5	.04	148	18	236	8076
.021	.2	.01	80	21	15	8069
.645	12	.06	459	169	101	8068

Au	Ag	Hg	Cu	Pb	Zn	Sample #
-	1.0	-	20	245	600	15
.74	156	5.6	296	>22000	>10000	mk-85-168
1.4	32	19	584	>10000	>10000	12
.12	1.8	379	871	9140	>10000	14
.73	353	1.13	118	17700	1350	11
.42	358	.01	157	19200	1540	mk-85-167
1.23	134	8.9	5210	967	2670	10
.30	4.8	2.21	778	310	9430	mk-85-166
.30	8.9	4.43	322	2510	>10000	9
1.02	494	214	324	34700	>10000	16

Au	Ag	Hg	Cu	Pb	Zn	Sample #
.26	3.6	-	55	307	684	6
.21	79.7	38.6	189	23000	>10000	2
.05	1.9	.06	70	178	86	88

Morning Toad Ridge

Trail to Ridge

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,893



Rock-geochem. - Morning Toad Group		
SCALE: 1:5000	APPROVED BY:	DRAWN BY: <i>B.A.A.</i>
DATE: Oct 26, 1986		REVISED
All values in P.P.M.		DRAWING NUMBER Figure 7