6477

1977 PARROTT LAKES PROJECT

Par Group

(IRK I, II, III, IV, V)

Omineca Mining Division

93L/2E

ASARCO INCORPORATED

(Vancouver)

by

D.G. MacIntyre

7 October 1977

TABLE OF CONTENTS

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Vancouver, B.C. 7 October/77

British Columbia
Omineca M.D. 93L/2E
Parrott Lakes Area
Parrott Lakes Project

SUMMARY

Geochemical soil sampling on the Parrott Lakes Prospect during 1977 has defined several isolated Zn, Cu and Ag anomalies on the IRK IV and V claims. There is no outcrop within these areas and the significance of the anomalies is uncertain. Some of the anomalous concentrations are clearly due to drainage accumulations, and/or organic contamination.

LOCATION AND ACCESS

The Parrott Lakes Prospect is located in West Central British Columbia (Figure 1), at Longitude 54°12', Latitude 126°38' (NTS 93L/2E, Omineca Mining Division), approximately 10 miles SSE of the town of Houston. The property consists of a total of 14 claim units (500m x 500m) as 5 separate claims, IRK I-V, covering an area of 350 hectares just north of the northernmost tip of the Parrott Lakes (Figure 1). The terrain in this area is characterized by broad valleys and glacially-rounded ridges with elevations ranging from 2800 to 4200 feet above sea level. The property is readily accessible via 6.4 KM (4 mi.) of well-maintained logging road which branches off

from the all-weather Buck Flats Road at approximately 21.7 KM (13.5 mi.) south of Houston (Figure 1).

CLAIMS

The Parrott Lakes Prospect includes the following claims:

CLAIM	UNITS	RECORD NO.	ANN. DATE
IRK I	2	336	28 June/81
IRK II	1	337	28 June/81
IRK III	1	338	28 June/81
IRK IV	6	441	14 Oct/79
IRK V	4	442	14 Oct/79

These claims are known as the Par Group.

WORK DONE IN 1977

Two people spent a total of 60 man days working on the IRK IV and V Claims. This work was done between July 7, 1977 and August 6, 1977. The following has now been completed.

(1) Location of 20.0 km (12.5 mi.) of ribbon line forming a grid covering the IRK IV and V Claims.

(2) Determination of Cu, Pb, Zn and Ag concentrations for 353 soil and 6 silt samples.

(3) Preparation of a topographic base map from altimeter readings taken on every second soil line.

The total cost of the work including drafting and report preparation was $ 5,282.89. Costs are itemized in Appendix "A".

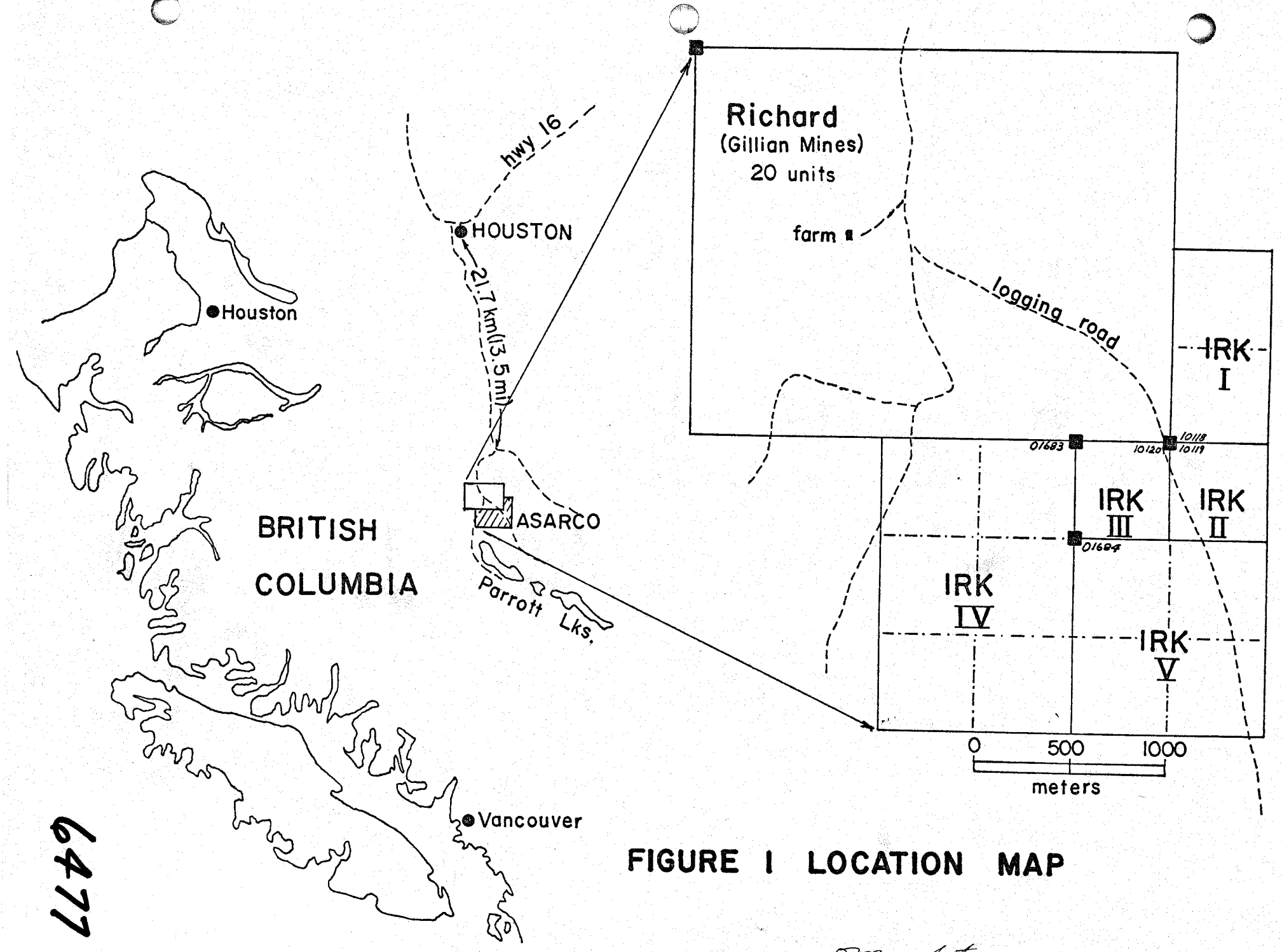

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FIGURE 1 LOCATION MAP

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REGIONAL GEOLOGY

The regional geologic setting of the IRK claims is shown in Figure 2. The oldest rocks in the area are the Tip Top Hill Volcanics of Cretaceous age. These rocks are exposed in uplifted and tilted fault blocks which are bounded by northwest, north-northwest and northeast normal and reverse faults. In the Parrott Lakes area, the Tip Top Hill Volcanics are a complex mixture of varicolored flows and pyroclastic rocks ranging in composition from andesite to rhyolite. These rocks are unconformably overlain by volcanic rocks of Eocene age. On the ridges north of Parrott Lakes, flat-lying trachytic flows predominate, and these have been given the name Goosly Lake Volcanics by Church (1971). Further to the north, the trachytic flows are apparently conformably overlain by aphanitic, amygdaloidal and vesicular andesite and dacite flows of the Buck Creek Volcanics. Minor amounts of basalt, flow breccia and clastic sedimentary rocks also occur within the Buck Creek Volcanic succession.

The only plutonic rocks unroofed in the Parrott Lakes area are four small, steep-sided circular stocks of syenomonzonite and gabbro, and one small stock of quartz monzonite. The quartz-deficient instrusions are Eocene in age and are referred to as the Goosly Lake Intrusions. They are probably the subvolcanic equivalents of the Goosly Lake Volcanics which have a similar age and composition to the intrusive rocks.

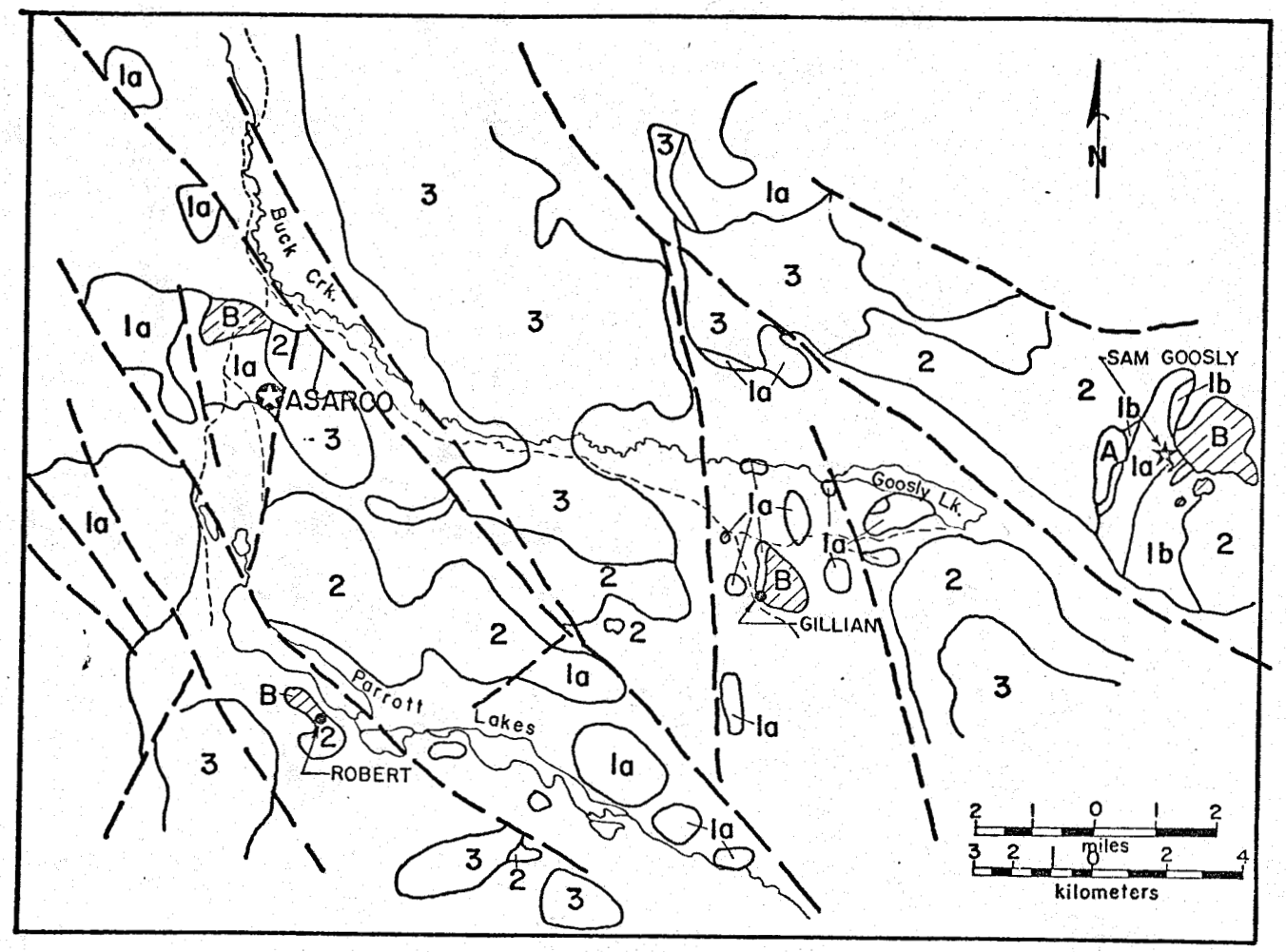

FIGURE 2

REGIONAL GEOLOGIC SETTING

PARROTT LAKES PROSPECT

QUATERNARY

Alluuium, till, gravel

EOCENE

3 — Buck Creek Volcanics - andesite and dacite flows, minor basalt

2 — Goosly Lake Volcanics - trachytic flows

B — Goosly Lake Intrusions - syenomonzonite, gabbro

A — Nanika Intrusions - quartz monzonite

CRETACEOUS

1 — Tip Top Hill Volcanics - a. andesite to rhyolitic flows and pyroclastic rocks. b. sandstone, shale, conglomerate.

Major Fault

Mineral Prospect

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PROPERTY GEOLOGY

Outcrop on the IRK claims is restricted to the upper slope of a northwest-trending ridge which cuts across the eastern boundary of the IRK I claim. The lowermost exposures on this ridge appear to be nearly flat-lying beds of light grey, reddish-brown and dark green partly-welded to non-welded lithic lapilli-tuff and crystal lithic tuff with intercalations of volcanic breccia, lahar, conglomerate and minor porphyritic biotite dacite and andesite. Similar rocks underlie the Richard claim (Figure 3), and on the basis of composition and lithologic similarity, they have been mapped as part of the Tip Top Hill Volcanics (Church, 1971).
On the IRK I claim, these rocks are conformably overlain by dark green and grey vesicular and amygdaloidal basalt and andesite flows, considered to be part of the Buck Creek Volcanics. These rocks crop out as a capping on the ridge to the east of the IRK claims.

GEOCHEMISTRY

A total of 353 soil and 6 silt samples were collected and analyzed for Cu, Pb, Zn and Ag. Results are given in Appendix "B" and plotted on Figures 7, 8, 9 and 10, (in pocket). Analytical procedures are summarized in Appendix "C".

All soil samples were collected from the "B" or "C" soil horizons at depths ranging from 10 to 35 cm. Samples

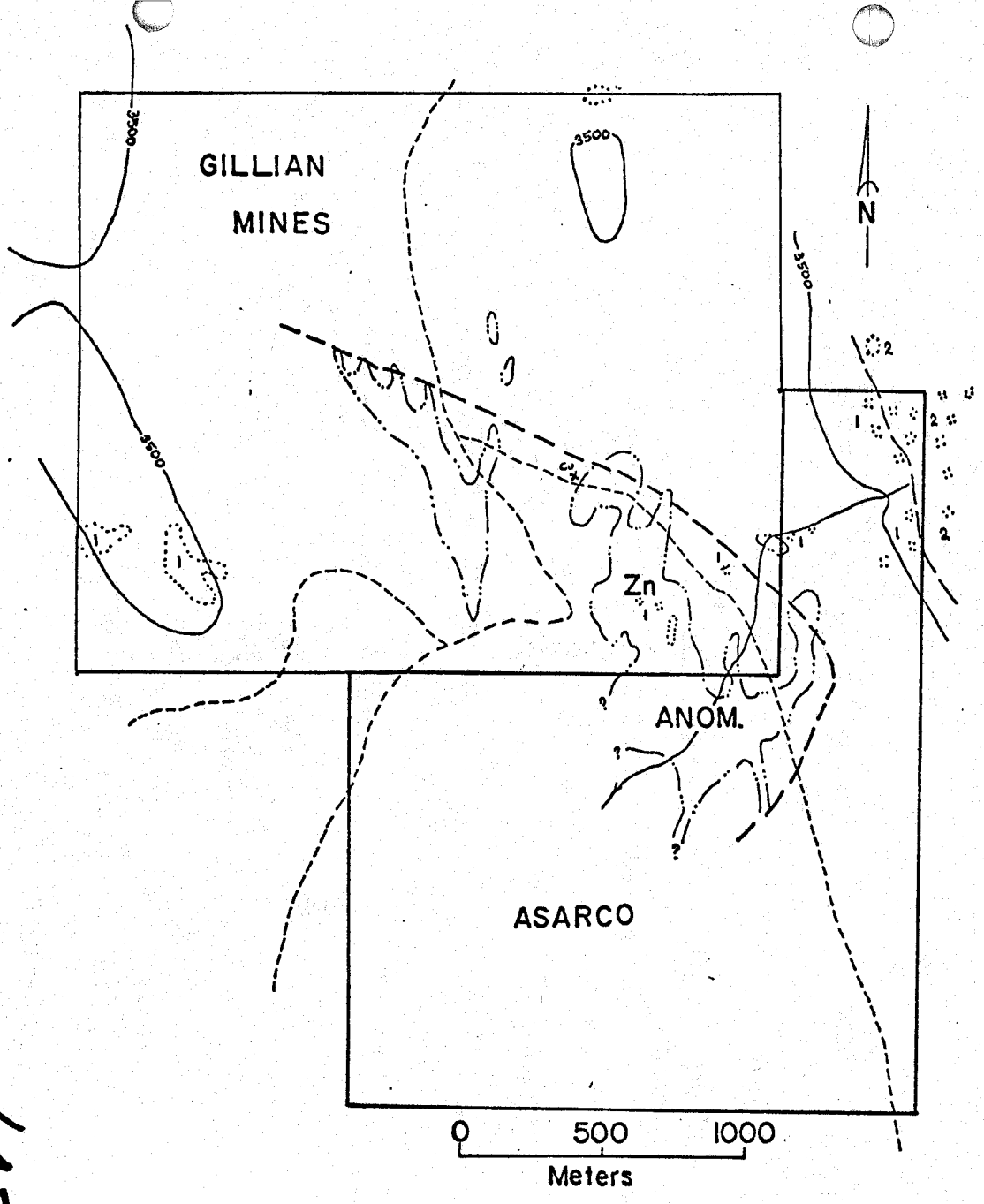

FIGURE 3

PROPERTY GEOLOGY

EOCENE

2 Buck Creek Volcanics - massive amygdaloidal to vesicular basalt, andesite and placite plus related pyroclastic rocks.

CRETACEOUS

1 Tip Top Hill Volcanics - mainly red to dark grey crystal lithic-tuff lapilli-tuff, volcanic breccia and lahar.

3500 -topographic contour

-outcrop

-access road

-limit of Zn anomaly

-claim boundary

-projected surface trace of possible mineralized zone.

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with organic content are listed in Appendix "D". Soils on the IRK IV and V claims range from moderate to well-drained sandy pebble till to clay-rich, poorly drained soil underlying thick organic accumulations. Most of the IRK V claim has been logged, and consequently, much of the soil cover has been disturbed.

ZINC

Using the statistical method of Sinclair (1974), concentrations of greater than 380 ppm Zn are considered anomalous for soils from the IRK claims (Figure 4). On this basis, the soil samples from the northeast corner of the IRK IV claim are anomalous (Figure 9, in pocket). Most of the remaining samples have positive Zn concentrations (128 - 380 ppm).

COPPER

Soil samples containing greater than 34 ppm copper are considered anomalous for the IRK claims (Figure 5). Sporadic anomalies occur on the IRK IV and V claims. Many of these reflect organic contamination and drainage accumulations.

SILVER

Based on the probability plot shown in Figure 6, soil samples with Ag concentrations greater than 1.6 ppm are anomalous for the IRK claims. A few isolated anomalies do occur on the IRK IV and V claims, with the greatest number of anomalous samples occurring in the middle

of the IRK IV claim.

Many of these samples are also anomalous in copper. Since the overburden in this area is probably quite thick, the significance of these anomalies is uncertain.

LEAD

No significant lead anomalies were defined on the IRK claims. Some samples did have above-background concentrations, but most of these were organically contaminated. The variation in lead values was not great enough to be treated statistically.

CONCLUSIONS

Soil sampling on the IRK IV and V claims in 1977 failed to define any major geochemical anomalies. However, most of the area sampled was covered by thick fluvioglacial deposits. Consequently, the ability of this technique to detect subsurface mineralization under these conditions is questionable. It is recommended that no further soil sampling be done on the property.

D MacIntyre

D.G. MacIntyre.

DGMacI:sm

FIGURE 4 - ZINC

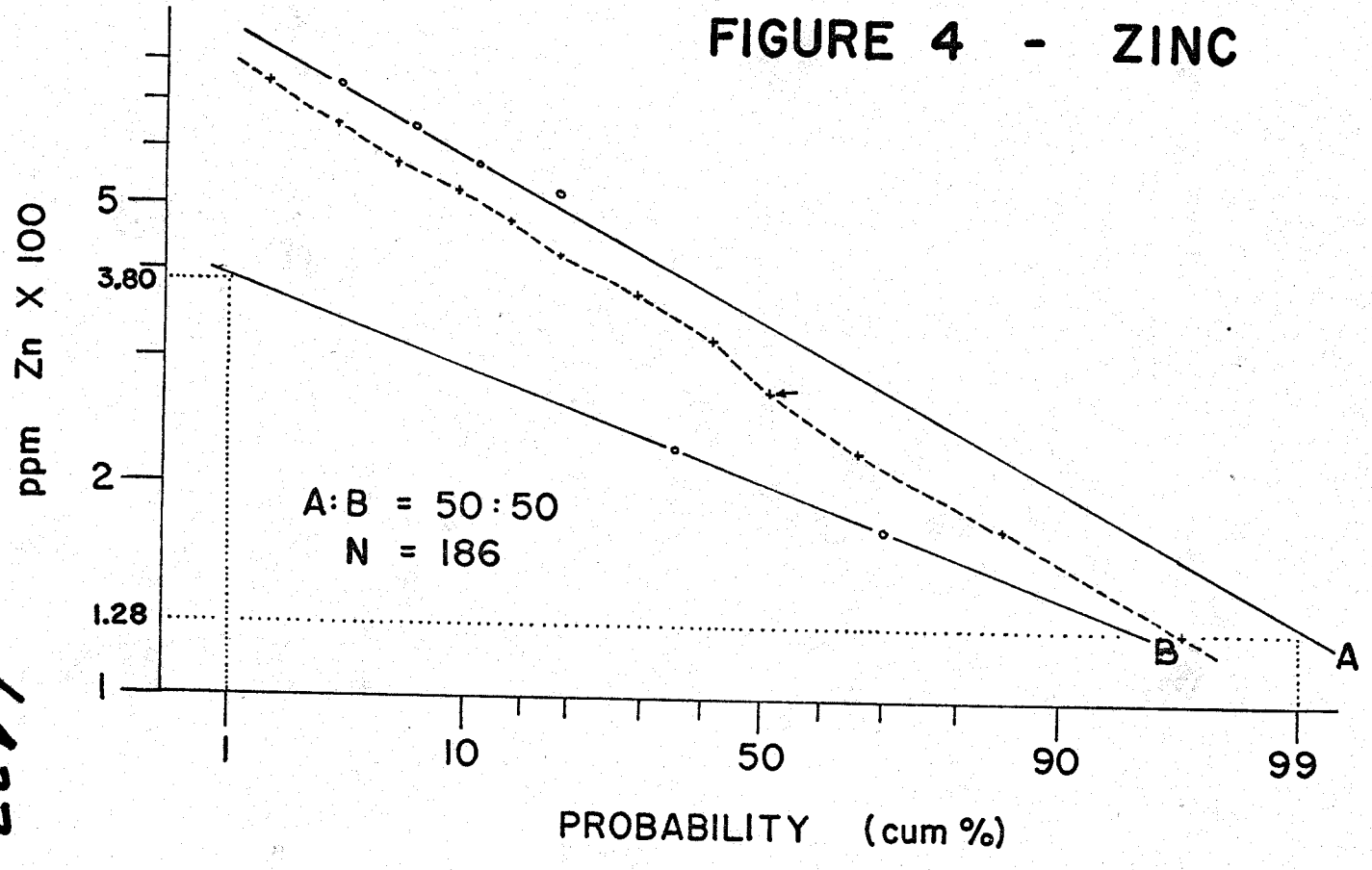

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FIGURE 5 - COPPER

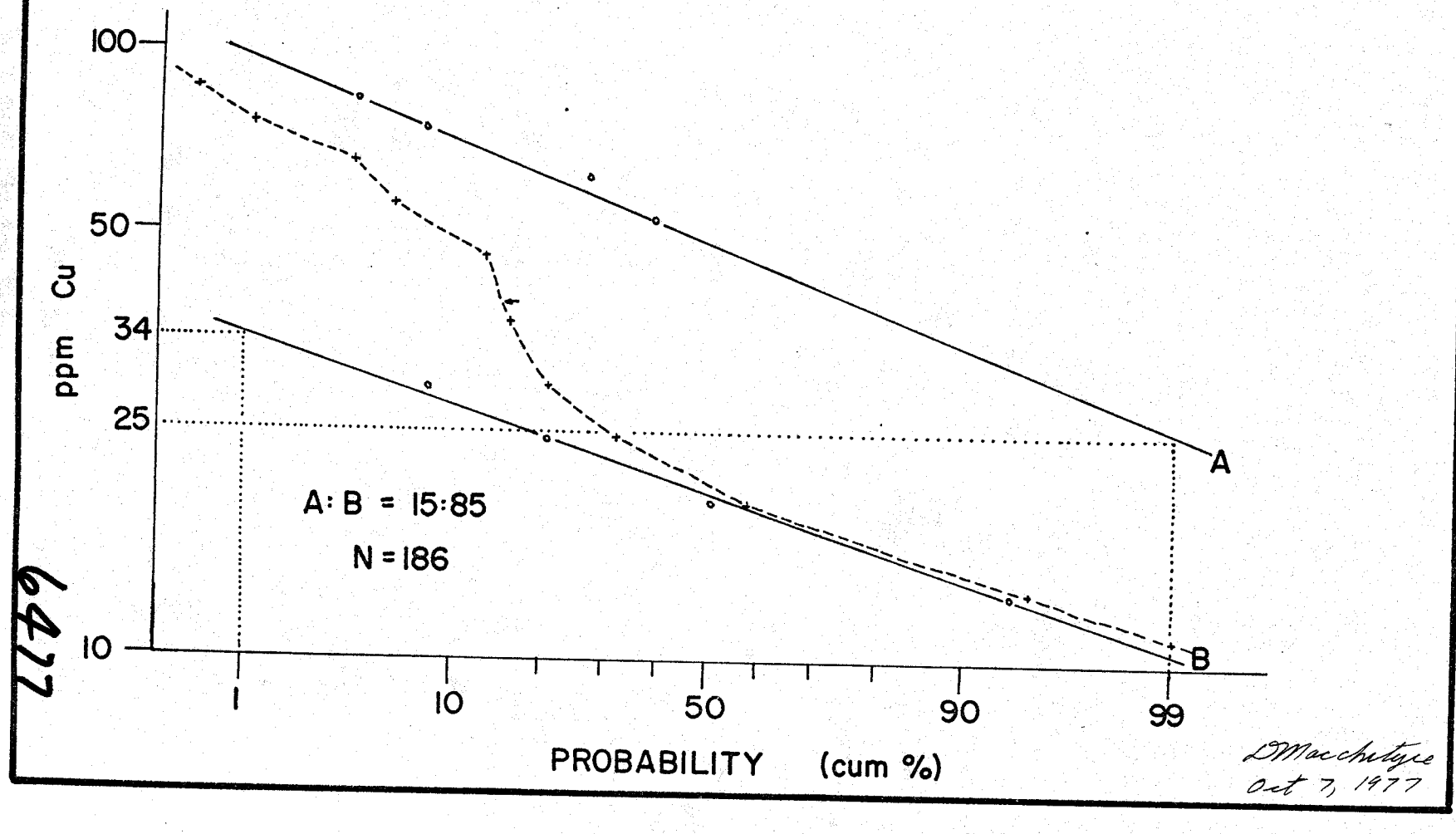
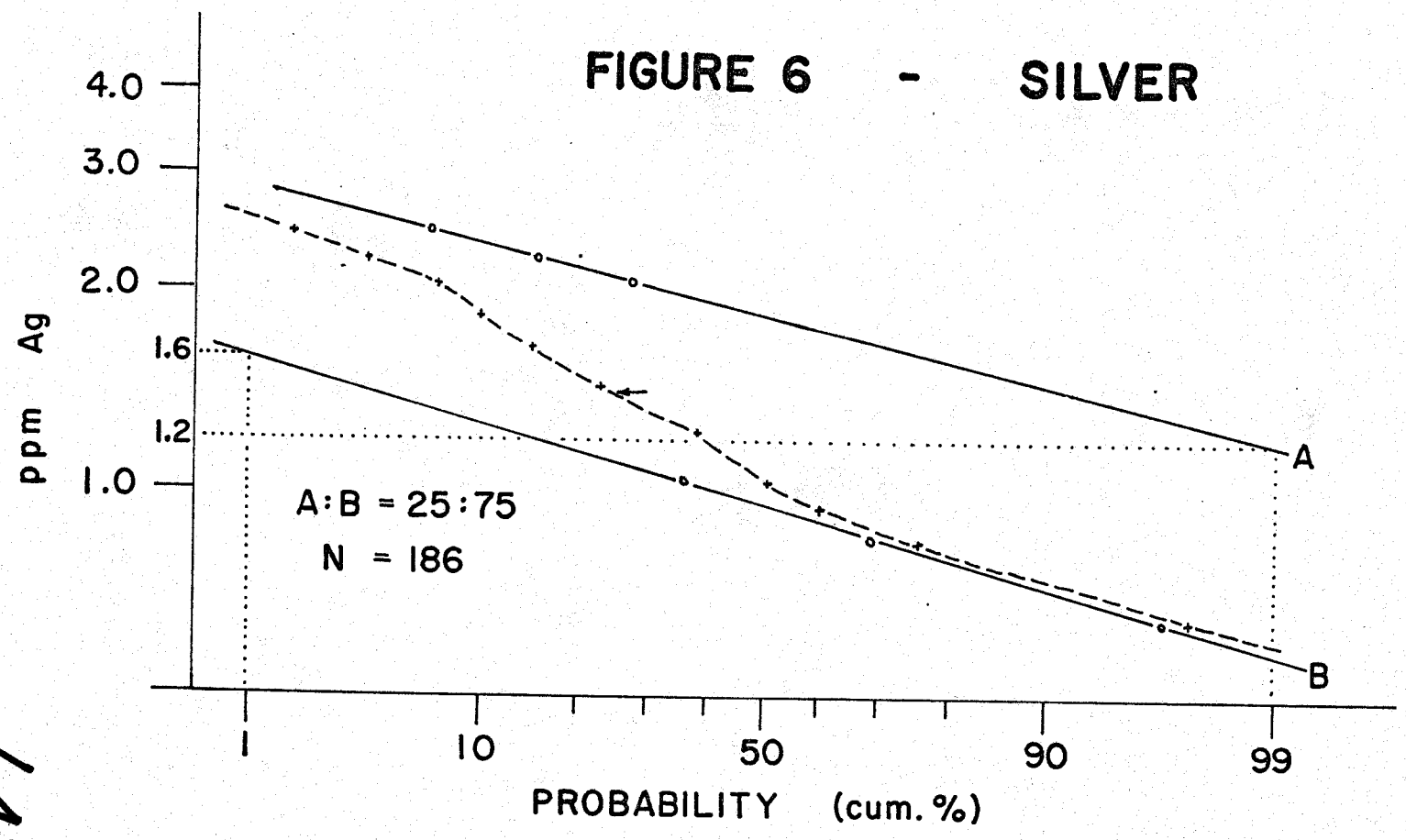


FIGURE 6 - SILVER



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REFERENCES

Church, B.N., 1970: Geology of the Owen Lake, Parrott Lakes and Goosly Lake Area; B.C. Dept. of Mines and Pet. Res., GEM, 1970, pp. 119-125.

Ney, C.S., Anderson, J.M., and Panteleyev, A., 1972: Discovery, Geologic Setting and Style of Mineralization, Sam Goosly Deposit, B.C.; Inst. Min. Metal. Bull., V. 65, pp. 53-64.

Sinclair, A.J., 1974: Selection of Threshold Values in Geochemical Data using Probability Graphs; J. Geochem. Expl., V.3, pp. 129-149.

APPENDIX "A"

1977 Parrot Lakes Project

Exploration Expenditures

July 7 - August 6, 1977 - 2 people for 30 days

	$
Accommodation	710.95
Meals	499.54
Truck Rental (New Westminster Auto Lease)	510.00
Gas	120.00
Analytical (Min-En Labs - Inv. 3362)	1,292.40
Wages - D. Atkinson	1,350.00
- S. Morris	600.00
Drafting - 4 days @ $50/day	200.00
T O T A L	5,282.89

APPENDIX "B"

ANALYTICAL RESULTS

COMP. Asarco Expl.

PROJECT No.:

ATTENTION:

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample. Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
77IRS1		24	42	260			0.9					
2		17	34	290			0.8					
3		18	35	350			1.0					
4		18	38	330			0.9					
5		58	54	420			1.8					
6		18	36	300			1.1					
7		21	31	143			0.9					
8		14	28	154			0.7					
9		31	34	265			0.9					
10		12	28	171			0.9					
11		31	32	260			1.1					
12		13	27	185			0.7					
13		33	31	505			1.3					
14		12	24	162			0.6					
15		28	30	154			0.8					
16		18	28	144			0.7					
17		14	25	118			0.7					
18		20	31	157			0.9					
19		20	30	182			0.8					
20		25	30	135			0.9					
21		21	29	139			0.9					
22		14	21	141			0.8					
23		18	27	155			0.9					
24		20	24	325			1.1					
25		17	27	143			0.9					
26		26	34	177			1.1					
27		18	21	114			0.7					
28		14	24	164			1.0					
29		20	23	250			1.0					
30		22	24	160			0.9					

CERTIFIED BY: D. G. Williams

COMPANY: Asarco Expl.

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MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug/4/ 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
~~TMS~~ 31		16	16	120			0.5					
32		19	19	112			0.6					
33		17	25	150			0.8					
34		19	29	310			1.0					
35		12	22	108			0.5					
36		20	24	191			0.9					
37		12	20	159			0.6					
38		16	25	183			0.9					
39		14	26	255			0.6					
40		18	24	175			0.5					
41		19	27	195			0.6					
42		13	22	165			0.4					
43		13	23	103			0.3					
44		18	21	149			0.6					
45		17	19	130			0.4					
46		25	22	137			0.8					
47		17	25	365			1.0					
48		17	26	270			0.8					
49		13	19	94			0.3					
50		44	36	270			1.3					
51		17	25	225			0.6					
52		14	24	163			0.9					
53		12	27	139			0.7					
54		14	31	290			0.9					
55		9	26	78			0.6					
56		15	28	101			0.7					
57		14	32	320			1.2					
58		21	33	325			1.4					
59		15	34	235			1.3					
60		18	24	93			0.8					

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PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
WRS 61		17	30	183			0·6					
62		14	28	152			0·4					
63		13	32	110			0·5					
64		23	31	157			0·8					
65		13	28	178			0·8					
66		21	21	79			0·7					
67		17	25	181			0·6					
68		20	25	164			0·9					
69		18	23	189			0·7					
70		19	34	168			0·6					
71		13	25	131			0·4					
72		16	34	325			0·7					
73		11	36	280			0·6					
74		14	38	385			0·6					
75		16	35	330			1·0					
76		23	34	275			1·1					
77		21	38	94			1·1					
78		38	37	168			0·9					
79		54	55	405			2·5					
80		9	28	162			0·7					
81		74	51	415			2·1					
82		18	32	125			0·7					
83		13	31	191			0·9					
84		15	30	245			0·6					
85		10	28	110			0·5					
86		12	32	170			0·6					
87		12	27	108			4·4					
88		14	29	157			0·3					
89		14	25	153			0·6					
90		10	30	127			0·5					

CERTIFIED BY: D. H. Muir

COMPANY: Asarco Expl.

PROJECT No.:

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MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
77RS91		16	26	113			07					
92		30	33	290			14					
93		17	31	168			09					
94		13	30	89			07					
95		18	25	134			07					
96		14	27	85			06					
97		13	27	123			07					
98		27	34	240			09					
99		17	26	88			06					
100		27	34	173			10					
01		16	33	370			09					
02		18	28	84			05					
03		18	29	116			04					
04		20	32	152			06					
05		17	29	150			07					
06		15	29	135			06					
07		33	36	138			07					
08		22	28	87			07					
09		16	34	160			09					
10		13	25	102			06					
11		14	28	103			05					
12		14	31	107			06					
13		16	27	82			07					
14		10	26	105			06					
15		8	27	158			07					
16		11	29	103			05					
17		14	28	101			05					
18		12	30	109			06					
19		18	31	120			06					
120		12	29	138			05					

CERTIFIED BY: D. G. Murchison

COMPANY: Asarco Expl.

PROJECT No.:

ATTENTION:

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

REPORT No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
MRS 121		11	20	136			0·9					
22		10	21	91			0·9					
23		10	21	169			0·7					
24		11	22	98			0·7					
25		13	24	86			0·6					
26		9	19	69			0·7					
27		11	18	66			0·6					
28		12	26	176			0·9					
29		10	20	84			0·7					
30		14	26	180			1·0					
31		13	29	225			1·1					
32		15	30	165			1·1					
33		23	32	220			1·2					
34		18	33	340			1·2					
35		13	28	143			1·2					
36		13	24	129			1·2					
37		13	20	157			1·1					
38		14	20	143			1·1					
39		18	28	184			1·3					
40		10	18	96			0·4					
41		8	18	116			0·3					
42		13	38	121			0·6					
43		53	36	280			1·6					
44		9	42	142			0·7					
45		10	19	112			0·8					
46		8	12	77			0·7					
47		12	20	163			0·9					
48		28	24	240			1·2					
49		11	18	94			0·9					
150		12	26	325			1·2					

CERTIFIED BY: D. H. Kines

COMPANY: Asarco Expl.

PROJECT No.:

ATTENTION:

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MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
77RS151		16	28	174			0.8					
52		14	30	225			0.7					
53		13	32	245			0.9					
54		15	34	176			0.6					
55		24	31	270			1.0					
56		16	28	113			0.6					
57		44	37	275			1.8					
58		43	31	179			1.0					
59		16	25	143			0.5					
60		17	26	175			0.4					
61		14	34	114			0.4					
62		19	34	315			0.8					
63		18	24	220			0.6					
64		35	30	163			1.0					
65		14	28	173			0.5					
66		19	22	149			1.0					
67		27	30	156			1.1					
68		21	40	164			0.9					
69		20	25	155			1.1					
70		13	26	240			0.8					
71		12	29	345			1.2					
72		8	21	106			0.7					
73		12	20	169			0.6					
74		10	25	220			1.0					
75		11	22	144			1.0					
76		9	28	230			1.1					
77		8	18	130			0.8					
78		12	24	184			1.0					
79		13	32	375			1.4					
80		15	30	320			1.4					

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No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
7HS181		21	28	220			0.9					
82		33	42	250			1.0					
83		36	44	280			0.8					
84		16	27	163			0.8					
85		15	32	260			0.9					
86		21	32	131			1.1					
87		35	34	160			1.2					
88		95	44	520			3.8					
89		63	35	435			2.5					
90		43	41	250			1.4					
91		14	44	435			1.0					
92		36	38	177			1.3					
93		11	34	225			0.9					
94		10	26	151			0.7					
95		10	35	220			0.9					
96		18	16	295			0.9					
97		17	32	169			0.9					
98		19	24	97			0.8					
99		27	31	260			1.1					
200		34	32	280			1.2					
01		14	26	220			0.8					
02		13	22	103			0.7					
03		8	24	315			0.9					
04		24	40	275			1.1					
05		55	34	270			1.5					
06		25	37	188			1.1					
07		25	39	360			1.3					
08		40	36	675			1.4					
09		60	40	425			1.4					
210		15	35	350			1.0					

CERTIFIED BY: D. H. Clins

COMPANY: Asarco Expl.

PROJECT No.:

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GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
~~TIRS~~ 211		19	30	360			1.0					
12		18	27	840			1.0					
13		21	38	295			1.0					
14		46	54	640			1.9					
15		17	42	515			1.2					
16		54	58	680			2.4		40 mesh			
17		22	50	710			1.0					
18		53	48	660			2.8					
19		14	38	580			1.1					
20		66	36	960			2.9					
21		22	36	260			1.4					
22		19	36	550			1.2					
23		14	29	215			0.8					
24		56	37	220			1.7					
25		21	48	191			1.1					
26		46	13	205			0.7					
27		21	38	210			0.8					
28		25	36	182			1.0					
29		22	36	162			0.8					
30		41	36	355			1.4					
31		23	45	184			1.1					
32		26	44	260			1.3					
33		45	44	305			1.6		40 mesh			
34		50	42	330			2.0		20 mesh			
35		12	20	107			0.5					
36		56	49	390			2.5		40 mesh			
37		26	32	260			1.2					
38		51	52	485			1.3					
39		30	21	184			1.0					
240		26	46	265			0.8					

CERTIFIED BY: D. McLin

COMPANY: Asarco Expl.

PROJECT No.:

ATTENTION:

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb			
TIRS 241		36	32	225			1·3								
42		23	34	250			1·3								
43		37	28	245			1·4								
44		28	30	230			1·3								
45		16	26	310			1·0								
46		64	43	495			2·8			40 mesh					
47		12	26	168			1·0								
48		12	24	162			0·8								
49		13	24	210			0·8								
50		21	24	188			1·5								
51		56	44	440			2·5			40 mesh					
52		18	26	176			1·0								
53		26	25	142			1·0								
54		36	32	295			1·8								
55		41	32	280			2·0			20 mesh					
56		19	18	141			1·0								
57		11	17	87			0·7								
58		14	23	162			1·0								
59		39	32	245			2·5			20 mesh					
60		30	22	285			2·0			40 mesh					
61		41	41	240			2·1			40 mesh					
62		44	25	305			2·4			40 mesh					
63		38	25	240			2·3			40 mesh					
64		22	28	154			1·8								
65		49	32	250			1·9								
66		21	19	194			0·9								
67		26	17	138			0·7								
68		13	17	855			0·7								
69		11	18	116			0·6								
270		13	13	90			0·6								

CERTIFIED BY: Dr. H. Otvos

COMPANY: Asarco Expl.

PROJECT No.:

ATTENTION:

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
77RS271		13	19	225			0.8					
72		18	15	96			0.6					
73		11	15	132			0.6					
74		12	16	305			0.7					
75		15	18	108			0.7					
76		14	17	230			0.7					
77		10	14	99			0.5					
78		9	13	81			0.5					
79		9	16	235			0.7					
80		13	19	140			0.9					
81		33	33	260			1.8		40 mesh			
82		28	26	142			1.7		40 mesh			
83		44	32	225			1.9					
84		28	20	144			1.3		40 mesh			
85		12	15	126			0.7					
86		14	18	165			0.8					
87		13	19	144			0.6					
88		16	18	108			0.8					
89		41	25	194			1.8					
90		14	22	415			1.1					
91		12	20	69			0.9					
92		13	18	127			0.8					
93		25	28	240			1.4					
94		22	22	150			1.1					
95		16	18	102			1.0					
96		10	19	73			0.7					
97		12	17	118			0.9					
98		10	13	43			0.6					
99		13	16	128			0.8					
300		13	12	132			0.6					

CERTIFIED BY: D. H. Clark

COMPANY: Asarco Expl.

PROJECT No.:

ATTENTION:

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb				
77LRL1	25	28	250			1.4										
2	22	23	220			1.3										
3	33	29	235			1.3			40 mesh							
4	23	21	196			1.3			20 mesh							
5	14	26	108			0.9			40 mesh							
6	27	27	156			1.5			40 mesh							
7	23	36	187			1.1										
77IMS1	20	35	435			1.4										
2	17	26	197			1.0										
3	32	26	143			0.9										
4	18	19	105			0.7										
5	20	32	245			1.2										
6	20	28	127			0.8										
7	18	25	255			0.9										
8	24	30	400			1.1										
9	16	22	173			0.8										
10	19	19	192			0.6										
11	14	21	390			0.9										
12	15	22	270			0.7										

COMPANY: Asarco Expl.

PROJECT No.:

ATTENTION:

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
~~TIMS~~ 13		12	25	275			1.0					
14		14	21	119			0.7					
15		13	20	120			0.6					
16		25	28	210			0.8					
17		10	24	348			0.5					
18		12	18	129			0.6					
19		14	20	116			0.6					
20		20	24	179			0.9					
21		15	28	150			0.8					
22		7	22	210			0.6					
23		31	51	265			1.3					
24		65	54	425			2.6					
25		7	20	107			0.6					
26		31	43	285			1.2					
27		33	38	275			1.4			20 mesh		
28		28	41	165			1.1					
29		25	38	162			1.0					
30		37	54	340			1.6					
31		19	48	149			0.8					
32		24	41	167			1.2					
33		40	37	175			1.2					
34		25	29	260			1.4					
35		11	24	107			0.6					
36		15	28	355			1.1					
37		12	22	113			0.6					
38		11	33	260			0.7					
39		12	41	345			1.2					
40		12	48	340			0.9					
41		11	37	390			0.9					
42		19	35	280			1.1					

CERTIFIED BY: D. M. Clark

COMPANY: Asarco Expl.

PROJECT No.:

ATTENTION:

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 4374

DATE: Aug. 4, 1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
MMS 43		37	43	595			1.8					
44		20	37	315			1.1					
45		22	62	605			1.0					
46		15	40	179			0.9					
47		15	32	160			0.7					
48		26	53	300			1.9					
49		32	49	285			1.8					
50		12	50	159			0.8					
51		38	50	310			1.8					
52		33	42	320			1.6					
53		13	32	118			0.9					
54		25	38	240			1.5					
77SL8		42	80	385			1.8					

CERTIFIED BY: D. G. McClaine

APPENDIX "C"

ANALYTICAL PROCEDURES

LAB PROCEDURES FOR HANDLING, PREPARATION AND ANALYSES OF GEOCHEMICAL MATERIALS.

Sample Preparation:

1. Samples are sorted numerically or in grid sequence and recorded on lab work sheets.
2. Soil and silt materials are air dried at 80°C. Drying time 12 - 16 hours.
3. Screen samples and retain all -80 mesh material. Other material of varying mesh size will be retained on request.
4. -80 mesh fraction is stored in powder seal coin envelopes for analyses and also for later dry storage. Geochem materials are retained for up to five years in Chemex storage facilities.

Sample Digestion, Chemical Preparation and Analyses.

1. For analyses of Cu, Mo, Pb, Zn, Co, Ni, Cd, Ag - a 0.5 gm sample of -80 mesh material is weighed into 22x175 mm test tubes. Detection limits 1 ppm or less.
2. Add 3 mls 70% $HClO_4$ and 2 mls conc. HNO_3 to sample. Slowly heat to 203°C. Digestion time 2-3 hours.
3. Add demineralized water to 25 ml volume, mix thoroughly, settle and analyse samples by standard atomic absorption procedures.
4. Gold (ppb) is analysed using a 5 gm sample of -80 mesh material. Sample is weighed into a crucible and ashed for 1 hour at 550°C. Residue is digested in aqua regia to dryness and dissolved in 25% HCl. Gold Bromide is extracted into MIBK and analysed by A.A. Procedures.
5. Uranium (ppm) is analysed fluorometically. A 0.50 gm sample is digested in 4 M nitric to dryness. Digestion is repeated. A small portion of solution is transferred to a platinum dish and evaporated to dryness. Flux is added and sample is fused at 650°C. Fluorescence is determined using a Turner III Fluorometer.
6. Tungsten (ppm) is analysed colourimetrically using the dithol procedure. A 0.50 gm sample is mixed with pyrosulphate flux and fused in a closed furnace. Fused material is leached with HCl solution and a portion of sample is transferred to another test tube for complexation with zinc dithol reagent. Colour development is determined on a spectrophotometer.
7. Arsenic (ppm) is analysed colourimetrically by collecting arsine in pyridine and silver diethyldithiocarbamate reagent. Color intensity is determined using a flow through cell on a Spectronic 700 Spectrophotometer.

LAB PROCEDURES FOR HANDLING AND PREPARATION OF ROCK GEOCHEMICAL MATERIAL.

1. Samples are sorted numerically and recorded on rock geochem lab sheets.

2. Samples are dried, then crushed through a jaw type crusher.

3. Secondary crushing to -1/8 inch is completed by passing sample through a gyro crusher.

4. Approximately 100 gms of crushed sample is split from reject for pulverizing and dried @ 80°C.

5. Sample is pulverized using a "Rocklabs" ring grinder.

6. Pulverized sample is retained in a suitably marked and numbered container.

7. Digestion and analytical technique for rock geochem materials is identical to that used for soils and silts.

APPENDIX "D"

SAMPLES CONTAINING ORGANIC MATERIAL

SAMPLES CONTAINING ORGANIC MATERIAL

77IRS	5
	27
	50
	65
	81
	115
	117
	120
	158
	160
	186
	188
	189
	190
	205
	209
	224
	226
	242
	243
	255
	261
	262
	263
	264
	282
	289
77IMS	27
	33

STATEMENT OF QUALIFICATIONS

I, Donald G.MacIntyre of 6020 Kalamalka Crescent, Richmond, B.C., certify that:

(1) I am a graduate of the University of British Columbia with a Bachelor of Science degree in Honors Geology, 1971.

(2) I am a gradaute of the University of Western Ontario, with a Masters(1974) and a PhD (1976).

(3) I have practiced my profession as a Geologist since 1967 in British Columbia and the Yukon Territory.

(4) The information contained in this report was compiled by myself and that the geochemical survey was under my direct supervision.

D.G. MacIntyre,
Geologist.

N

25° 4

IRK I

IRK II

IRK III

IRK IV

IRK V

3400

3300

3200

3100

3000

2900

2800

2700

IAS 203 IAS 220 IAS 238 IAS 221 IMS 54 IMS 38 IMS 22 IMS 37 IAS 11 IAL 1 IAS 1 IAS 59 IAS 50 IAS 12 IAS 185 IAS 13 IAS 60 IAS 69 IAS 193 IAS 14 IAS 194 IAS 202 IAL 2 IAS 15 IAS 40 IAS 49 IAS 16 IAS 252 IAS 239 IAS 79 IAS 66 IAL 3 IAS 17 IAS 39 IAS 30 IAS 18 IAS 78 IAL 5 IAS 70 IAL 4 IAS 19 IAS 29 IAS 267 IAS 253 IMS 1 IAS 176 IAS 184 IMS 2 IMS 12 IAS 87 IAS 175 IAL 6 IAS 166 IAS 88 IAS 97 IAS 299 IAS 285 IAS 158 IAS 165 IMS 21 IMS 13 IAS 109 IAS 157 IAS 108 IAS 149 IAS 98 IAS 268 IAS 284 IAS 141 IAS 120 IAS 148 IAS 121 IAS 110 IAS 140 IAS 135 IAS 122 IAS 134

100 50 0 50 100 150 200

Meters

COLOUR CODE

- ○ < 25 ppm Cu
- ○ 25 - 34 ppm Cu
- ○ > 34 ppm Cu

LEGEND

- claim boundary
- ■ legal corner post
- 3000 topographic contour (feet)
- ppm Cu ○ soil sample
- ppm Cu □ silt sample

(N.B. Sample nos. should read IRS not IAS)

FIG. 7 ASARCO

PARROTT LKS. PROJECT

COPPER GEOCHEMISTRY

1:2,500 Sept. 1977 D. MacIntyre 93L/2E

D MacIntyre Oct 7, 1977

N

25°4'

IRK I

IRK II

IRK III

IRK III

IRK IV

IRK V

3400

3300

3200

3100

3000

2900

2800

2700

100 0 50 100 150 200

Meters

LEGEND

—— claim boundary

■ legal corner post

3000 topographic contour (feet)

ppm Pb
○ soil sample (see fig. 7 for sample nos.)

ppm Pb
□ silt sample

FIG. 8 ASARCO

PARROTT LKS. PROJECT

LEAD GEOCHEMISTRY

1:2,500 Sept. 1977 D. MacIntyre 93L/2E

D MacIntyre Oct. 7, 1977

N

25° 4'

IRK I

IRK II

IRK III

IRK III

IRK IV

IRK V

3400

3300

3200

3100

3000

2900

2800

2700

2800

2900

3000

3100

100 0 50 100 150 200

Meters

COLOUR CODE

○ < 128 ppm Zn

○ 128-380 " "

○ > 380 " "

LEGEND

—— claim boundary

■ legal corner post

3000 topographic contour (feet)

○ ppm Zn Soil sample (see fig. 7 for sample nos.)

□ ppm Zn silt sample

FIG. 9 ASARCO

PARROTT LKS. PROJECT

ZINC GEOCHEMISTRY

1:2,500 Sept. 1977 D. MacIntyre 93L/2E

D MacIntyre Oct 7, 1977

N

25° 4'

IRK I

IRK II

IRK III

IRK III

IRK IV

IRK V

3400

3300

3200

3100

3000

2900

2800

2700

100 0 50 100 150 200

Meters

COLOUR CODE

○ < 1.2 ppm Ag

○ 1.2-1.6 " "

○ > 1.6 " "

LEGEND

claim boundary

■ legal corner post

topographic contour (feet)

ppm Ag soil sample

ppm Ag silt sample (see fig.7 for sample nos.)

FIG. 10 ASARCO

PARROTT LKS. PROJECT

SILVER GEOCHEMISTRY

1:2,500 Sept. 1977 D. MacIntyre 93L/2E

D. MacIntyre Oct 7, 1977