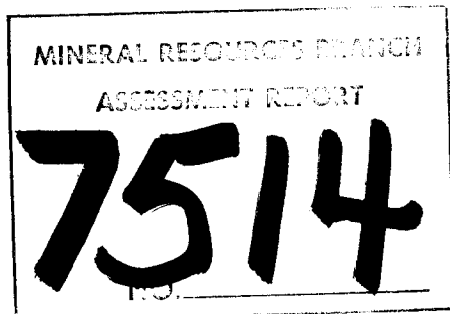


179- # 434- # 7514

1979 Geological and Geochemical Assessment
Report

TITLE WILSON CREEK PROPERTY
CLAIMS Lemax 1,2,4, Ferry No. 2 Crown Grant
COMMODITY Mo-W
LOCATED 1 km northeast of Rosebery, B.C.
Latitude 50°10'N Longitude 117°30'W
Slocan Mining Division 82 K 3
BY C.J. Hodgson, P.Eng. (B.C.)
S.E. Parry (Msc.)
FOR AMAX Potash Limited
WORK PERIOD May 1 - June 1, 1979
July 23 - 25, 1979
August 30, 1979



AMAX VANCOUVER OFFICE

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APPENDICES

APPENDIX I	- Statement of Costs
II	- Qualifications
III	- Analytical Methods and Results
IV	- Contractor's Invoices

ILLUSTRATIONS

Figure 1	- Location Map-----	1:250,000-----	After Page 2
2	- Claim Map-----	1:50,000-----	After Page 2
3	- Geological Map-----	1:5,000-----	In Pocket
4	- Geochemical Map-----	1:5,000-----	In Pocket

SUMMARY AND CONCLUSIONS

This report presents results of geological mapping and geochemical sampling on the Lemax 1, 2 and 4 claims and Ferry No. 2 crown grant, conducted during parts of May, June, July and August, 1979. The property is under option to AMAX Potash Limited from Mr. Peter Leontowicz of Hills, B.C.

The claims cover a Mo-W prospect associated with a Mesozoic-Cenozoic quartz monzonite stock and an intrusive breccia within Triassic Slocan Series metasedimentary rocks.

Three anomalous environments were outlined:

- 1) Pb-Zn(Mo-W) mineralization in the breccia zone
- 2) Pb-Zn-(Mo) mineralization in quartz veins in Ferry No. 2 crown grant, and in veins along the western property boundary, and
- 3) anomalous W-Mo in soils and float overlying pyritic hornfels north and west of the quartz monzonite stock.

INTRODUCTION

General Statement

This report presents results of 1979 geological mapping and geochemical sampling on claims Lemax 1, 2 and 4, and crown grant Ferry No. 2, during the periods May 7 - June 1, July 23 - 25, and August 30, 1979. Mapping was done by C.J. Hodgson, B.W. Kyba and S.E. Parry. Geochemical sampling was done by B.J. Parry.

Location, Topography and Access

The Wilson Creek Mo-W property, Slocan Mining Division, is located within the Selkirk Mountains one kilometre north of the town of Rosebery, B.C. The property lies on a moderately steep valley slope between elevations 570 and 2000 metres on the east side of Wilson Creek. Snow cover lasts on the upper third of the property until late May, making the effective work season May 1 to October 15.

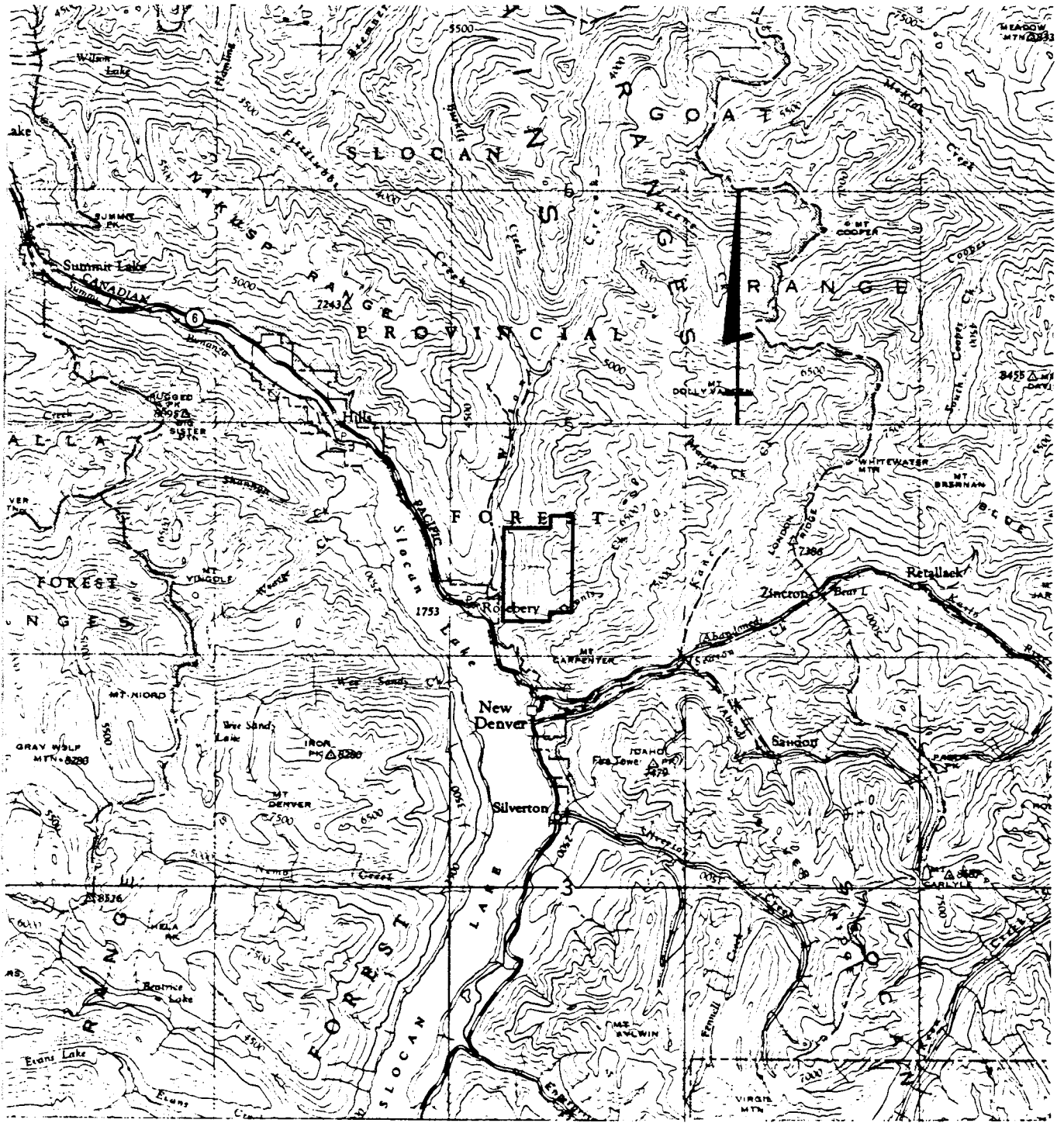
Access to the property is obtained by a well-maintained logging road, which intersects Provincial Highway No. 6, 200 metres east of Rosebery. A caterpillar road which crosses the central part of the property, provides vehicle access up to 1000 metres elevation on Lemax 1.

Claims Data

Claims and units are shown on Figure 2. Pertinent claims data are presented in Table 1.

TABLE I

Claim	Unit Nos.	Total Units	Location Date	Date Recorded	Date Expiry	New Expiry Date
Lemax 1	1-5 12-16 17-21 23-27	20	Aug. 27/78	Aug. 30/79	Aug. 30/79	Aug. 30/82
Lemax 2	1-4 13-20	12	Aug. 27/78	Aug. 30/78	Aug. 30/79	Aug. 30/82
Lemax 4	1-2 15-18 26-29 33-38	16	Sept. 14/78	Sept. 27/78	Sept. 27/79	Sept. 27/80
Ferry No. 2 C.G.	50.02 acres			Aug. 24/78	Aug. 24/79	Aug. 24/82



AMAX POTASH LIMITED

WILSON CREEK PROPERTY
SLOCAN MINING DIVISION — BRITISH COLUMBIA

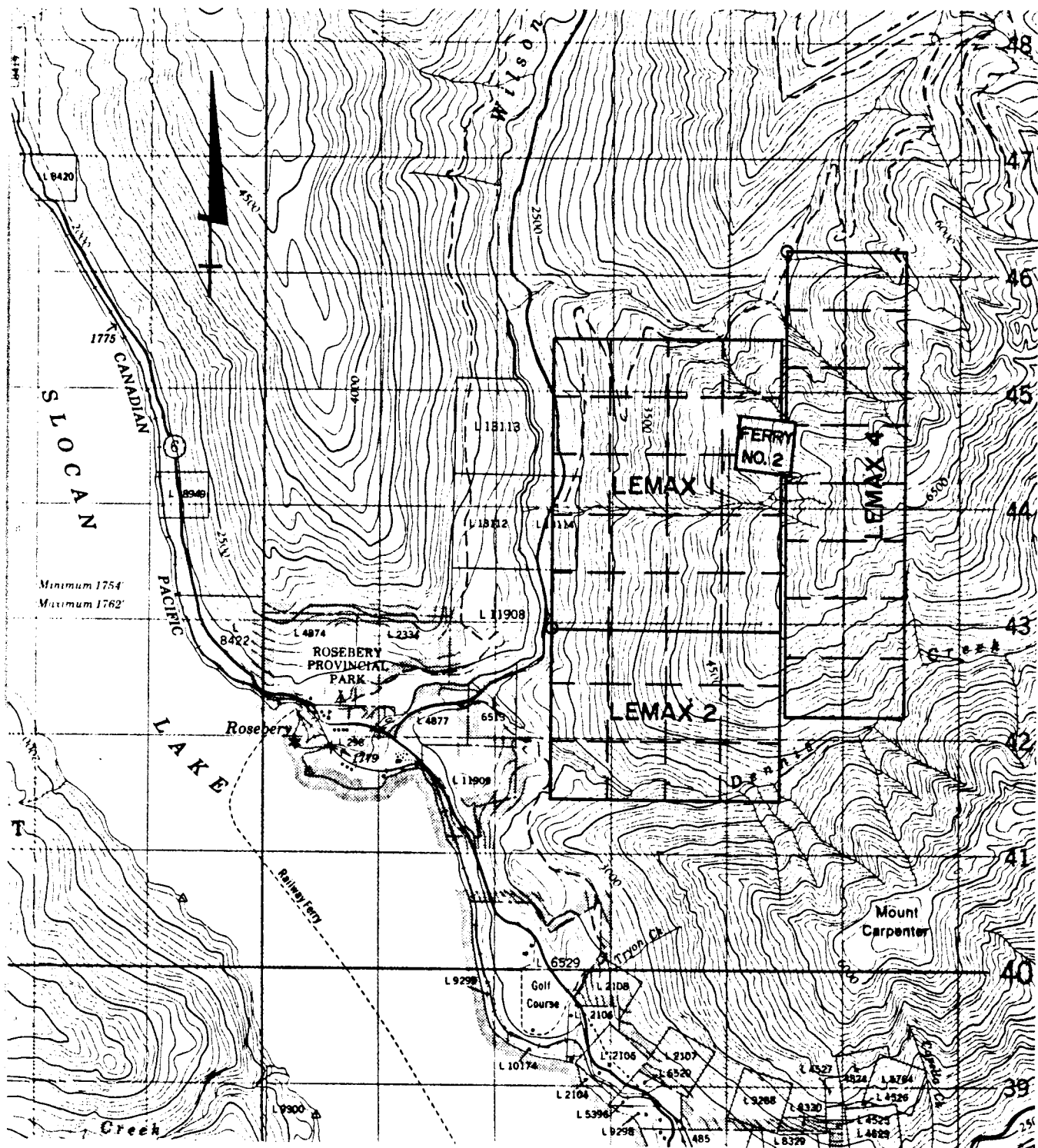
LOCATION MAP



1: 250,000

N.T.S. Ref. 82K3

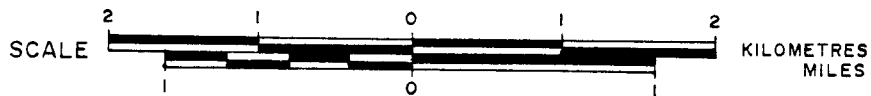
FIG. 1



AMAX POTASH LIMITED

WILSON CREEK PROPERTY
SLOCCAN MINING DIVISION - BRITISH COLUMBIA

CLAIM MAP



1:50,000

N.T.S. Ref. 82 K3
FIG. 2

REGIONAL GEOLOGY

The property is surrounded by strongly deformed metasedimentary and subordinate metavolcanic rocks ranging in age from Late Precambrian to Upper Triassic. Argillites, quartzites and impure limestones of the Slocan Series occur in the immediate vicinity of the property. These supracrustal rocks have been intruded by diorites to quartz monzonites of the Mesozoic Nelson Batholith and peripheral satellitic stocks.

PROPERTY GEOLOGY

General Statement

Mapping was conducted on Lemax 1, 2 and 4 and on Ferry No. 2 crown grant. Ground control was provided by a metric contoured orthophoto at 1:5,000 scale (Figure 3).

Rock Units

Nine mappable rock types, shown as Units 1 to 9 on Figure 3, were identified and are described below in order of decreasing age. Units 1-3, members of the Triassic Slocan Series, are host rocks to the intrusive rock types.

Black fissile argillite (Unit 1) is aphanitic, commonly approaching slate in composition. Quartzitic lenses and bands locally comprise 15% of the rock.

Grey blocky weathering quartzite (Unit 2) is very massive, ranging from a true grey quartzite to a grey-black argillaceous quartzite. A weak shaly cleavage occurs locally in the more argillaceous sections.

White to grey limestone (Unit 3) is massive, blocky weathering to fissile; proximal to intrusive contacts it frequently is recrystallized to a white, siliceous marble. The unit is 100 metres wide and may be an excellent marker horizon. Carbonate content is highly variable, and argillaceous sediments adjacent to this unit are often lime rich as well.

Medium grained hornblende diorite (Unit 4) is dark grey in colour, medium grained, and varies from equigranular to subporphyritic. Euhedral plagioclase phenocrysts up to 0.5 cm in diameter locally occur in a fine grained matrix with 20% hornblende. The diorite occurs as an oval mass at the southern boundary of Lemax 2 and as a smaller, stock-like intrusion on the western margin of Lemax 1.

Light pink to grey equigranular biotite quartz-monzonite (Unit 5) occurs as a large irregular stock in the central part of the property. A smaller dyke of quartz monzonite which is leucocratic at its northern end lies north of the main mass. The rock is generally massive but may locally be well fractured with one quartz vein per metre. A zone of nearly massive bull quartz, nearly 30 metres in diameter occurs at the northern margin of the stock. A lobe of quartz monzonite is inferred to shallowly underlie a thin mantle of metasediments at the northwest corner of the stock.

Porphyritic biotite quartz monzonite (Unit 6) is pink to grey in colour; it contains 5% irregular 2 mm quartz eyes and 7% euhedral, twinned, 15-20 mm orthoclase and albite phenocrysts in a medium grained equigranular matrix. An easterly elongate porphyritic biotite quartz monzonite intrusion is present on Lemax 1 north of the main quartz monzonite stock. A second intrusion occurs west of the property on the west side of Wilson Creek Valley. Locally, where it contains up to 1% pyrite, the rock weathers a bright magenta-red colour. The age relationships between the equigranular and porphyritic quartz monzonite are not known.

Fine grained aplite dykelets (Unit 7) cross-cut the equigranular quartz monzonite near the Lemax 1 southern boundary. The dykelets are light pink with a fine grained sugary texture. They may be late stage differentiates of the main stock.

Light grey feldspar-quartz porphyry dykes (Unit 8) cut the hornblende diorite near the southern property boundary. The dykes are true porphyries having up to 5% 5 mm orthoclase phenocrysts and 1% 2 mm quartz eyes in a light grey aphanitic matrix. Dyke walls are parallel and sharply defined.

Polymictic and silicic intrusive breccia (Unit 10) occurs as an easterly elongate 100 by 300 metre oval. It is best exposed in the south facing cliffs at 1100 metres elevation along a prominent gully on Lemax 1, near the property centre.

Three different types of breccia were mapped. The first breccia type which is present at the south end of the zone consists of 70-90% angular clasts of equigranular quartz monzonite in a fine grained siliceous matrix. Up to 0.5% pyrrhotite and pyrite, with traces of sphalerite and galena and one grain of molybdenite were identified in the matrix. Fragments are bleached white and may be silicified.

A second type of breccia occurs mainly in the east half of the zone; it appears similar to the first but lacks the intrusive fragments and the sulphide content of the former. All fragments appear bleached and/or silicified.

The third breccia type which occurs on the south side of the zone consists of large blocks of argillite and quartzite, up to 2 metres in diameter in a fine grained rock flour matrix. The blocks are sometimes rotated, but many appear in situ suggesting only local brecciation and movement. Fragments are only weakly altered and pyrite-pyrrhotite content does not exceed 0.5%.

Alteration

Silicified, bleached fragments within the intrusive breccia zone represent the most intense alteration on the property.

North and west of the main quartz monzonite stock metasedimentary rocks have been altered to a hard, brittle pyritic hornfels which contains up to 1% disseminated pyrite and pyrrhotite and very fine grained biotite which imparts a purple-brown colour. Hornfelsing diminishes with increasing distance from the stock, and dies out about 2000 metres north of the intrusive contact.

Mineralization

Traces of sphalerite, galena and molybdenite were identified in the breccia zone; they also occur in flat lying quartz veins in the quartz monzonite along the western property boundary. Similar veins were noted west of Wilson Creek, and vertical galena-sphalerite-quartz veins were mapped in adits on Ferry No. 2 crown grant. Traces of scheelite were noted in hornfelsed argillite float from areas underlain by pyritic hornfels and in southeasterly striking fractures in hornblende diorite on Lemax l. The scheelite in float is interpreted to be locally derived.

GEOCHEMISTRY

General Statement

369 soil and stream sediment samples were collected at 100 metre intervals on lines 300 metres apart. Line spacing was reduced to 150 metres over the breccia zone and pyritic hornfels. 72 rock chip samples of various lithologies and mineralized veins were also collected.

All samples were submitted to Rossbacher Laboratories, Burnaby and analyzed for Mo, W and Zn. Selected samples were also analyzed for Cu, Ni, Co, Mn, Fe, Pb, Ag and F. Analytical methods are described in Appendix III.

Soil Types and Provenance

Two soil types were recognized. Greater than 70% of the samples were of a light to medium brown wooded brown soil. Humic material comprised up to 20% of the soil to a depth of 5 cm.

A light grey ash layer was noted at most sample sites below this organic horizon.

The second soil type was medium to dark brown podzol, with a 5 cm humic AH horizon, a light grey, leached AE horizon up to 5 cm in thickness and an orange to brown B horizon. The ash layer was frequently present above the leached horizon.

Geochemical samples were taken from the B horizon, or where available the C horizon gradational into the parent material. Above 800 metres elevation the parent material is a poorly sorted glacial till containing up to 10% talus, and below 800 metres it is moderately well sorted alluvial outwash.

Results

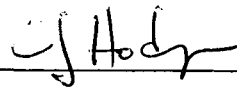
Results for individual samples are tabulated in Appendix III, and are shown for Mo and W on Figure 4. The visually estimated threshold values were 3 ppm Mo and 14 ppm W.

A weak Mo-W anomaly was detected in the area of pyritic hornfels, averaging 4 ppm Mo, 25 ppm W, with maximum values of 100 ppm Mo and 80 ppm W. In addition grab samples of quartz veins west of Wilson Creek yielded anomalous Mo as did one rock chip sample of diorite from the south property boundary which also contained 35 ppm W. Base metal anomalies occur in areas of quartz veining on Ferry No. 2 Crown Grant and near the western property boundary. Rock chip samples of veins in adits at these locations were highly anomalous in Pb, Zn and Ag.

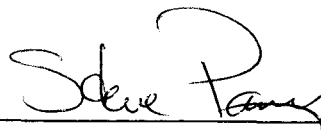
Three anomalous environments were detected by geological and geochemical investigations. These include:

- 1) Pb-Zn(Mo-W) mineralization in the breccia zone
- 2) Pb-Zn-(Mo) mineralization in quartz veins on Ferry No. 2 Crown Grant, and in veins near the western property boundary, and

- 3) Anomalous W-Mo in soils and float overlying pyritic hornfels north and west of the main quartz monzonite stock.



C.J. Hodgson, P.Eng. (B.C.)



S.E. Parry

APPENDIX I - STATEMENT OF COSTS

Wilson Creek Lemax 1, 2, 4, & Ferry No. 2 Crown Grant

Summary of Work Geochemical sampling and geological mapping

Period of Work May 1 - June 1, 1979
 July 23 - 25, 1979
 August 30, 1979

Personnel

C.J. Hodgson, P.Eng., 601-535 Thurlow Street, Vancouver, B.C. 8 days @ \$177.60/day May 28-July 1, July 22-24	\$1,420.80
B.W. Kyba, Geologist, 601-535 Thurlow Street, Vancouver, B.C. 6 days @ \$110.11/day May 7-12	660.66
S.E. Parry, MSc.Geologist, 601-535 Thurlow Street, Vancouver, B.C. 32 days @ \$59.17/day May 1-June 1	1,893.44
B.J. Parry, Geochem Tech., 601-535 Thurlow Street, Vancouver, B.C. 32 days @ \$39.46/day May 1-June 1	1,262.72

Room and Board

78 days @ \$25.00/day 1,950.00

Transportation

One four-wheel drive 25 days @ \$30.00/day 750.00
Two four-wheel drive 11 days @ \$60.00/day 660.00

Physical Work

Peter Leontowicz, R.R. #1, New Denver, B.C.
Repair of access road using D-6N bulldozer 1,000.00

Geochemical Analyses

Rossbacher Laboratories, Burnaby, B.C. Inv. #9098 & #9118

296 soil/silt samples - Mo, Zn, W	1,095.30
73 soil/silt samples - Mo,Cu,Ni,Co,Mn,Fe,Ag,Zn,Pb,W,F	653.35
42 rock chip samples - Mo,Ni,Fe,Pb,W,F	409.50
30 rock chip samples - Mo,Cu,Ni,Co,Mn,Fe,Ag,Zn,Pb,W	195.00

Topographic Map and Orthophoto

Pacific Survey Corporation, Vancouver, B.C. Inv. #261
1:5000 with 10 metre contours 3,170.08

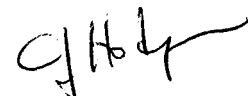
Drafting and Report Preparation

400.00

TOTAL \$15,520.85

3 years work to be applied to Lemax 1, 2 and Ferry No. 2 C.G.
1 year work to be applied to Lemax 4

=====



APPENDIX II

STATEMENT OF QUALIFICATIONS

NAME	B.W. Kyba
EDUCATION	Four year BSc in Geology University of Alberta
EXPERIENCE	Geologist, Brascan Resources - 1974 Geologist, Pechiney Development Ltd. - 1975-1976 Staff Geologist, AMAX Minerals Exploration, 1976 Present

STATEMENT OF QUALIFICATIONS

NAME S.E. PARRY

EDUCATION 4 year BSc. (Hons. Geological Sciences)
Queen's University, Kingston, Ontario
MSc. (Geology)
University of Western Ontario, London, Ontario

EXPERIENCE Geological Assistant - Cominco Ltd. - 1975
Geological Assistant - Shell Canada Resources - 1976
Geologist - Falconbridge Copper Ltd. - 1977, 1978
Geologist - AMAX Minerals Exploration - 1979

NAME B.J. PARRY

EDUCATION 3 year B.A. in Geology
Queen's University, Kingston, Ontario

EXPERIENCE Geochemical field assistant - Dickenson Mines - 1975
Geological assistant - Shell Canada Resources - 1976
Geochemist & camp manager, Falconbridge Copper - 1977
Geochemical technician - University of Western Ontario - 1978, 1979
Geochemical technician - AMAX Minerals Exploration - 1979

APPENDIX III

ANALYTICAL RESULTS AND PROCEDURES

Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

AMAX

2275 S SPRINGER AVE.
BURNABY, B.C.
CANADA
TELEPHONE 299-6810
AREA CODE 604

JUN 8 1973

CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION

601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9047-1

INVOICE NO. 475

DATE ANALYSED 11/10/73

TO:

PROJECT 935

No.	Sample	pH	Mo	Ca	Mg	Al	Fe	Mn	Zn	Cu	Pb	U	Th	No.
01	7441352		2	2					740		10		01	
02	41		2						160		10		02	
03	42		2	32	50	26	500	2.2	0.8	410	58	10	295	03
04	43		3						640		5		04	
05	44		2						220		10		05	
06	445		6	100	116	28	600	2.8	2.0	1940	32	40	420	06
07	46								1000		5		07	
08	47		6	110	84	20	420	1.6	1.0	1500	38	10	270	08
09	48		2						2800		5		09	
10	49		5						40		20		10	
11	49		13	80	56	44	1100	4.9	1.2	580	26	35	150	11
12	51		7	82	60	26	260	2.6	0.2	420	26	20	320	12
13	52		5						440		15		13	
14	53		7						320		15		14	
15	54		4						320		10		15	
16	55		7						320		15		16	
17	56		9	60	42	28	720	2.8	1.0	420	30	20	265	17
18	57		9	61	42	28	1360	2.8	1.2	340	20	2	230	18
19	58		2						44		0		19	
20	59		14						740		15		20	
21	60		25	26	64	32	800	3.7	1.4	230	24	70	395	21
22	61		6						500		5		22	
23	62		1	40	32	20	560	1.4	0.8	260	28	10	460	23
24	63												24	
25													25	
26													26	
27													27	
28													28	
29													29	
30													30	
31													31	
32													32	
33													33	
34													34	
35													35	
36													36	
37													37	
38													38	
39													39	
40	66		47	260	260	22	320	1.6	3.2	320	400		40	

Certified by

[Signature]

Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

AMAX

2275 S SPRINGER AVE.
BURNABY, B.C.
CANADA
TELEPHONE 299-6810
AREA CODE 604

1

JUN 8 1973

CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION

601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9047-2

INVOICE NO. 475

DATE ANALYSED 11/10/73

TO:

PROJECT 935

No.	Sample	pH	Mo	Ca	Mg	Al	Fe	Mn	Zn	Cu	Pb	U	Th	No.
01	7441351		2						420		10		01	
02	1		2						270		10		02	
03	3		1						200		5		03	
04	4		2						276		10		04	
05	5		1	18	26	24	300	2.9	0.6	224	14	5	220	05
06	6		4						700		10		06	
07	7		3						620		20		07	
08	8		3						604		2		08	
09	9		2						960		5		09	
10	10		1	24	6	14	1040	1.8	1.6	1200	36	5	150	10
11	11		5						740		5		11	
12	12		5						620		2		12	
13	13		3						400		10		13	
14	14		3						250		10		14	
15	15		2	26	44	16	500	1.7	1.2	520	62	10	240	15
16	16		4						260		10		16	
17	17		6						220		15		17	
18	18		4						700		10		18	
19	19		7						180		5		19	
20	20		9	40	30	18	240	2.1	1.0	240	102	15	220	20
21	21		4						420		20		21	
22	22		5						410		10		22	
23	23		1						120		2		23	
24	24		1						180		5		24	
25	25		3	64	44	18	640	1.4	1.2	540	66	10	260	25
26	26		2						460		10		26	
27	27		7						400		25		27	
28	28		7						1100		30		28	
29	29		5						1120		15		29	
30	30		1	52	52	26	440	2.7	1.0	1420	36	20	270	30
31	L31		3	76	54	22	1040	2.2	2.0	2000	52	30	290	31
32	S32		4						1840		60		32	
33	L33		3	100	44	14	600	1.7	2.8	2400	72	45	320	33
34	S34		2						700		20		34	
35	35		3						640		40		35	
36	36		1						320		20		36	
37	37		4	22	50	24	740	2.4	0.8	620	24	10	250	37
38	38		2						500		10		38	
39	39		1						600		25		39	
40	G 9/07		16	334	16	6	140		0.9	440	59	25	40	

Certified by

[Signature]

Rossbacher Laboratory

AMAX

2275 S SPRINGER AVE.
BURNABY, B.C.
CANADA
TELEPHONE 799-0010
AREA CODE 604

GEOCHEMICAL ANALYSTS & ASSAYERS

CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION
601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9047-4.

INVOICE NO. 9055

DATE ANALYSED May 23/79

TO: PROJECT 935

No.	Sample	pH	Mo	Cu	Ni	Co	Mn	Zn	As	Sb	Pb	W	Fe	No.
01	71WRT 1		4	50	42	46	600	4.1	1.2	400	76	10		01
02	2		14	64	52	26	340	2.5	1.0	260	28	0		02
03	3		9	126	50	32	240	2.8	0.6	500	20	5		03
04	4		6	28	38	20	380	1.0	0.2	140	16	0		04
05	5		4	12	18	13	160	0.7	0.2	30	10	5		05
06	6		5	12	64	13	140	1.1	0.2	40	20	2		06
07	7		3	24	20	12	440	1.0	0.6	168	110	5		07
08	8		3							410		2		08
09	9		6							210		2		09
10	10		6							420		2		10
11	11		3							220		0		11
12	12		1	56	30	34	1120	2.3	0.6	110	58	0		12
13	13		1							520		5		13
14	14		3							420		5		14
15	15		2							260		2		15
16	16		2							300		2		16
17	17		2	20	36	16	40	2.0	0.8	420	64	5		17
18	18		1							200		5		18
19	19		1							520		15		19
20	20		2							510		10		20
21	21		1							9800		0		21
22	22		1	20	32	20	440	2.1	0.6	200	60	0		22
23	23		2							340		0		23
24	24		1							260		2		24
25	25		4							400		10		25
26	26		11	120	28	20	1080	0.7	0.4	6700	28000	2		26
27	27		6	118	28	26	440	2.1	0.8	4000	3300	50		27
28	28		10	76	40	32	80	2.0	0.4	4400	1200	1600		28
29	29											30		29
30	30		1	20	54	26	800	0.3	1.2	120	56	0		30
31														31
32														32
33														33
34														34
35														35
36														36
37														37
38														38
39														39
40	G1/627		6	40	14	14	200	2.8	0.4	120	28	15		40

Certified by 10226/ab

Rossbacher Laboratory

AMAX

2275 S SPRING
BURNABY, B.C.
CANADA
TELEPHONE 799-0010
AREA CODE 604

GEOCHEMICAL ANALYSTS & ASSAYERS

JUN 8 1979

CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION
601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9050

INVOICE NO. 9095

DATE ANALYSED May 23/79

TO: PROJECT 935

No.	Sample	pH	Mo	Cu	Ni	Co	Mn	Zn	As	Sb	Pb	W	Fe	No.
01	71WPT 40		8	24	34	28	1900	1.6	0.2	400	16	15	520	01
02	41		6	18	32	20	520	0.8	0.2	320	22	2	800	02
03	42		5	58	22	16	160	1.8	0.4	100	24	15	820	03
04	43		5	40	38	24	260	2.2	0.6	60	22	0	820	04
05	44		5	34	40	26	260	1.8	0.4	120	22	0	820	05
06	45		6	24	30	12	280	1.3	0.2	140	20	0	820	06
07	46		2	6	12	10	80	0.8	0.2	80	16	0	300	07
08	47		6	24	32	22	280	1.4	0.8	96	24	0	1130	08
09	50		2	32	30	16	1340	2.0	1.0	1400	150	0	440	09
10	51		1	32	36	16	360	1.8	1.0	960	66	40	1540	10
11	52		1	20	32	14	400	1.6	0.6	2000	700	20	200	11
12	53		6	64	60	28	200	4.1	0.4	2200	260	20	530	12
13	54		12	116	70	32	480	4.0	0.8	1300	560	40	230	13
14	55		3	24	24	16	1340	1.5	0.4	460	240	10	230	14
15	56		3	22	32	24	1000	2.2	0.4	1160	440	15	400	15
16	T60		6	10	32	18	180	0.6	0.2	40	8	0	630	16
17	61		9.6	40	20	24	180	2.6	0.4	60	16	0	200	17
18	62		10	14	14	20	160	1.8	0.4	280	24	0	540	18
19	63		4.00	12	26	26	380	1.4	0.2	260	12	0	220	19
20	64		16	24	42	20	120	1.8	0.4	40	24	0	400	20
21	65		6	32	40	20	800	2.2	0.2	140	20	0	510	21
22	66		4	8	18	12	240	0.8	0.2	60	20	0	230	22
23	67		4	6	20	16	560	1.0	0.2	60	190	0	640	23
24	68		4	6	16	6	200	0.8	0.2	20	18	0	120	24
25	69		3	12	12	8	120	0.5	0.4	10	8	0	240	25
26	70		2	6	24	26	140	0.3	0.2	14	26	0	100	26
27	71		7	18	14	36	500	2.8	0.6	30	26	0	740	27
28	75		4	6	22	12	260	0.7	0.4	140	26	0	500	28
29	76		2	8	16	8	200	0.8	0.2	26	26	0	210	29
30	77		2	10	36	26	180	0.6	0.4	18	22	0	210	30
31	78		3	24	32	20	260	3.4	0.6	60	26	0	120	31
32	79		6	16	38	24	160	2.2	0.2	60	20	0	200	32
33	80		4	16	20	20	420	2.2	0.4	80	18	2	120	33
34	81		1	20	30	26	460	1.8	0.4	96	32	20	530	34
35														35
36														36
37														37
38														38
39														39
40	89		16	240	12	10	140	0.8	0.2	420	340			40

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GEOCHEMICAL ANALYSTS & ASSAYERS

AMAX MINERALS EXPLORATION

601 - 535 THURLOW ST
VANCOUVER, B.C. V6E 3L6

TO: PROJECT **G 35**

2725 S SPRINGER AVE
BURNABY, B.C.
CANADA
TELEPHONE 299-8910
AREA CODE 604

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. **9050**
INVOICE NO. **475**

DATE ANALYSED **17/07/79**

No	Sample	pH	Mo	Cu	Ni	Co	Mn	Pb	Zn	Ag	As	U	Te	No
01	79W35103		1						400			5		01
02	104		2						540			0		02
03	105		1						440			2		03
04	106		1						420			0		04
05	107		1	22	36	16	500	2.2	0.6	960	108	0		05
06	108		2						260			10		06
07	109		1						220			0		07
08	110		1						200			0		08
09	111		1						320			0		09
10	112		2	66	64	20	1480	2.8	4.0	1560	680	10		10
11	113		2						260			2		11
12	114		1						400			2		12
13	115		1						380			0		13
14	L116		1	60	42	20	560	2.0	1.4	280	130	2	480	14
15	S117		1						920			2		15
16	118		1	18	28	12	600	1.9	0.6	380	82	0		16
17	119		2						320			0		17
18	L120		1	48	40	16	520	1.6	0.8	200	80	0	470	18
19	121		1	40	36	22	440	1.5	0.6	160	64	2	40	19
20	S122		1						160			2		20
21	123		1						200			2		21
22	124		1						340			0		22
23	L125		2	44	40	16	520	2.5	0.6	160	50	2	NS	23
24	S126		1	28	46	12	560	2.4	0.8	520	42	5		24
25	127		2						280			5		25
26	L128		1	16	46	16	400	2.2	0.6	360	26	2	420	26
27	S129		1						100			0		27
28	130		2						200			0		28
29	131		2						580			2		29
30	132		3	20	36	22	1560	2.1	0.8	400	34	0		30
31	L133		5	60	44	14	440	2.2	1.8	160	60	2	395	31
32	S134		5						200			0		32
33	135		5						100			0		33
34	136		5						140			0		34
35	137		4						140			2		35
36	138		1	14	32	16	460	1.8	0.8	160	32	2		36
37	139		2						300			5		37
38	140		2						20			0		38
39	L141		3	38	40	16	560	2.3	1.4	130	56	0		39
40	G 1		6	40	14	14	...	2.8	2.4	100	34	5		40

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GEOCHEMICAL ANALYSTS & ASSAYERS

AMAX MINERALS EXPLORATION

601 - 535 THURLOW ST
VANCOUVER, B.C. V6E 3L6

TO: PROJECT **G 35**

2725 S SPRINGER AVE
BURNABY, B.C.
CANADA
TELEPHONE 299-8910
AREA CODE 604

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. **9050**
INVOICE NO. **475**

DATE ANALYSED **17/07/79**

No	Sample	pH	Mo	Cu	Ni	Co	Mn	Pb	Zn	Ag	As	U	Te	No
01	79W3564		3	26	50	10	500	2.5	0.4	840	34	25		01
02	65		1						520			10		02
03	66		1						1840			10		03
04	67		3						960			30		04
05	68		2	86	56	20	500	3.6	0.8	1180	76	20		05
06	69		2						2100			41		06
07	70		1						900			20		07
08	71		1						1000			2		08
09	72		3						2400			0		09
10	73		1	22	36	12	1060	2.6	0.4	1560	64	5		10
11	74		2						400			0		11
12	75		2						1680			21		12
13	76		2						1320			80		13
14	77		4						840			15		14
15	78		2	16	16	12	1120	1.3	0.6	640	20	10		15
16	79		2						520			15		16
17	80		16						1800			120		17
18	81		14						1080			130		18
19	L82		2	50	42	20	600	2.8	1.2	400	160	0	480	19
20	S83		2						800			0		20
21	84		4	138	46	36	580	4.1	2.4	640	54	15		21
22	85		2						480			2		22
23	86		2						520			0		23
24	87		2						1140			0		24
25	88		3						640			2		25
26	89		2	26	40	14	360	2.0	0.4	320	52	2		26
27	L90		1	34	36	14	340	1.3	0.6	340	62	2	460	27
28	S91		2						400			2		28
29	92		2						400			2		29
30	93		1						240			2		30
31	L94		2	36	32	20	360	2.2	0.8	220	62	10	420	31
32	S95		2						520			10		32
33	96		2	36	40	24	300	2.3	0.4	360	48	15		33
34	L97		1	38	36	20	400	2.0	0.8	220	70	10	460	34
35	S98		3						300			5		35
36	99		1						600			2		36
37	100		2						180			2		37
38	101		2						380			0		38
39	L102		2	28	60	20	240	2.3	0.6	280	46	5		39
40	G 10		14	28	16	20	240	2.4	0.4	20	28	60		40

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GEOCHEMICAL ANALYSTS & ASSAYERS

AMAX

2225 S SPRINGER AVE.
BURNABY, B.C.
CANADA
TELEPHONE 299-8810
AREA CODE 604

JUN 8 1979

CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION
601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9047-3

INVOICE NO. 9055

DATE ANALYSED May 23/79

PROJECT 935

No.	Sample	pH	Mo	Cu	Ni	Co	Mn	Fe	Pb	Zn	As	W	F	No.
01	79WPT 1		4	60	56	56	340	2.5	7.0	900	400	20	330	01
02	2		9	28	64	36	360	1.5	1.8	140	90	5	380	02
03	S 3		3							220		5		03
04	4		6							310		5		04
05	5		4							1600		2		05
06	6		3							400		2		06
07	7		7	104	114	60	1140	5.4	1.2	420	64	2	120	07
08	8		7							460		15		08
09	9		3							460		10		09
10	10		1							390		5		10
11	11		1							240		2		11
12	12		1	40	68	20	460	2.2	0.6	420	20	10	105	12
13	13		2							590		15		13
14	14		1							260		5		14
15	15		1							410		2		15
16	T 17		18	48	50	26	400	1.7	0.6	30	24	15	320	16
17	17		36	64	76	34	120	1.5	0.8	60	30	2	420	17
18	18		1	12	40	24	320	0.7	1.2	50	50	0	235	18
19	19		6	38	24	20	240	1.2	0.4	520	32	2	215	19
20	20		7	172	46	72	840	6.2	1.0	60	34	5	400	20
21	S 21		3							220		2		21
22	22		3	14	40	14	1000	1.7	0.4	200	60	2	65	22
23	23		2							720		2		23
24	24		1							480		5		24
25	25		2							760		2		25
26	26		2							560		2		26
27	27		1	60	52	34	760	3.2	0.6	540	32	5	60	27
28	28		1							360		5		28
29	T 29		48	114	64	36	160	1.9	0.6	160	20	10	400	29
30	30		36	72	60	28	840	3.0	1.0	220	36	0	255	30
31	31		4	36	72	48	600	2.0	0.6	90	18	0	210	31
32	32		5	66	36	36	220	1.8	0.6	110	18	0	215	32
33														33
34														34
35														35
36														36
37														37
38														38
39														39
40	G 2 / 166		52	112	14	14	200	2.4	0.4	160	114	50		40

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GEOCHEMICAL ANALYSTS & ASSAYERS

AMAX

2225 S SPRINGER AVE.
BURNABY, B.C.
CANADA
TELEPHONE 299-8810
AREA CODE 604

JUN 8 1979

CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION

601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9050

INVOICE NO. 9055

TO:

PROJECT 935

DATE ANALYSED May 23/79

No.	Sample	pH	Mo	Cu	Ni	Co	Mn	Fe	Pb	Zn	As	W	F	No.
01	79WBS 1X2		2							200		0		01
02	143		4							220		10		02
03	144		3	28	46	10	200	2.1	0.6	140	40	5		03
04	145		3							240		2		04
05	146		2							160		0		05
06	147		2							280		0		06
07	148		2							250		0		07
08	L 149		3	42	36	14	480	1.6	0.8	180	80	0	420	08
09	150		2	34	22	16	380	1.3	0.6	162	62	0	430	09
10	S 151		2	18	20	16	1200	1.8	0.6	220	72	15		10
11	152		6							1560		0		11
12	153		5							180		0	410	12
13	L 154		1	26	32	28	240	1.0	0.6	160	60	0	350	13
14	155		1	24	36	28	160	0.8	0.6	144	44	0		14
15	S 156		4							280		0		15
16	157		2							460		0		16
17	158		3	60	44	22	400	3.2	0.6	282	52	0		17
18	159		3							420		0		18
19	160		2							220		0		19
20	161		6							540		0		20
21	162		1							300		0		21
22	163		2	16	34	12	520	1.8	0.4	180	24	0		22
23	164		1							180		0		23
24	165		1							260		0		24
25	166		3							120		0		25
26	167		2							140		0		26
27	168		2	20	36	18	140	2.3	0.6	180	32	0		27
28	169		1							180		0		28
29	170		2							160		0		29
30	171		3							180		5		30
31	172		3							200		0		31
32	173		2	16	32	24	660	2.3	0.8	220	32	0		32
33	174		1							260		0		33
34	175		1							320		0		34
35	176		1							160		2		35
36	177		1							540		0		36
37	178		1	28	44	16	160	2.0	0.4	240	24	0		37
38	179		2							520		5		38
39	180		1							260		5		39
40	181		1							320		10		40

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GEOCHEMICAL ANALYSTS & ASSAYERS

2275 S SPRINGER AVE.
BURNABY, B.C.
CANADA
TELEPHONE 299-8810
AREA CODE 604

CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION

601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9065-1

INVOICE NO. 9118

DATE ANALYSED June 11/79

TO:
PROJECT 935

No.	Sample	pH	Mo	Cu	Ni	Co	Mn	Fe	Pb	Zn	Pb	PPM W	PPM F	No.
01	79 WPT 82		1	14	24	28	930	2.3	.6	88	6	0	550	01
02	83		1	24	30	32	420	5.0	.6	116	10	0	625	02
03	84		2	14	26	16	430	1.0	.6	30	8	0	625	03
04	WPS 85		1	16	4	16	81	2.0	.6	288	30	0		04
05	86		4							234		0		05
06	87		5							1060		0		06
07	88		1							580		0		07
08	89		1							290		0		08
09	WPT 90		13	48	34	36	960	5.2	.2	140	4	10	290	09
10	WPS 91		2							440		0		10
11	92		1							178		0		11
12	93		2							168		0		12
13	94		2							290		0		13
14	95		1							176		0		14
15	96		1	28	40	160	670	2.1	1.2	130	30	0		15
16	97		1							146		0		16
17	98		1							250		0		17
18	WPT 99		3	4	20	12	220	4.2	.6	18	20	0	625	18
19	WPS 100		3							160		0		19
20	101		1	29	40	26	1400	2.6	.5	160	54	0		20
21	102		3							178		0		21
22	WPT 103		3	14	48	26	250	4.0	.4	100	10	0	550	22
23	WPS 104		2							184		0		23
24	105		3							200		0		24
25	106		2							188		0		25
26	107		2	38	36	30	890	2.5	.6	178	72	0		26
27	108		1							144		0		27
28	109		1							230		0		28
29	110		2							176		0		29
30	111		3	36	42	22	590	2.6	1.1	134	30	0		30
31	112		3							198		0		31
32	113		2							259		0		32
33	114		1							420		0		33
34	115		1							138		0		34
35	116		1	48	56	36	6700	2.7	1.0	220	44	0		35
36	117		4							428		0		36
37	118		4							270		15		37
38	119		2							238		0		38
39	120		1							216		0		39
40	G 10		13	22	16	280	2.6	.4	.76	8	15	0		40

9.24 2.24 1.6 1.1 1.6
1.2 1.2 1.2 1.2 1.2

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GEOCHEMICAL ANALYSTS & ASSAYERS

2275 S SPRING
BURNABY B.C.
CANADA
TELEPHONE 299-8810
AREA CODE 604

CERTIFICATE OF ANALYSIS

TO: AMAX MINERALS EXPLORATION
601 - 535 THURLOW ST
VANCOUVER, B.C.

CERTIFICATE NO. 9047

INVOICE NO. 9098

DATE ANALYSED JUNE 21/79

PROJECT 935

No.	Sample	pH	Mo	Cu	PPB Pb	PPM Zn						No.
01	79 WKT 7				20	2						01
02												02
03												03
04												04
05												05
06												06
07												07
08												08
09												09
10												10
11												11
12												12
13												13
14												14
15												15
16												16
17												17
18												18
19												19
20												20
21												21
22												22
23												23
24												24
25												25
26												26
27												27
28												28
29												29
30												30
31												31
32												32
33												33
34												34
35												35
36												36
37												37
38												38
39												39
40												40

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GEOCHEMICAL ANALYSTS & ASSAYERS

2275 S SPRINGER AVE.
BURNABY, B.C.
CANADA
TELEPHONE: 799-0010
AREA CODE: 604

⑤

CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION

601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9065-5

INVOICE NO. 9118

DATE ANALYSED June 11/79

TO:

PROJECT

No.	Sample	pH	Mo	Cu	Ni	Co	Mn	Fe	Pb	Zn	Pb	W	No.
01	79 WBS 260		8	24	62	26	420	2.7	.6	910	14	10	01
02	261		4							400		2	02
03	262		4							250		5	03
04	263		4							600		2	04
05	264		5.12	80	36	420	4.8	.6	.454	24	10		05
06	265		1							220		0	06
07	266		1							220		0	07
08	267		1							164		0	08
09	268		1							110		0	09
10	269		1	12	16	18	420	1.8	.2	88	14	0	10
11	270		2							116		0	11
12	271		1							106		0	12
13	272		1							164		0	13
14	273		1							86		0	14
15	274		12	46	36	28	300	3.7	2.2	480	50	2	15
16	275		1							410		0	16
17	276		4							630		20	17
18	277		1							652		5	18
19	278		2							950		20	19
20	279		1	36	48	24	350	2.6	.2	940	18	20	20
21	280		4							628		10	21
22	281		1							136		0	22
23	282		1							180		0	23
24	283		1							210		0	24
25	284		6	86	46	28	470	3.6	.2	328	16	50	25
26	285		4							420		10	26
27													27
28													28
29													29
30													30
31													31
32													32
33													33
34													34
35													35
36													36
37													37
38													38
39													39
40	66		46	352	260	24	310	1.9		320			40

9.22 2.24 R W F
6 20 0 26 0

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GEOCHEMICAL ANALYSTS & ASSAYERS

2275 S SPRING AVE.
BURNABY, B.C.
CANADA
TELEPHONE: 799-0010
AREA CODE: 604

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④

CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION

601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9065-4

INVOICE NO. 9118

DATE ANALYSED June 11/79

TO:

PROJECT

No.	Sample	pH	Mo	Cu	Ni	Co	Mn	Fe	Pb	Zn	Pb	W	F	No.
01	79 WBL 221		2	44	32	24	630	2.5	.4	126	40	5	520	01
02	WBS 222		1							124		0		02
03	WBL 223		2	32	22	16	38	2.5	.4	96	10	2	710	03
04	WBS 224		2							110		0		04
05	225		1	82	40	22	530	3.6	.2	160	8	0		05
06	226		2							360		2		06
07	227		2							460		2		07
08	228		1							186		0		08
09	229		1							140		0		09
10	WBL 230		2	32	36	18	410	2.7	.4	100	20	0	710	10
11	WBS 231		4							1380		5		11
12	232		4							160		2		12
13	233		7							216		2		13
14	234		2							210		2		14
15	235		1	24	36	24	740	2.1	.2	118	24	0		15
16	236		1							128		0		16
17	237		2							102		0		17
18	238		1							64		0		18
19	239		5							130		0		19
20	240		5	48	50	30	140	4.0	.6	148	22	0		20
21	241		4							120		0		21
22	242		3							92		0		22
23	243		4							86		0		23
24	244		4							130		2		24
25	245		6	46	50	32	980	3.9	4.0	210	350	0		25
26	246		4							258		0		26
27	247		7							540		5		27
28	248		6							520		2		28
29	249		4							750		0		29
30	250		5	40	48	29	340	3.3	1.2	250	34	0		30
31	251		4							1100		2		31
32	252		12							178		0		32
33	253		4							410		0		33
34	254		5							1500		0		34
35	255		2	76	40	20	620	2.8	2.4	1410	42	15		35
36	256		2							1400		10		36
37	257		2							1380		15		37
38	258		4							2400		5		38
39	259		3							660		15		39
40	G 2		46	106	16	16	220	2.9	.4	126	100	60		40

9.22 2.24 R W F
30 27 0 39 3
9 30

Certified by

[Signature]

Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

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CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION
601 - 535 THURLOW ST.
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9065 - 3

INVOICE NO. 9118

DATE ANALYSED June 12/79

TO:

PROJECT

No.	Sample	pH	Mo	Cu	Ni	Co	Mn	Fe	Pb	Zn	Pb	W	F	No.
01	79 WBT 182	-	5	48	36	22	200	2.0	.6	84	4	0	8.0	01
02	T 183	-	9	22	26	24	410	4.2	.8	62	26	0	8.0	02
03	WAS 184	-	6							104		0		03
04	WBT 185	-	2	8	32	26	280	.7	.6	28	4	0	6.0	04
05	WBL 186	-	5	34	40	20	300	2.0	.6	108	16	0	2.0	05
06	WAS 187	-	5							92		0	2.0	06
07	WBL 188	-	5	36	36	20	280	2.5	.4	95	12	0	7.0	07
08	WAS 189	-	3							154		0		08
09	190	-	7							688		15		09
10	191	-	4	32	46	16	600	2.4	.6	900	20	15		10
11	192	-	4							374		5		11
12	193	-	7							1020		40		12
13	194	-	10							540		45		13
14	195	-	4							710		10		14
15	196	-	4	62	46	18	280	2.7	1.0	560	20	35		15
16	197	-	3							680		10		16
17	WBL 198	-	16						.6	676	24	40	970	17
18	WAS 199	-	11							930		30		18
19	200	-	2							410		2		19
20	201	-	5	30	52	24	710	4.3	.8	1360	30	25		20
21	202	-	4							206		15		21
22	203	-	3							750		15		22
23	WBL 204	-	5	88	92	24	660	2.0	.6	320	22	25	740	23
24	WAS 205	-	9							530		80		24
25	206	-	5	22	56	14	360	2.2	1.0	740	34	30		25
26	207	-	4							800		20		26
27	208	-	100							504		50		27
28	209	-	2							172		0		28
29	210	-	2							140		0		29
30	211	-	1	8	8	10	1300	1.0	.4	90	54	0		30
31	212	-	3							220		0		31
32	213	-	2							140		0		32
33	214	-	2							68		0		33
34	215	-	2							126		0		34
35	216	-	3	46	46	24	370	4.0	1.4	160	26	0		35
36	217	-	2							130		0		36
37	218	-	4							400		0		37
38	219	-	4							210		6		38
39	220	-	3							170		0		39
40	G76	-	7	38	16	18	200	2.7	.5	100	12	20		40

9.2 2.2 R W F
12 27 3 34 8

Certified by

P. Rossbacher

Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

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CERTIFICATE OF ANALYSIS

AMAX MINERALS EXPLORATION
601 - 535 THURLOW ST
VANCOUVER, B.C. V6E 3L6

CERTIFICATE NO. 9065 - 2

INVOICE NO. 9118

DATE ANALYSED June 12/79

TO:

PROJECT

No.	Sample	pH	Mo	Cu	Ni	Co	Mn	Fe	Ag	Zn	Pb	W	F	No.
01	79 WPS 121	-	3							248	-	15		01
02	122	-	8							714	-	5		02
03	WPT 123	-	250	36	32	28	270	2.5	1.8	58	60	35	560	03
04	124	-	8	12	24	20	90	0.9	.4	108	12	40	320	04
05	125	-	6	18	18	16	70	1.2	2.2	106	84	15	630	05
06	126	-	4	20	18	16	70	1.2	2.2	126	64	14	520	06
07	120	-	4	8	20	20	280	1.9	.6	65	10	0	400	07
08	121	-	1	4	24	22	210	0.3	.4	10	10	0	210	08
09	122	-	1	6	40	34	200	0.6	.6	34	6	0	480	09
10	123	-	2	26	26	32	700	4.5	.4	90	6	0	450	10
11	124	-	14	26	56	28	200	2.5	.2	80	2	0	460	11
12	125	-	6	10	24	20	250	0.9	.4	26	54	0	230	12
13	120	-	5	12	18	16	200	0.8	.6	166	10	0	375	13
14	141	-	5	8	20	16	200	1.0	.6	40	10	0	580	14
15	142	-	6	12	36	24	210	1.7	.6	48	6	0	360	15
16	143	-	26	10	20	18	300	2.4	.2	180	6	0	520	16
17	150	-	1000	12	40	20	95	1.3	.4	5	4	0	400	17
18	151	-	46	8	36	28	200	0.9	.6	16	2	0	320	18
19	152	-	26	12	60	40	220	1.1	2.0	12	18	0	375	19
20	154	-	86	34	32	28	370	2.2	1.0	74	16	15	690	20
21	155	-	48	38	26	20	320	2.2	1.0	84	30	10	0	21
22	156	-	6	10	24	28	350	1.1	.6	24	8	0	600	22
23	157	-	8	36	42	32	490	3.4	1.6	180	24	1200	1180	23
24														24
25														25
26														26
27														27
28														28
29														29
30														30
31														31
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39														39
40														40

9.2 2.2 R W F
51 2 21 23 21

Certified by

P. Rossbacher

Procedures for Collection and Processing
of Geochemical Samples

Analytical Methods for Ag, Mo, Cu, Pb, Zn,
Fe, Mn, Ni, Co and W in sediments and soils;
Mo, Cu, Zn, Ni and SO_4^{--} in waters.

Amak Exploration, Inc.
Vancouver Office.

September 1970

SAMPLE COLLECTION

Soil

Topsoil material is sampled and thus organic rich topsoil and leached upper subsoil are avoided. Occasionally organic rich samples have to be taken in swampy depressions.

Samples are taken by hand from a small excavation made with a cast iron mattock. Approximately 200 gms of finer grained material is taken and placed in a numbered, high wet-strength, Kraft paper bag. The bags are closed by folding and do not have metal tabs.

Observations as to the nature of the sample and the environment of the sample site are made in the field.

Drainage Sediments

Active sediments are taken by hand from tributary drainages which are generally of five square miles catchment or less. Composite samples are taken of the finest material available from as near as possible to the centre of the drainage channel thus avoiding collapsed banks. More than one sample is taken if marked mineralogical or textural segregation of the sediments is evident.

Some 200 gm of finer material is collected unless the sediment is unusually coarse in which case the weight is increased to 1 kg. Samples are placed in the same type of Kraft paper bag as are employed in soil sampling. Water samples are taken at all appropriate sites. Approximately 100 ml are sampled and placed in a clean, screw sealed, polythene bottle. Observations are made at each site regarding the environment and nature of the sample.

Rock Chips

Composite rock chip samples generally consist of some ten small fragments broken from unweathered outcrop with a steel hammer. Each fragment weighs some 50 gms. Samples are placed in strong polythene bags and sealed with non-contaminating wire tabs. Samples are restricted to a single rock type and obvious mineralization is avoided.

Soil, sediment and rock samples are packed securely in cardboard boxes or canvas sacks and dispatched by road or air.

Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

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April 30, 1974

SUMMARY OF SOME ANALYTICAL TECHNIQUES CURRENTLY IN USE AT ROSSBACHER LABORATORY

A ANALYTICAL TECHNIQUES FOR GEOCHEMICAL SAMPLES

SAMPLE PREPARATION

Packages of samples are opened as soon as they arrive at the laboratory and the bags placed in numerical sequence in an electrically heated sample drier (maximum temperature 70°C).

After drying soil and sediment samples they are lightly pounded with a wooden block to break up aggregates of fine particles and are then passed through a 35 mesh stainless steel sieve. The coarse material is discarded and the minus 35 mesh fraction replaced in the original bag providing that this is undamaged and not excessively dirty.

Rock samples are exposed to the air until the outside surfaces are dry; only if abnormally wet are rocks placed in the sample drier. Rock samples are processed in such manner that a fully representative 1/2 g. sample can be obtained for analysis. The entire amount of each sample is passed through a jaw crusher and thus reduced to fragments of 2 mm. size or less. A minimum of 1 kg. is then passed through a pulverizer with plates set such that 95% of the product will pass through a 100 mesh

screen. Where samples are appreciably heavier than 2 kg the material is split after jaw crushing by means of a Jones splitter. After pulverizing the sample is mixed by rolling on paper and is then placed in a Kraft paper bag.

SAMPLE DIGESTION

Digestion tubes (100 x 16 mm) are marked at the 5 ml level with a diamond pencil. Tubes are cleaned with hot water and concentrated HCl. 0.5 g samples are weighed accurately, using a Fisher Dial-O-Gram balance, and placed in the appropriate tubes.

To each of the samples thus prepared are added 2 ml of an acid mixture comprising 15% nitric and 85% perchloric acids. Racks of tubes are then placed on an electrical hot plate, brought to a gentle boil ($\frac{1}{2}$ hour) and digested for $4\frac{1}{2}$ hours. Samples unusually rich in organic material are first burned in a porcelain crucible heated by a bunsen burner before the acid mixture is added. Digestion is performed in a stainless steel fume hood.

After digestion tubes are removed from the hot plate and the volume is brought up to 5 ml with deionized water. The tubes are shaken to mix the solution and then centrifuged for one minute. The resulting clear upper layer is used for Cu, Mo, Pb, Zn, Ag, Fe, Mn, Ni and Co determination by a Perkin-Elmer 290B atomic absorption spectrophotometer. Analytical procedures are given on the following pages.

ANALYTICAL PROCEDURESSilver

1. Scope - This procedure covers a range of silver in the sample from less than .5 to 1000 ppm
2. Summary of Method - The sample is treated with nitric and perchloric acid mixture to oxidize organics and sulphides. The silver then is present as perchlorate in aqueous solution. The concentration is determined by atomic absorption spectrophotometer
3. Interferences - Silver below 1 gamma/ml is not very stable in solution. Maintaining the solution in 20% perchloric prevents silver being absorbed on the glass container. Determination must be completed on the same day as the digestion.

Samples high in dissolved solids, especially calcium, cause high background absorbance. This background absorbance must be corrected using an adjacent Ag line.

Silver AA Settings P.E. 290

Lamp - Ag

Current 4 ma position 3

Slit 7 A

Wavelength 3281A Dial 287.4

Fuel - acetylene - flow - 14

Oxidant - air - flow - 14

Burner - techtron AB_51 in line.

Maximum Conc. 3 to 4x

Calibration

1. Set 1 gamma/ml to read 40 equivalent to 20 gamma/gm
 Factor $\frac{1}{2}$ x meter reading
 Check standards
 4, 10, 20, 40 ppm Ag in sample
2. Set 15 gamma/ml to 100 equivalent to 100 ppm
 Check standards
 40, 100 ppm
 Factor directly in ppm Ag
3. Rotate burner to maximum angle
 Set 10.0 gamma/ml Ag to read 100
 Check standards
 100, 200, 400, 1000 ppm Ag
 Factor 10x scale reading
4. Samples higher than 1000 ppm should be re-analyzed by assay procedure
5. Background correction for sample reading between 1 to 5 ppm
 Calibrate AA in step 1
 Dial wavelength to 300 (peak)
 Read the samples again
 Subtract the background reading from the first reading

Standards

1. 1000 gamma/ml Ag - 0.720 gm Ag_2SO_4 dissolved in 20 mls HxI_3
 and dilute to 500 mls
2. 100 gamma/ml Ag - 10 mls of above + 20 mls HClO_4 , dilute to 100 mls

3. Recovery spiked standard

5 gamma/ml Ag - 5 mls 100 gamma/ml dilute to 100 mls with
"mixed" acid

Working AA Standards

Pipette .2, .5, 1, 2, 5, 10 mls of 100 gamma/ml and 2, 5 mls 1.000 gamma/ml dilute to 100 mls with 20% HClO₄. This equivalent to 4, 10, 20, 40, 100, 200, 400, and 1000 ppm Ag in the sample .50 gm diluted to 10 mls.

Recovery Standard

Pipette 2 mls of 5 gamma/ml Ag in mix acids into a sample and carry through the digestion. This should give a reading of 20 ppm Ag + original sample content.

Follow the general geochemical procedure for sample preparation and digestion.

For low assay Ag, the same procedure is used. Ag is then calculated in oz/ton.

$$1 \text{ ppm} = .0292 \text{ oz/ton}$$

conversion factor

$$\text{oz/ton} = .0292 \times \text{ppm Ag}$$

Zn Geochemical AA Setting

Lamp Zn

Current 3 #3 Slit 20A

Wave length 2133 Dial 84.9

Fuel - Acetylene Flow 14

Oxidant - Air Flow 14

Burner - P.E. short path 90°

Range

0 - 20 gamma/ml Factor 4x - 0 to 400 ppm

0 - 50 gamma/ml Factor 10x - 0 to 1000 ppm

For Waters - Burner AB- 51 in line 1 gamma/ml read 100 to give 0
to 1000 ppb

High Zn Burner Boling in line. Wavelength 3075. Dial 250 Slit 7A

Fuel 14 Air 14.5

0 to 1000 gamma/ml read 0 to 20 Factor 400 x

Pure Standard 10,000 gamma/ml

1 gm Zn dissolved, H₂O, HCl, HNO₃, HClO₄, fumed to HClO₄ -
make up to 100 mls H₂O

1000, 100 gamma/ml and 100 ml by dilution in 20 % HClO₄

0 to 200 gamma/ml Zn use combined Cu, Ni, Co, Pb, Zn standards

Pipette

1, 2, 3, 5, 8, 10 mls of 10,000 gamma/ml - dilute to 100 mls
with 20% HClO₄ to give

100, 200, 300, 500, 800, 1000 gamma/ml Zn for high standards

Co Geochemical AA Setting

Lamp - 5 multi element

Current 10 #4 Slit 2A

Wavelength 2407 Dial 133.1

Fuel - Acetylene Flow 14

Oxidant - Air Flow 14

Burner - AB 51 in line

Range

0 - 10 gamma/ml read 100 Factor 2 x reading to 200 ppm

0 - 20 gamma ml read 100 Factor 4 x reading to 400 ppm

Burner at maximum angle

0 - 100 gamma/ml read 100 Factor 20 x reading to 2000 ppm

0 - 200 gamma/ml read 100 Factor 40 x reading to 4000 ppm

Standards - 1000 gamma/ml

1.000 gm cobalt metal dissolved in HCl, HNO₃, and fumed into
HClO₄, dilute to 1 liter

Pipette

1, 2, 10, 20 mls into 100 ml vol flasks diluted to mark
with 20% HClO₄

This gives

10, 20, 100, 200 gamma/ml Co

Mixed - combination standards of Cu, Ni, Co, Pb, Zn

of

1, 2, 5, 10, 20, 30, 50, 80, 100, 150, 200 gamma/ml are used
for calibration

Mn Geochemical AA Setting

Lamp Multi element Ca, Ni, Co, Mn Cr

Current 10 #4 Slit 7A

Wave length 4030.8 Dial 425.2

Fuel - Acetylene Flow 14.0

Oxidant - Air Flow 14.0

Burner - P.E. short path (or AB 50)

Range

0 - 100 gamma/ml Factor 20x - 0 to 2000 ppm

0 - 200 gamma/ml Factor 40x - 0 to 4000 ppm

Burner 90°

0 - 1000 gamma/ml Factor 200x - 0 to 20,000 ppm

0 - 2000 gamma/ml Factor 400x - 0 to 40,000 ppm

EDTA Extraction - use AB 51 in line

0 - 20 gamma/ml Factor 4x - 0 to 400 ppm

Standards

Fisher 10,000 gamma/ml (ml)

10x Dilution 1000 gamma/ml

Pipette

.5, 1, 2, 3, 5, 8, 10, ml of 1000 gamma/ml

2, 3, 5, 8, 10, 15, 20 ml of 10,000 gamma/ml dilute to 100

mls with 20% HClO₄. This gives

5, 10, 20, 30, 50, 80, 100, 200, 300, 500, 800, 1000, 1500,

2000 gamma/ml.

Mo Geochemical AA Setting

Lamp ASL H/C Mo

Current 5 #5 Slit 7A

Wavelength 3133 Dial 260.2

Fuel - Acetylene Flow 12.0 to give 1" red feather

Oxidant - Nitrous oxide Flow 14.0

Burner - AB 50 in line

Caution read the operation using N₂O and acetylene flame at
end of general AA procedure

Range

0 - 10 gamma/ml Factor 2x - 0 to 200 ppm

Rotate burner to max. angle

0 - 50 gamma/ml Factor 10 x 0 to 1000 ppm

0 - 100 gamma/ml Factor 20 x 0 to 2000 ppm

Standards 1000 gamma/ml

Dissolve .750 gms MoO₃ (acid molybdic) with 20 mls H₂O, 6
lumps NaOH, when all dissolved, add 20 mls HCl, dilute to 500 mls
100 gamma/ml - 10 x dilution

Pipette

.2, .5, 1, 2, 3, 5, 8, 10 mls of 100 gamma/ml

2, 3, 5, 8, 10 mls of 1000 gamma/ml add 5 mls 10% AlCl₃
and dilute to 100 mls with 20% HClO₄

This gives

.2, .5, 1, 2, 3, 5, 8, 10, 20, 30, 50, 80, 100 gamma/ml M

Fe Geochemical AA Setting

Lamp - Fe

- Do not use multi element Fe

Current 10 #4 Slit 2A

Wavelength 3440.6 Dial 317.5

Fuel - Acetylene Flow 14.0

Oxidant - Air Flow 14.0

Burner - PE Short Path 90°

Range

0 - 5000 gamma/ml 0.1 x % - 0 to 10.0%

0 - 10,000 gamma/ml 0.2 x % - 0 to 20.0%

Higher Fe - 10 x dilution

Standards 10,000 gamma/ml

Weigh 5.000 gms iron wires, into beaker, add H₂O, HCl, HNO₃,
 HClO₄, heat to HClO₄ fumes. Add HClO₄ to 100 mls + 100 mls
 H₂O, warm, dilute to 500 mls

Pipette

1, 5, 10, 20, 30, 50, 80 mls 10,000 gamma/ml dilute to 100
 mls with 20% HClO₄ to give

100, 500, 1000, 2000, 3000, 5000, 8000 gamma/ml to be
 equivalent to .2, 1.0, 2.0, 4.0, 6.0, 10.0%, 16.0% Fe in geochem
 sample

Ni Geochemical AA Setting

Lamp P.E. H/C. Ni or multi element Cu, Ni, Co, Mn, Cr

Current 10 #4, Slit 2A

Wave length 3415 Dial 312.5

Fule - Acetylene Flow 14.0

Oxidant - Air Flow 14.0

Burner AB 51 in line

Range

0 - 20 gamma/ml Factor 4x - 0 - 400 ppm

0 - 100 gamma/ml Factor 20x - 0 - 2000 gamma

45° 0 - 200 gamma/ml Factor 40x - 0 - 4000 ppm

0 - 500 gamma/ml Factor 100x - 0 - 10,000 ppm

Ni in waters and very low ranges

Wave length 2320 Dial 113

Range 0 - 5 gamma/ml Factor 1x - 0 - 100 ppm

Standards 10,000 gamma/ml

1.000 gm pure Ni metal dissolved in HCl, HNO₃, HClO₄ to
perchloric fumes, dilute to 100 ml H₂O

1000 gamma/ml and 100 gamma/ml Successive 10x dilutions in 20% HC

1, 2, 5, 8, 10 mls of 100 gamma/ml

2, 5, 8, 10 mls 1000 gamma/ml

2, 5, 8, 10 mls 10,000 gamma/ml - dilute to 100 mls in 20%

HClO₄. This gives

1, 2, 5, 8, 10, 20, 50, 80, 100, 200, 500, 800, 1000 gar /ml

Combined Standards - Cu, Ni, Co, Pb, Zn is used as a working
standard

Cu Geochemical AA Setting

Lamp Single Cu or

5 multi element

Current 10 for multi element #4 Slit 7A

4 for single #3 Slit 7A

Wavelength 3247 Dial 280

Burner Techtron AB 51 (For Cu in natural waters)

P.E. Short Path (For geochem)

Fuel Acetylene Flow 14

Oxidant Air Flow 14

Range

0 - 5 gamma/ml Factor 1x to 100 ppm (for low Cu)

0 - 20 gamma/ml Factor 4x to 400 ppm

Burner 90°

0 - 200 gamma/ml Factor 40x to 4000 ppm

Wavelength 2492 Dial 147

Burner in line

Range

0 - 1000 gamma/ml Factor 200x to 20,000 ppm

0 - 2000 gamma/ml Factor 400x to 40,000 ppm

Higher range than 40,000 ppm requires 10x dilution

Standards

10,000 gamma/ml

1.000 gm metal powder, H₂O, HCl, HNO₃ until dissolved, add

HClO₄, fume dilute to 100 mls

1000 gamma/ml 10x dilution above in 20% HClO₄

2000 gamma/ml 20 mls 10,000 gamma/ml - dilute to 100 mls in
20% HClO₄

100 gamma/ml 10x dilution 1000 gamma/ml dilute to 100 mls in
20% HClO₄

200 gamma/ml 10x dilution 2000 gamma/ml dilute to 100 mls in
20% HClO₄

Pipette

1, 2, 3, 5, 8, 10 mls 100 gamma/ml - dilute to 100 mls with
20% HClO₄ to give 1, 2, 3, 5, 8, 10 gamma/ml

Combined standards Cu, Ni, Co, Pb, Zn

1, 2, 5, 10, 20, 30, 50, 80, 100, 150, 200 gamma/ml

Pb Geochemical AA Setting

Lamp ASL H/c Pb

Current 5 ma Slit 7A

Wave length 2833 Dial 203

Fuel - acetylene Flow 14

Oxidant - air Flow 14

Burner AB 51 in line

Range

0 - 20 gamma/ml to read 0 to 30. Factor 5x 0 to 500 ppm

0 - 200 gamma/ml to read 0 to 30. Factor 50x 0 to 5000 ppm

Standards - 10,000 gamma/ml

1.000 pure metal, dissolved in HNO₃, fumed to HClO₄ make up to 100 mls in 20% HClO₄

1000 gamma/ml and 100 gamma/ml Successive 10x dilutions in 20% HClO₄

Pipette

1, 2, 5, 8, 10 mls 100 gamma/ml

2, 5, 8, 10, 20 mls 1000 gamma/ml dilute to 100 mls in 20% HClO₄ this gives

1, 2, 5, 8, 10, 20, 50, 80, 100, 200 gamma/ml

Combined Standards Cu, Ni, Co, Pb, Zn, are used as working standards

W in Soils and Silts

Reagents and apparatus

Test tubes - pyrex disposable

Test tubes - screw cap

Bunsen Burner

Flux - 5 parts Na_2CO_3

4 parts NaCl

1 part KNO_3 pulverized to -80 mesh

7% SnCl_2 in 70% HCl

20% KSCN in H_2O

Extractant - 1 part tri-n-butyl phosphate

9 parts carbon tetrachloride

Standards

1000 gamma/ml W

.18 gms $\text{Na}_2\text{WO}_4 \cdot 2\text{H}_2\text{O}$ dissolved in H_2O , make up to 100 mls

100 gamma/ml, 10 gamma/ml by dilution

Standardization

Pipette .5, 1, 2, 3, 5, 8, 10 ml of 10 gamma/ml

and 1.5, 2 mls of 100 gamma/ml - dilute to 10 mls

continue from step #4

Artificial colors - Nabob pure Lemon Extract, dilute with 1:1 ethanol and water to match. Tightly seal these for permanent standards

Procedure

1. Weigh 1.0 gram sample, add 2 gm flux, mix

2. Sinter in rotary for 2 to 3 minutes (Flux dull read for one minute)
3. Cool, add 10 mls H_2O , heat in sand bath to boiling, cool, let sit overnight
4. Stir, crush, and mix. Let settle
5. Take 2 ml aliquot into screw cap test tube
6. Add 7 mls $SnCl_2$, heat in hot water bath for 5 minutes ($80^\circ C$)
7. Cool to less than $15^\circ C$
8. Add 1 ml 20% $KSCN$, mix (if lemon yellow; compare color standard 10x)
9. Add $\frac{1}{2}$ ml extractant, cap, shake vigorously 1 minute
10. Compare color

Molybdenum in Water Samples

1. Transfer 50 mls to 125 separatory funnel
2. Add 5 ml .2% ferric chloride in conc HCl
3. Add 5 mls of mixed KSCN and SnCl₂
4. Add 1.2 mls isopropyl ether, shake for 1 minute, and allow phases to separate
5. Drain off water
6. Compare the color of extractant

Standardization

Pipette 0, .2, .5, 1, 2, 3, 4, 5, mls of 1 gamma/ml and 1, 1.5, 2, mls of 10 gamma/ml dilute to 50 mls with demineralized H₂O, and continue step #2.

This equivalent to

1, 4, 10, 20, 40, 60, 80, 100, 200, 300, 400 ppb Mo

Artificial color - Nabob orange extract dilute with 1:1 H₂O to methanol to match. Seal tightly

SnCl₂ - 15% in .15% HCl

300 gm SnCl₂ . 2H₂O + 300 mls HCl, until SnCl₂ dissolved
dilute to 2 liters

KSCN - 5% in H₂O

Mixed SnCl₂ - KSCN

3 parts SnCl₂ to 2 parts KSCN

Water Samples Run for AA

1. Cu - 2 gamma/ml reads 30 scale therefore 1 unit = 25 ppb
2. Zn - 1 gamma/ml reads full scale therefore 1 unit = 10 ppb
3. Ni - 2.5 gamma/ml reads 50 scale therefore 1 unit = 50 ppb

Burner: long slot techtron burner in line

xxi

Sulphate in Natural Waters

1. Pipette 0.5 ml sulphate reagent mix into a colorimetric tube
2. Add 5 ml water sample and mix
3. Read at 343 *mμ* against a demineralized water blank
4. Read again at 400 *mμ* and subtract from sulphate reading
5. Calculate ppm sulphate from the graph

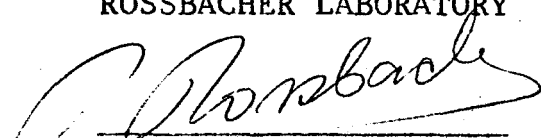
Reagent

Dissolve 54 grams red mercuric oxide (J.T. Baker 2620- Can Lab) in 185 ml 70% perchloric acid and 20 ml H₂O, shake for one hour. Add 46.3 grams ferric perchlorate [Fe(ClO₄)₃ · 6H₂O] (GFS 39) and 47 grams aluminum perchlorate [Al (ClO₄)₃ · 3H₂O] (GFS 2) Add 400 ml water to dissolve, let settle overnight, decant into bottle and make to 1 liter

pH MEASUREMENTS

Soil and drainage sediment samples are dampened with water in a glass beaker to a pasty consistency. Demineralized water is used for this purpose as it has a low buffer capacity and thus does not influence the pH of the sample. Measurement is made with a Fisher Acument pH meter. Electrodes are stored in buffer overnight. A 30 minute warm up time is allowed for the instrument each morning. A 10 ml aliquot is taken from water samples for pH measurement.

ROSSBACHER LABORATORY



P. Rossbacher

APPENDIX IV
CONTRACTOR'S INVOICES

RR. #1 NEW DENVER
BC.
VOG -150 -
NOV. 20 1978.

AMAX MINERALS EXPLORATION,
601-535 THURLOW ST.
VANCOUVER BC.

AMAX
NOV 22 1978
VANCOUVER OFFICE

MR. CHRIS HODGSON:

RE: CONTRACT ROAD WORK ON
LEMAX #1 MINERAL CLAIM AS PER
TELEPHONE NEGOTIATION OF NOV. 15, 1978.

PLUS 3 KM. ROAD RECONSTRUCTION
COMPLETED ON NOV. 19 1978.

WITH D-6N BULLDOZER

NEGOTIATED PRICE FOR THIS WORK - \$ 1000.⁰⁰

PAYABLE TO P. LEONTOWICZ.
RR. #1 NEW DENVER BC.
VOG. 150.

935-2683

Thank you

P. Leontowicz

OK to pay
CJ Hodgson

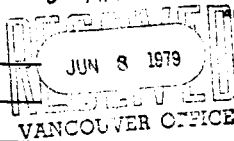
ADD & EXT. OFFICE		Date	
Print Number	Dist. Code	Amount	DATE
935	-	2683	11/23/78
CK 175 66 NOV 23 1978			

Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

2225 S. SPRINGER AVE.,
BURNABY, B. C.
CANADA
TELEPHONE: 299-6910
AREA CODE: 604

AMAX



AMAX MINERALS EXPLORATION

601-535 Thurlow St.

Vancouver, B.C.

Project 935, Wilson Cr.

DATE June 5, 1979

INVOICE NO. 9098

CERTIFICATE NO. 9047/50 - 1/4

Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

2225 S. SPRINGER AVE.,
BURNABY, B. C.
CANADA
TELEPHONE: 299-6910
AREA CODE: 604

AMAX MINERALS EXPLORATION

601-535 Thurlow St.

Vancouver, B.C.

Project 935, order

DATE June 27, 1979

INVOICE NO. 9118

CERTIFICATE NO. 9065-1 to 5 incl.

ITEM	DESCRIPTION	SUB-TOTAL	TOTAL
162✓	Geochem. for 2 elements	\$ 1.50	243.00 -
120✓	Geochem. for 9 elements	3.50	420.00 -
282✓	Geochem. for W	2.00	564.00 -
74✓	Geochem. for F	2.75	203.50 -
227✓	Geochem prep	0.20	45.40 -
55✓	rock prep	1.00	55.00 -
4✓	Assays for Cu, Pb, Zn, Ag	20.50	62.00 -
2✓	Geochem analysis for Au	2.50	5.00 -
			<u>1,617.30 9c</u>

6/14/79

935 96910 1617.30

CK 18191 JUN 14 1979

TERMS - NET 30 DAYS

ITEM	DESCRIPTION	SUB-TOTAL	TOTAL
60✓	Geochem analysis for 9 elements @ \$ 3.50	\$ 210.00	
106✓	Geochem analysis for 2 elements	1.50	159.00
166✓	Geochem analysis for W	2.00	332.00
38✓	Geochem analysis for F	2.75	104.50
30	Rock sample prep	1.00	30.00
136	Soil sample prep	0.20	27.00
Freight			23.10
			<u>\$ 865.00</u>

APPROVED: [Signature] DATE 7/13/79

PROJECT NUMBER	DATE	AMOUNT
935	7/13/79	865.00

CK 18329 JUL 13 1979

TERMS - NET 30 DAYS

CK 18329 JUL 13 1979

INVOICE

PACIFIC SURVEY CORPORATION

Amex Minerals Exploration,
#601 - 555 Thurlow Street,
Vancouver, B.C.
V6L 3L6

261
26 April 1979
76-215

Authority: Letter Mr. C. J. Hodgson, 18 December 1978

QUANTITY	DESCRIPTION	UNIT PRICE	
TO:			
Completion:			
1.	1:10,000 scribed mapping with a 20 metre contour interval, Greenland Creek area, as per packing slips 394 and 406:		
	Lump sum		\$2,165.00
2.	Orthophoto at a scale of 1:10,000 with contours superimposed of the above area, as per packing slips 394 and 406:		
	Lump sum	\$1,490.00	
	9% Federal Sales Tax	134.10	
		\$1,624.10	
	4% Provincial Sales Tax	64.99	1,689.09
3.	1:5000 scribed mapping with a 10 metre contour interval of Wilson Creek area, as per packing slip 406:		
	Lump sum		1,450.00
CK 17981 MAY 1-1979			
			over to Page 2

INVOICE

PACIFIC SURVEY CORPORATION

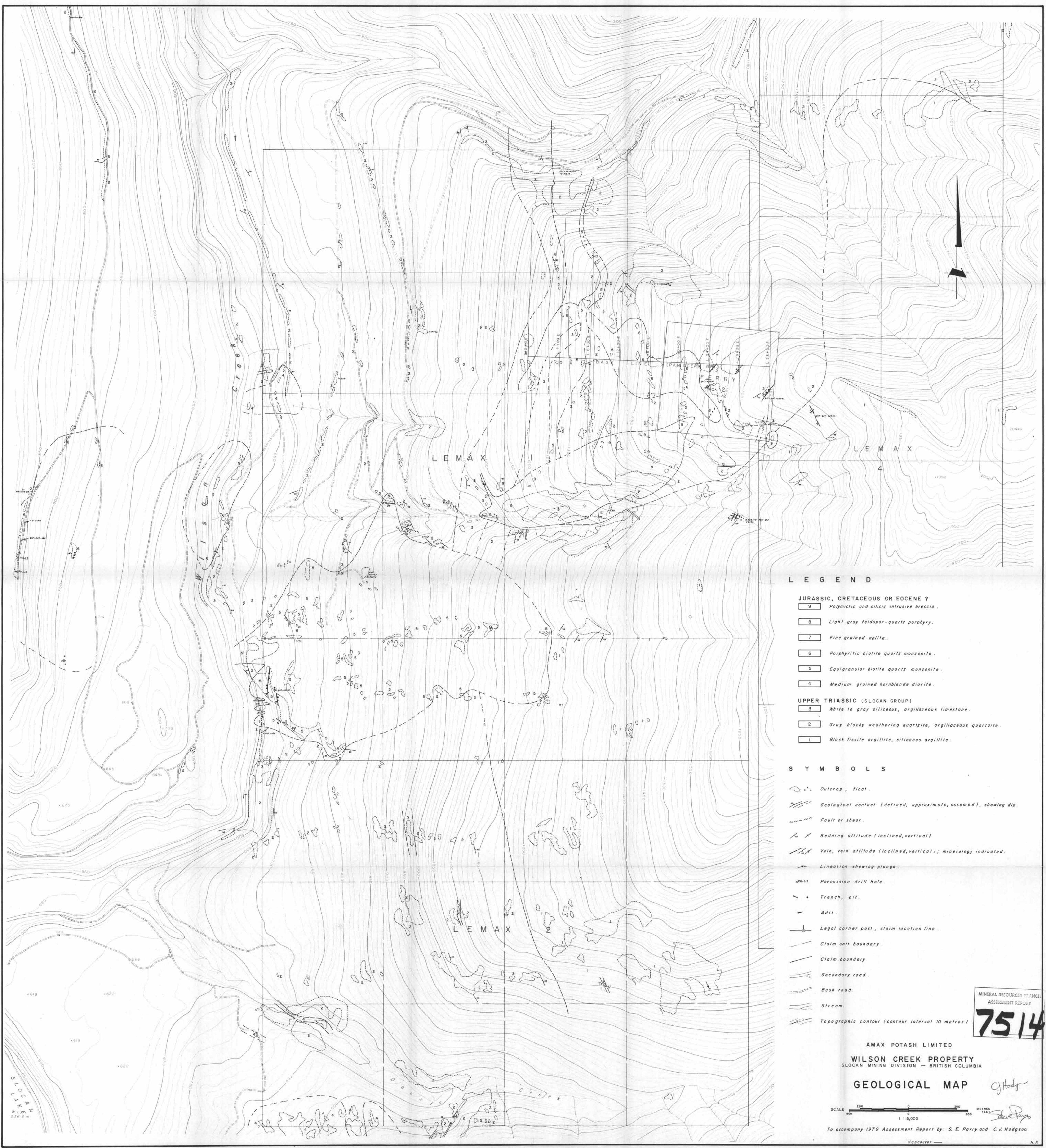
Amex Minerals Exploration,
#601 - 555 Thurlow Street,
Vancouver, B.C.
V6L 3L6

261 - Page 2
26 April 1979
76-215

QUANTITY	DESCRIPTION	UNIT PRICE	
Contd from Page 1:			
4.	1:5000 orthophoto with contours superimposed of the above area as per packing slip 406:		
	Lump sum	\$1,535.00	
	9% Federal Sales Tax	138.15	
		\$1,673.15	
	4% Provincial Sales Tax	66.92	\$1,740.07
			<u>27,044.14</u>

[Handwritten signature]

CK 17981 MAY 1-1979



LEGEND

JURASSIC, CRETACEOUS OR EOCENE ?

- 9 Polymictic and silicic intrusive breccia.
- 8 Light gray feldspar-quartz porphyry.
- 7 Fine grained apfite.
- 6 Porphyritic biotite quartz monzonite.
- 5 Equigranular biotite quartz monzonite.
- 4 Medium grained hornblende diorite.

UPPER TRIASSIC (SLOKAN GROUP)

- 3 White to gray siliceous, argillaceous limestone.
- 2 Gray blocky weathering quartzite, argillaceous quartzite.
- 1 Black fissile argillite, siliceous argillite.

SYMBOLS

- Outcrop, float.
- Geological contact (defined, approximate, assumed), showing dip.
- Fault or shear.
- Bedding attitude (inclined, vertical).
- Vein, vein attitude (inclined, vertical); mineralogy indicated.
- Lincation showing plunge.
- Percussion drill hole.
- Trench, pit.
- Adit.
- Legal corner post, claim location line.
- Claim unit boundary.
- Claim boundary.
- Secondary road.
- Bush road.
- Stream.
- Topographic contour (contour interval 10 metres).

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7514

AMAX POTASH LIMITED
WILSON CREEK PROPERTY
SLOKAN MINING DIVISION - BRITISH COLUMBIA
GEOLOGICAL MAP

SCALE 1 : 5,000
METERS
FEET

To accompany 1979 Assessment Report by: S. E. Parry and C. J. Hodgson
Vancouver



S Y M B O L S

- Soil
- Silt
- Rock chip
- Percussion drill hole.
- Trench, pit.
- Adit.
- Legal corner post, claim location line.
- Claim unit boundary.
- Claim boundary.
- Secondary road.
- Bush road.
- Stream.
- Topographic contour (contour interval 10 metres).

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7514

AMAX POTASH LIMITED
WILSON CREEK PROPERTY
SLOCAN MINING DIVISION — BRITISH COLUMBIA

GEOCHEMICAL MAP

SCALE METRES
1 : 5,000

To accompany 1979 Assessment Report by: S.E. Parry and C.J. Hodgson.