

GEOLOGICAL AND GEOCHEMICAL

ASSESSMENT REPORT

ON THE

REP CLAIM GROUP

58°24'N, 124°23'W

NTS 94K/8

OWNER / OPERATOR

UTAH MINES LTD.

By: J. R. Deighton
Utah Mines Ltd.
Vancouver, B. C.

April, 1981

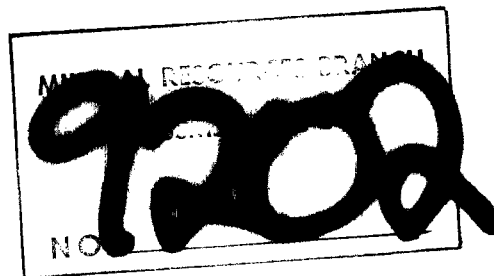


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Maps Found in Back Pocket

1:50,000	Geology
1:5,000	Geochemistry Maps I to IV
1:125,000	Geology
1:250,000	Topography

SUMMARY

During the 1980 Northeast B. C. reconnaissance program 9 claims totalling 81 units were staked in the Chischa River area, NTS 94K/8. These were designed to cover a north-northwest trending unit of barite within Devonian dolomite and limestone, which contained some massive sphalerite.

Due to the limited time that was available for reconnaissance in this area, only minor work was done on the Rep Claims.

The Rep claims appear to be a "Mississippi Valley" type of deposit, but large scale mapping and further sampling is required before an accurate assessment of the property can be made.

CHAPTER 1: INTRODUCTION

1.1 Location, Access, Topography, Vegetation

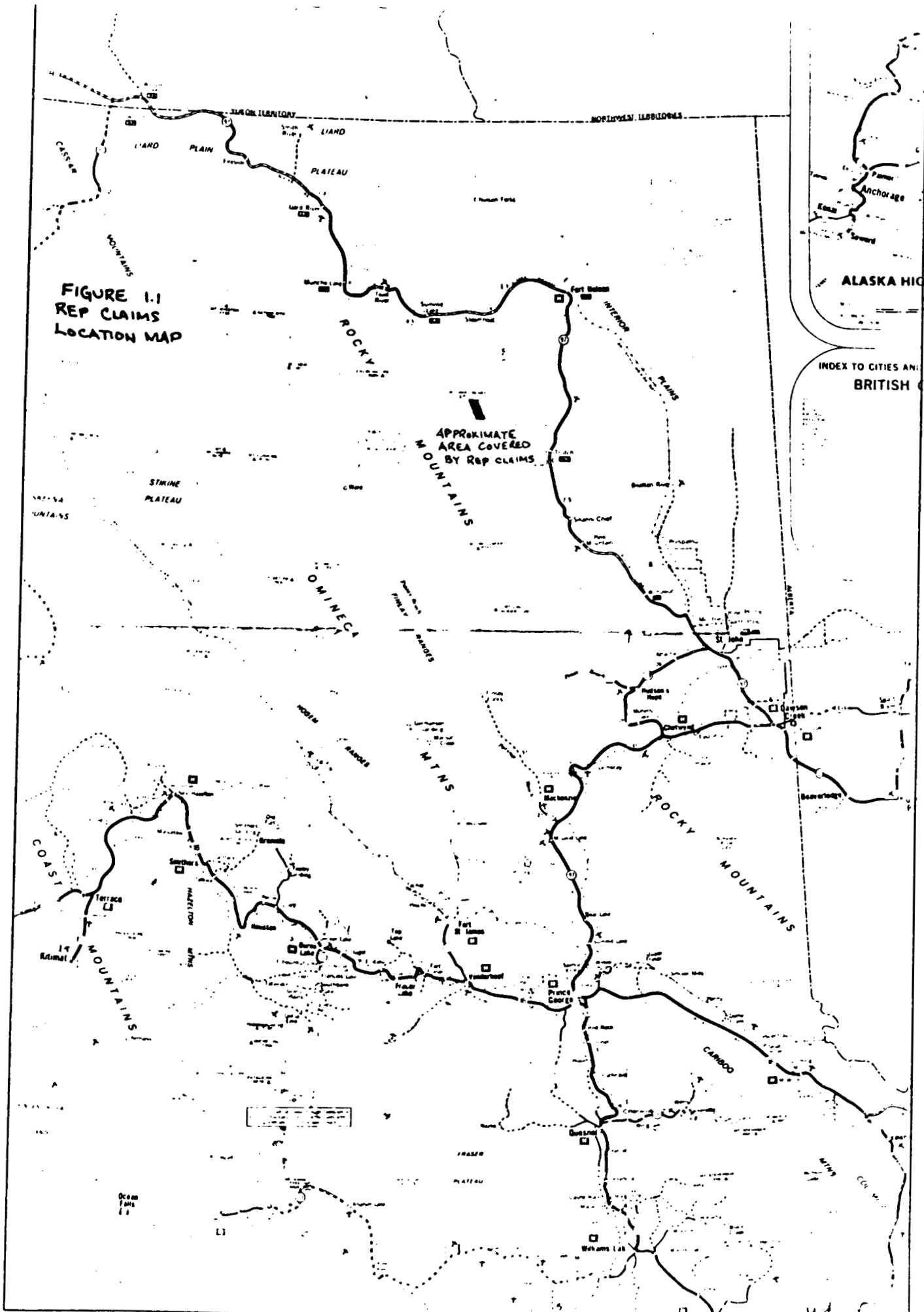
Rep group consists of nine claim groups each containing nine units in a three by three configuration. The locations of the 81 units are on map number 94K/8W, approximately 32 kilometres southwest of Summit Lake (mile 392, Alaska Highway) and covers parts of Henry Creek, Chischa River and Margison Creek (see Fig. 1.1 and Fig. 1.2) Thirteen kilometres of the underlying units' strike lengths were staked covering an area of 20.25 square kilometres.

Access to the claims is either by helicopter or winter road from the Alaska Highway, the closest habitation being Summit Lake Lodge. Fort Nelson, the nearest supply point, lies 145 kilometres by air east-northeast from the Rep claims.

Topography is a large factor in the evaluation of this area as the claims lie along the join of the Rocky Mountain Foothills and the Rocky Mountain Main Range. This makes the west half of the property extremely rugged with an average elevation change of 1050 metres in 1.5 kilometres. Although work is thus made difficult, good exposure is experienced. Major creek bottoms are wide, flat and boulder-filled which affords easy access.

Vegetation is minimal with alpine tundra above 1524 metres (the highest peaks are about 2440 metres in elevation) and fir and jackpine below. Little or no undergrowth exists in timbered areas although some deadfill may be encountered.

FIGURE 1.1
REP CLAIMS
LOCATION MAP



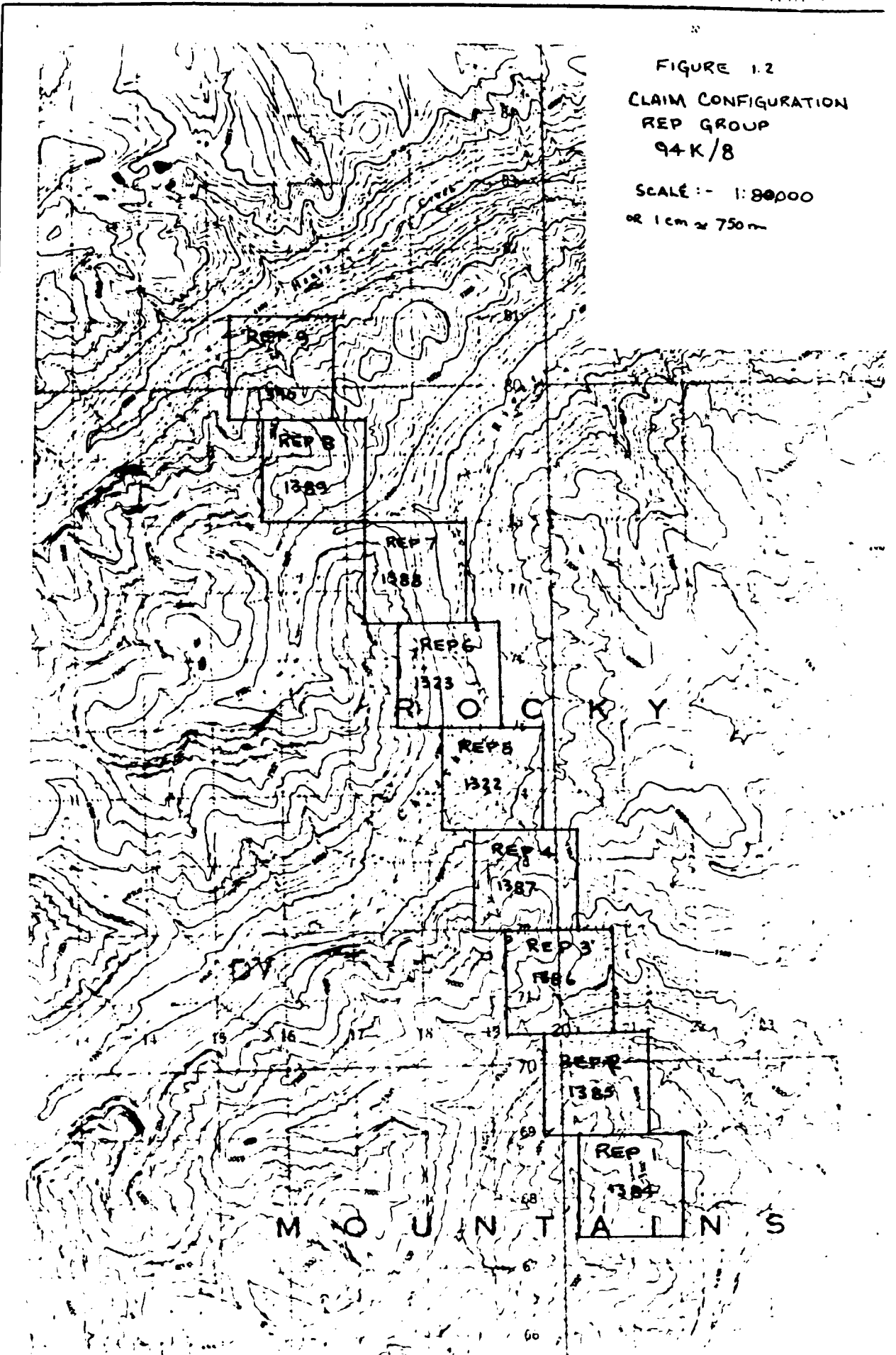
ALASKA HIGHWAY
INDEX TO CITIES AND TOWNS
BRITISH COLUMBIA

Legend

- Rep Claim
- Rep Claim
- Boundary
- Highway
- Railroad
- Waterway
- Other

CLAIM CONFIGURATION
REP GROUP
94K/8

SCALE :- 1:80000
OR 1cm = 750m



1.2 History

This ground was originally staked in 1972 as the CTV and DODO groups by Ecstall Mining Limited, a subsidiary of Texasgulf Minerals. The property was subsequently dropped in 1973 after some geology and geochemistry was attempted.

During a regional reconnaissance program in 1980 this area was staked by Utah as REP 1-9 mineral claims and recorded on June 30, 1980 in Fort Nelson, B. C.

CHAPTER 2: GEOLOGY

2.1 Regional Geology

The Rep claim group lies in an area of highly thrust and folded Paleozoic and Phanerozoic, deep to shallow-water sediments.

A depositional history of the area may be deduced from formation types and sedimentary structures. Taylor and Stott (1973) give a detailed history and is summarized here.

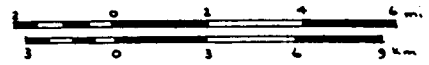
Deltaic conditions in the east produced fan conglomerates which change into normal marine sediments in the west. This forms the Cambrian unit known as the Atan Group.

Rapid submergence of the whole area in the early Ordovician is indicated by the lower Kechika group. Shoaling conditions followed resulting in the deposition of a thick succession of open marine carbonates. Within the Kechika group a facies change from platform carbonates in the east to graptolitic shales in the west is marked by turbidites.

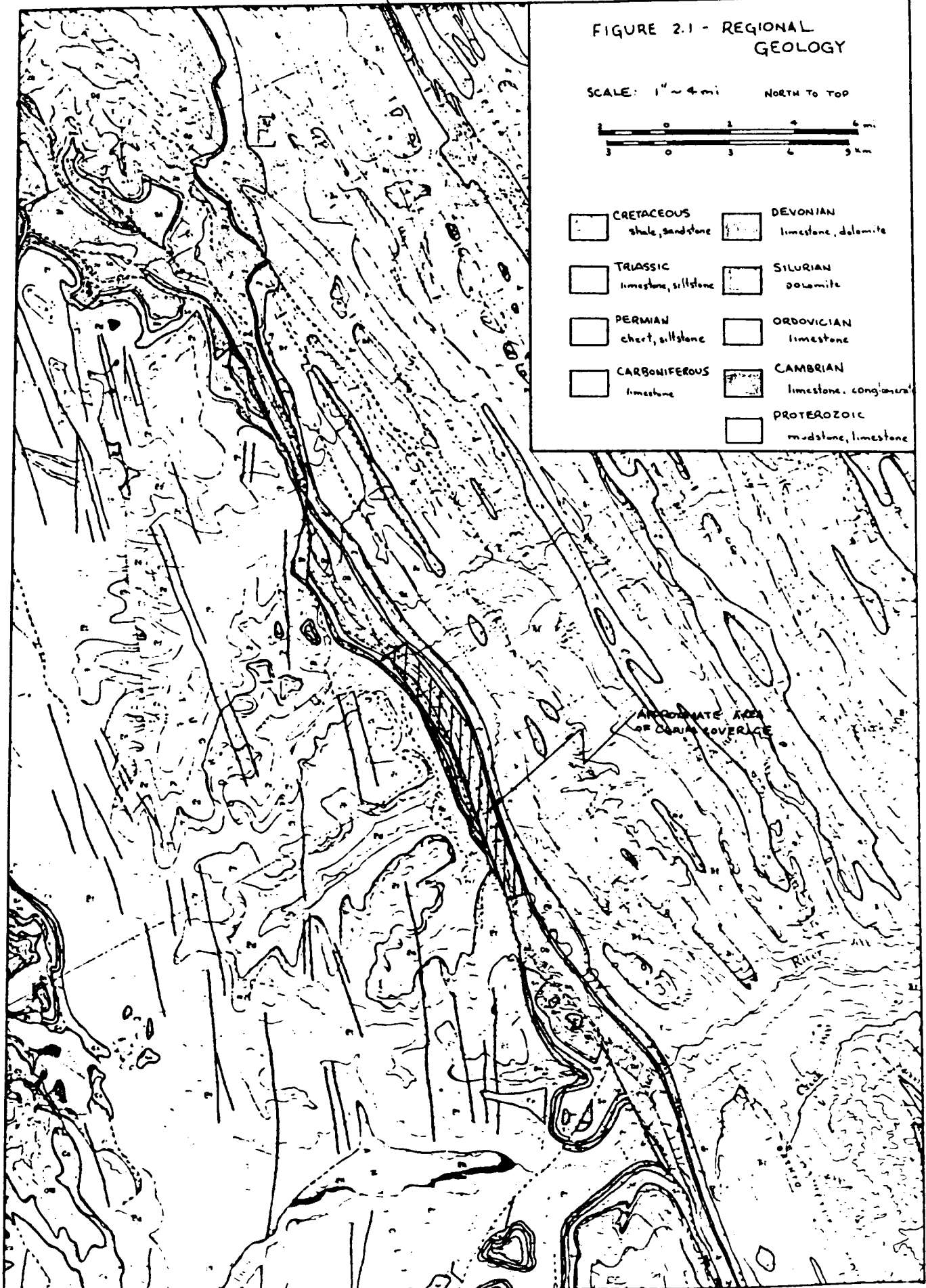
Strong folding and faulting during a Silurian orogeny affected all underlying units and formed the MacDonald Platform, a paleotopographic high which affected all subsequent deposition. Following the tectonism, Silurian to Mid Devonian carbonates were deposited on an open water platform facing a shale basin to the west. Minor local facies changes occurred due to the MacDonald Platform.

FIGURE 2.1 - REGIONAL GEOLOGY

SCALE: 1" = 4 mi NORTH TO TOP



	CRETACEOUS shale, sandstone		DEVONIAN limestone, dolomite
	TRIASSIC limestone, siltstone		SILURIAN dolomite
	PERMIAN chert, siltstone		ORDOVICIAN limestone
	CARBONIFEROUS limestone		CAMBRIAN limestone, conglomerate
			PROTEROZOIC mudstone, limestone



APPROXIMATE AREA OF COAL COVERAGE

River

2.2 An early Devonian regression is noted with progressively shallower water sediments culminating in the semi-evaporitic Stone Formation. The overlying Dunedin Formation records a period of transgression with a starved basin being formed during Upper Devonian time. Sediments within the starved basin are now known as the Besa River Formation, a thin unit of black shales.

Another period of regression resulted in the formation of carbonate beds during the Mississippian (Prophet Formation) through to an influx of clastic sediments from the north (Mattson Formation). A further time of deformation occurred during the Pennsylvanian.

Later depositions indicate more regression and transgression through to the Cretaceous, when deposition began from the west and, presumably, from the newly formed Coast Range.

All formations are summarized on Table 2.1

2.2 Local Geology

As the program in 1980 was a regional one only, no distinction between formations was made. Mapping on 1:50,000 scale was on gross geology only (see back pocket for recce. geology map). The Geological Survey map (1 inch equals 2 miles) serves as a fairly accurate guide to the geology but, at this scale details cannot be shown. Texas-gulf mapping, from assessment report number 4300, is sketchy. Further work on the property will require mapping on 1:5000 scale and sorting out of the following units which are known to underlie the property.

TABLE 2.1
SUMMARY OF FORMATIONS

<u>Age</u>	<u>Name</u>	<u>Thickness</u>	<u>Lithology</u>
Mississippian	Prophet	100m	Sequence of limestone, chert, dolomite.
Devonian Upper	Besa River	300-425m	Siliceous, graphitic, pyritic black shale with minor interbedded siltstone & limestone.
	Dunedin	200m	Well bedded, light grey weathering limestone; Agrillaceous to micritic with minor black chert nodules in upper 60m. Some minor dolomite and sandstone lenses.
Middle	Stone	360m	Light grey sandy dolomite some evaporite and breccia. Finely crystalline to aphanitic.
	Middle to Lower Workpash	32m	Rusty weathering, light yellow-brown orthoquartzite to quartz sandstone. Thick bedded to massive with some crossbedding. Some shrinkage cracks and dessication breccias. Shoaling, conditions at time of formation.

<u>Age</u>	<u>Name</u>	<u>Thickness</u>	<u>Lithology</u>
Lower	Muncho-McConnel	100m	Medium and dark grey, fine dolomite with well developed bedding. Basal beds tend to be sandy or silty and minor intercalated orthoquartzite beds are common. Deposition was in shallow water, shoaling eastwards.
Silurian	Nonda	100m	Dull, dark grey dolomite with quartz sandstone and orthoquartzite at base. Medium crystalline, thick to massive bedded with chert nodules in upper part.
Ordovician	Kechika	1200m	Clean, platform shallow water limestone with minor intercalated orthoquartzite.

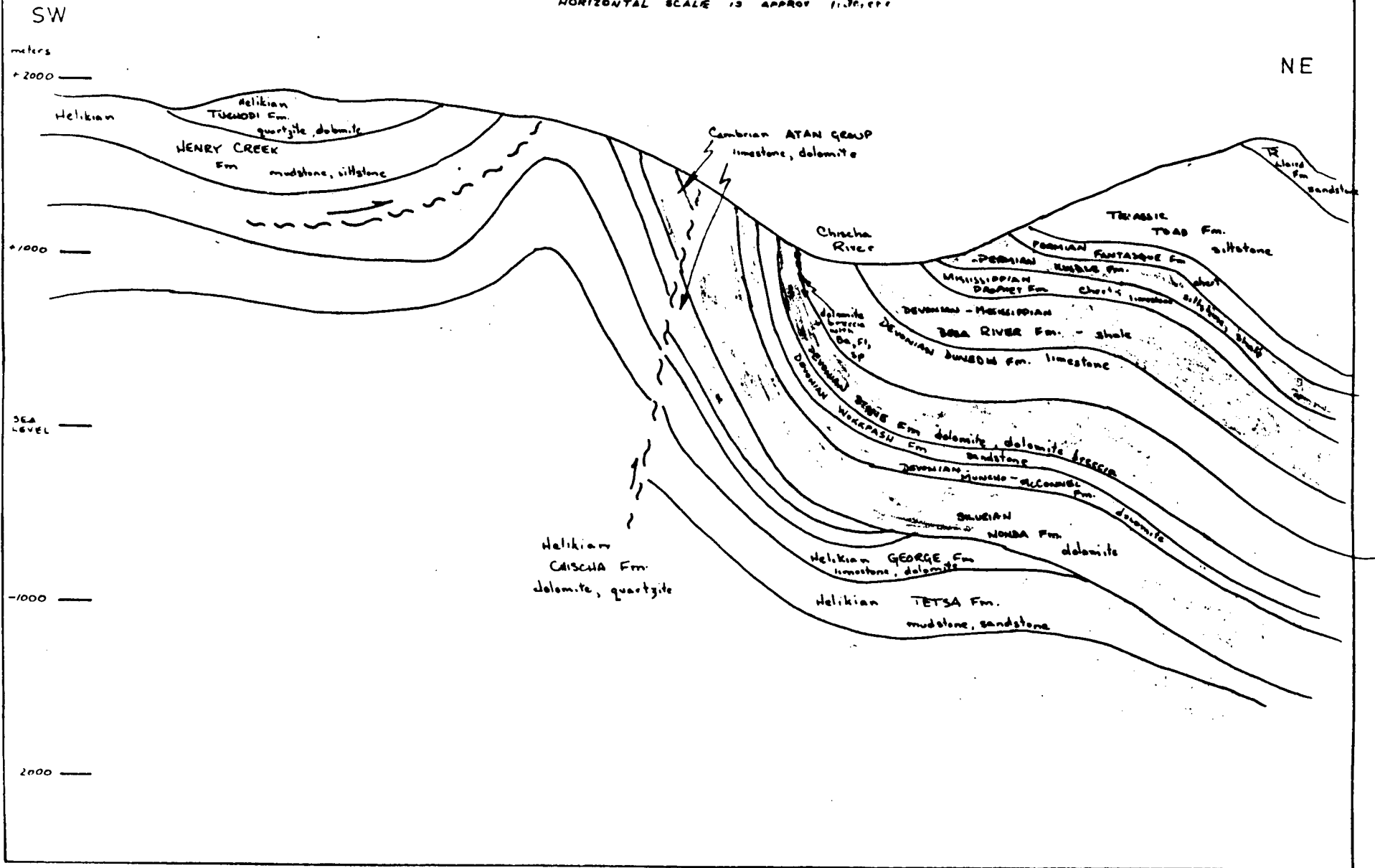
More units may be found on the property with further mapping but these are thin and pre-Ordovician. Descriptions of these may be found in Taylor and Stott (1973).

Although the contacts between units appeared conformable in places, generally, they are not. In fact, some appear strongly faulted and folded.

Bedding attitudes average 160/50E but locally change greatly due to local folding. Because of the local attitude changes, determination of the increase or decrease in thickness of the units becomes difficult.

Figure 2.2 CROSS SECTION THROUGH REP 6
showing structural style

HORIZONTAL SCALE IS APPROX 1:10,000



No attempt will be made in this report to describe the local geology in detail as no detailed mapping was completed.

2.3 Mineralization

The claims in this area were staked to cover an area of, mainly, massive barite with associated sphalerite, galena, minor tetrahedrite and minor fluorite. Some assay returns are as follows:

TABLE 2.2

Assay Returns

<u>Number</u>	<u>Type</u>	<u>Results</u>				
		<u>Ag oz/ton</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Cd %</u>	<u>Ba %</u>
80ZAT16 ^{MK}	Grab	0.18	0.71	14.6	0.038	
80ZAT17	1m chip	0.26	1.5	4.26		41.9
80ZAT20	2.5m chip	0.1	1.3	4.11		
80ABT1 ^Q	Grab	<0.01	<0.01	5.06	0.012	
80ZBT2 ^Q	Grab	<0.001	<0.01	0.23	0.002	
80ZWT9 ^{MK}	Grab	0.01	0.49	9.03	0.019	
80ZWT11 ^{MK}	Grab	0.01	0.18	4.19	0.01	
80ZWT12 ^{MK}	5m chip	0.04	1.53	4.79		30.3
80ZWT9 ^{MK}	7m chip	0.26	0.25	6.41		17.5
80ZBT7	Grab	2.26	38.6	10.01		

The host rocks for the mineralization are extremely fetid limestones and dolomites of the Dunedin and Stone Formations respectively. Some dolomite breccia was noted near one of the main showings but other than that, no spectacular sedimentary features were noted.

Barite mineralization extends in varying thickness (0-20m) over the entire property and, in fact extends for another 30 kilometres to the northwest. This is seen as sucrosic, sparry or dendritic and is either one single bed or split into several, close spaced parallel beds. The origin for this barite is thought to be low temperature hydrothermal (as in the Mississippi Valley deposits) into a shallow back reef basin and/or into breccia zones or slump zones at the bottom of a shelf slope. This appears plausible as various faults, fractures and breccia zones are infilled with barite, fluorite and minor sulphides.

Similarities to the Mississippi Valley deposits include; the presence of a clean quartz sandstone below the carbonates which affords passage for metal-rich solutions, dolomitization of the limestones of the back reef facies and carbonates which are extremely fetid. Another, probably related model is syngenetic dolomitization and mineralization which, as this area does have evaporite minerals may hold. With this model the presence of barite, siderite and magnesite is explained by the arrival of iron, barium and calcium-rich continental waters into penesaline lagoon while reflux dolomitization is proceeding. This process would also tend to fill voids and fractures as seen on the Rep Group.

Further investigation and large scale mapping will provide better information as to which model is

applicable. This is important on this property as a realistic model is essential before the potential of this area can be realized.

CHAPTER 3: GEOCHEMISTRY

From the regional Northeast B. C. program, the following anomalous values were computed for stream sediment geochemistry (see 1980 report by Burt).

TABLE 3.1
REGIONAL STREAM SEDIMENT VALUES

Metal	Anomalous Values	
	Possible	Definite
Zn	225 ppm	300 ppm
Pb	14	18
Cd	3.0	5.0
Ag	0.8	1.0

The above values give a regionally high area over the claim group.

Some soil and rock samples were taken for analysis but these were too few for statistical analysis.

Estall Mining did some grid soil sampling over the bottom of the Chischa River valley and appears to have proved out an extension to the showing south of the Chischa River although no mention of this has been made in their assessment report.

Further geochemical sampling in the form of soil grids and lines and high density silt sampling will be required if work is to continue. The soil grids would be small and used to see if any extension of the mineralized areas continue under the covered areas along valley bottoms. Soil lines below the favourable rock types would be helpful in the location of more showings.

CHAPTER 4: SUMMARY OF WORK REQUIRED

4.1 Geology

At the moment, geologic mapping is the most important work that is required. As the potential of this property hinges on an increase of grade and tonnage with depth, the formation of a specific model will be necessary to properly evaluate the area. Care will thus have to be taken to identify small and large scale sedimentary features, large tectonic structures, facies changes and unit thickening. Unit and fossil identification will give a better idea of ages and paleogeography during the time of mineralization.

Mylars and sepias at a scale of 1:5000 have been prepared for further mapping.

4.2 Geochemistry

Soil geochemistry grids will be required in the valley bottoms. Chischa Valley, especially will require one grid to check for possible extensions of the showing to the south. Lines of soil samples on slopes under the host rock unit will serve to pinpoint more mineralization.

Stream sediment geochemistry may also be used in conjunction with prospecting but much closer spaced than previously done.

All mineralized outcrop should be chip sampled with special attention given to exact sample lengths.

4.3 Prospecting

Entire area should be prospected thoroughly especially along the barite "horizon". Stream geochemistry may be conducted at the same time. Special attention should also be given to the shales along Margison Creek as these do host some zinc mineralization.

4.4 Geophysycs

Both EM and IP would be helpful in order to obtain some depth information. As the barite and massive sulphides differ greatly from the surrounding rock good geophysical expression should be obtained.

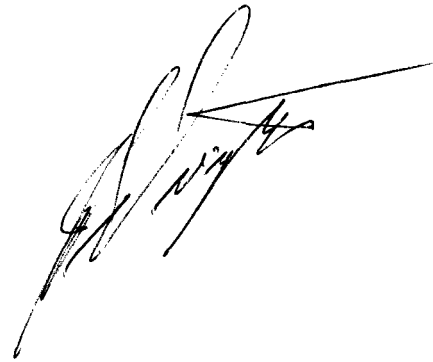
4.5 Drilling

Any drill targets would have to be defined after the above work has been completed.

CONCLUSIONS

The Rep claim group, although sparsely mineralized, is an area of favourable geology. The claims cover a regional anomalous geochemical anomalous area. Further work may give the area greater potential than the small high grade pods now seen. Very little detailed work has been done in the area so information is lacking.

Mineralization appears to bear some similarities to the Mississippi Valley deposits as well as to evaporite-type deposits but more geology will provide a better suited model.

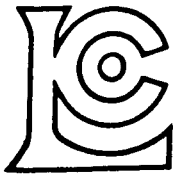
A handwritten signature in black ink, appearing to be 'W.B.' with a long horizontal stroke extending to the right.A handwritten signature in black ink, appearing to be 'J. Wright' with a long horizontal stroke extending to the right.

BIBLIOGRAPHY

- Amstuz, G. C. and A. J. Bernard, 1973; Ores in Sediments, I.U.G.S., series A, No. 3, pp. 1-7, 59-65, 79-93, 115-129, 195-221, 267-275.
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APPENDIX I

SAMPLE RESULTS FROM 94K/8



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 53538

TO: Utah Mines Ltd.
 1600 - 1050 W. Pender Street
 Vancouver, B.C. V6E 3S7

INVOICE NO. 36388

RECEIVED June 14, 1990

ATTN: P. Burt

ROCKS

ANALYSED June 20, 1990

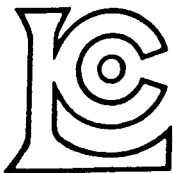
SAMPLE NO. :	PPM Cu	PPM Pb	PPM Zn	PPM Ag	PPM Ba
83028 -WT12 65-70'		1	300	0.1	>5000
83029 WT12 70-75'		1	375	0.1	>5000
83032 WT13		6	198	0.1	>5000
83033 WT15 >4000		4	240	2.0	3000
83038 ST1		1	14	0.1	
83036 MT4		2	52	0.1	
83037 MT12		2	>4000	0.1	



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 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY

Hart Biddle



CHEMEX LABS LTD.

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 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
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 AREA CODE 604
 TELEX: 04-352597

ANALYTICAL CHEMISTS GEOCHEMISTS REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Utah Mines Ltd.
 1600 - 1050 W. Pender St.
 Vancouver, B.C.
 V6E 3S7

ATTN: P. Burt

CERTIFICATE NO. 53537
 INVOICE NO. 36391
 RECEIVED June 14/80
 ANALYSED June 20/80

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Cd	PPM Ag
80Z BL1	8	30	0.1	0.1
AL1	10	22	0.1	0.1
AL2	18	162	0.2	0.1
AL3	14	68	0.1	0.1
BS1 - 94KB	8	12	5.0	0.2
PL30	2	300	0.1	0.1
PL31	1	172	1.4	0.1
PL32	6	82	0.4	0.1
PL33	8	110	0.4	0.1
PL34	1	30	0.2	0.1
PL35	1	92	0.2	0.1
PL36	12	14	0.1	0.1
PL37	12	34	0.1	0.1
PL38	13	18	0.1	0.1
PL39	4	112	0.4	0.1
PL40	10	32	0.1	0.1
FL33	6	34	0.2	0.2
FL34	4	114	0.8	0.1
FL35	4	280	1.8	0.4
FL36	4	235	1.8	0.2
SL6	8	26	0.1	0.1
80Z SL7	1	22	0.1	0.1

↑
94KB
↓

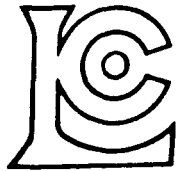
↑
94KB
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NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE 985-0648
AREA CODE 604
TELEX 043-52597

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 1000

INVOICE NO. 36344

RECEIVED June 10/70

ANALYSED June 10/70

TO: **U.S. Steel Ltd.**
100 - 1050 W. Pender St.
Vancouver, B.C.

ATTN: V6E 3S7
Mr. Phil Burt

SAMPLE NO. :	%				oz/ton
	P	Pb	Zn	Cd	Ag
80ZBT1 (83007)		<0.01	5.06	0.012	<0.01
80ZBT2 (83012)		<0.01	0.23	0.002	<0.01
80ZAT6 (83014)		0.71	14.6	0.038	0.18
83018 WT9 -		0.49	9.03	0.019	0.01
83020 WT11 -		0.18	4.19	0.010	0.01

Handwritten note: 3/4 N/E



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Handwritten signature
ANALYST: PHILIP BURT



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CERTIFICATE OF ANALYSIS

TO: Utah Mines Ltd.
 1600 - 1030 W. Pender Street
 Vancouver, B.C. V6E 3S7

JUN 20 1980

UTAH MINES LTD.
 EXPLORATION DEPT.

ATTN: Phil Burt

CERTIFICATE NO. 53397
 INVOICE NO. 36348
 RECEIVED June 9, 1980
 ANALYSED June 19, 1980

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Cd	PPM Ag
80ZLL 21	10	170	1.8	0.1
22	4	2900	36	0.1
23	4	158	1.6	0.1
24	2	94	0.6	0.1
25	2	42	0.2	0.1
26	6	184	3.0	0.1
27	2	184	1.8	0.1
80ZLL 28	8	118	1.4	0.1
80ZSS 6	14	355	1.0	0.1
7	20	132	0.6	0.1
8	12	164	0.2	0.1
9	30	1650	2.8	0.8
10	56	1300	2.0	0.1
11	48	820	1.2	0.1
12	1	375	0.6	0.1
13	74	760	1.2	0.1
14	4	680	1.2	0.1
15	26	440	1.2	0.1
16	22	198	0.4	0.1
80ZSS 17	18	118	0.8	0.1
80ZSL 5	8	780	26	0.8

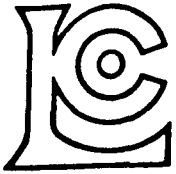
94K/3



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CERTIFIED BY:

Hart Biddle



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 AREA CODE: 604
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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 53396

TO: Utah Mines Ltd.
 1600 - 1050 W. Pender Street
 Vancouver, B.C. V6E 3S7

JUN 12 1980

INVOICE NO. 36348

RECEIVED June 9, 1980

ANALYSED June 19, 1980

ATTN: Phil Burt

UTAH MINES LTD.
 EXPLOSION DEPT.

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Cd	PPM Ag
4	4	112	0.1	0.1
5	2	162	0.4	0.1
6	1	140	0.6	0.1
7	4	138	0.6	0.1
8	2	164	0.4	0.1
9	2	220	0.6	0.1
10	2	380	2.8	1.4
11	2	78	0.1	0.1
12	1	86	0.1	0.1
13	16	545	3.8	0.1
14	10	140	0.2	0.2
15	4	200	0.8	0.1
16	2	196	1.0	0.4
17	1	82	0.6	0.1
18	4	124	0.2	0.2
19	1	94	0.4	0.1
20	12	126	0.1	0.1
21	2	168	1.4	0.2
22	8	184	0.6	0.4
23	4	118	1.0	0.1
24	6	136	1.8	0.1
25	2	88	0.4	0.1
26	2	68	0.4	0.1
27	4	176	1.2	0.1
28	2	40	0.4	0.1
29	2	122	1.2	0.2
30	8	148	0.6	0.4
31	6	150	1.2	0.1
80ZFL 32	8	138	1.2	0.1
80ZLL 33	2	24	0.1	0.1
34	4	270	2.8	0.1
35	4	425	3.8	0.1
36	2	570	4.6	0.1
37	8	360	2.6	0.1
38	12	164	1.2	0.1
39	4	465	4.2	0.8
40	6	164	1.6	0.1
41	2	28	0.1	0.1
42	4	30	0.1	0.1
80ZLL 43	8	166	1.2	0.1

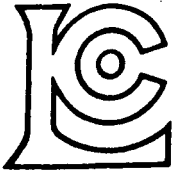
↑
y+k/f



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY

Harry Biddle



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 53395

TO: Utah Mines Ltd.
 1600 - 1050 W. Pender Street
 Vancouver, B.C. V6E 3S7

INVOICE NO. 36348

RECEIVED June 9, 1980

ANALYSED June 19, 1980

ATTN: Phil Burt

ROCKS

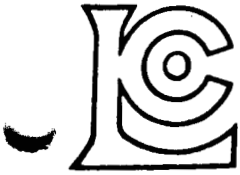
SAMPLE NO. :	PPM Pb	PPM Zn	PPM Cd	PPM Ag	PPB Au
✓ 83008 - BT3	2	800	4.4	0.1	
✓ 83009 - LT1	4	700	10	0.2	
✓ 80ZBT4 (83010)	2	90	0.6	0.1	
✓ 80ZBT5 (83011)	1	>4000	190	0.4	
✓ 80ZAT5 (83013)	1	1900	28	1.2	
✓ 83015 AT8	16	>4000	10	1.2	
✓ 80ZAT9 (83016)	>4000	>4000	78	8.8	
✓ 80ZWT8 (83017)	6	128	0.6	0.2	<10
✓ 83019 WT9	2	32000	4.0	0.2	

157
 JUN 20 1980
 CHEMEX LABS LTD.
 ANALYTICAL DEPT.



CERTIFIED BY:

Hart Biddle



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Utah Mines Ltd.
 Exploration Department
 1000 - 1050 W. Pender Street
 Vancouver, B.C.
 ATTN: V6E 3S7

CERTIFICATE NO. 53250
 INVOICE NO. 36204
 RECEIVED June 7, 1968
 ANALYSED June 17, 1968

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag	PPM Cd
807PI - 17 ✓	6	50	0.1	0.2
18 ✓	10	100	0.1	0.6
19 ✓	6	665	0.1	10.0
20 ✓	1	80	0.1	0.8
21 ✓	1	330 -	0.2	4.0
22 ✓	4	265	0.1	3.2
23 ✓	1	365 -	0.1	1.6
24 ✓	10	60	0.1	0.6
25 ✓	2	140	0.1	2.4
26 ✓	3	100	0.1	0.4
27 ✓	6	265	0.1	1.6
28 ✓	1	200	0.1	0.6
807PI - 29 ✓	6	55	0.1	0.2
807PI - 30 ✓	14	230	0.4	2.4

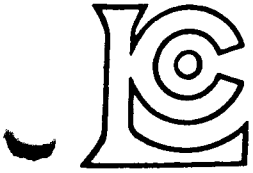
↑ 7.4
 ↓
 7.4



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY:

Hart Biddle



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Utah Mines Ltd.
 Exploration Department
 1700 - 1050 W. Pender Street
 Vancouver, B.C.

ATTN: V6E 3S7

CERTIFICATE NO. 53295
 INVOICE NO. 06204
 RECEIVED June 2, 1980
 ANALYSED June 11, 1980

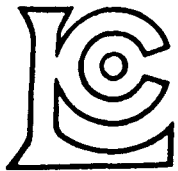
SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag	PPM Cd
807LL - 2	10	280	0.1	4.0
2	12	500	0.1	5.0
3	3	122	0.1	0.8
4	10	140	0.1	0.6
5	12	395	L.O.*	8.0
6	6	450	0.1	12.0
7	6	490	0.2	13.0
8	2	470	0.1	13.0
807LL - 9	10	355	0.1	8.2
807LL - 1	12	120	0.1	1.2
2	16	45	0.1	0.2
807LL - 3	6	90	0.1	1.4
807LL - 4	3	320	0.1	7.4
2	6	415	0.1	5.6
807LL - 5	4	220	0.1	3.6
807LL - 6	2	290	0.1	3.6
2	6	350	0.1	5.0
3	2	505	0.2	12.4
807LL - 4	6	620	0.2	10.0
807LL - 5	6	150	0.2	0.6
2	3	130	0.1	0.2
2	12	160	0.4	1.0
3	10	240	0.8	2.2
807LL - 4	10	3600*	0.1	27
807LL - 5	6	160	0.1	3.2
2	3	135	0.1	3.6
2	6	145	0.1	3.6
3	3	130	0.2	3.0
4	12	170	0.2	1.0
5	10	180	0.2	3.6
7	10	190	0.1	4.2
2	6	150	0.1	3.2
3	1	210	0.1	0.8
4	2	115	0.1	0.6
5	8	220	0.1	3.4
2	3	100	0.1	0.6
3	6	190	0.1	3.4
4	6	55	0.1	0.8
5	2	100	0.1	0.2
807PL - 10	6	360	0.1	8.6

↑
9.4K/E
↓

↑ 9.2K/E



CERTIFIED BY: *Hart Biddle*



CHEMEX LABS LTD.

2 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Utah Mines Ltd.
 Exploration Department
 1800 - 1050 W. Pender Street
 Vancouver, B.C.

ATTN: VGE 3S7

ROCKS

CERTIFICATE NO. 53293

INVOICE NO. 36204

RECEIVED June 2, 1980

ANALYSED June 12, 1980

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag	PPM Cd
80 INT - 1-	4	1600	0.2	60
2-	8	40	0.1	0.1
3-	6	20	0.1	0.4
80 INT - 4-	8	20	0.1	1.2
80 INT - 2-	14	3100 *	1.0 *	74 *
3-	8	1200	0.1	4.4
80 INT - 4-	8	980	0.1	37

94K/8
✓



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY:

Hart Biddle



CHEMEX LABS LTD.

212 BROOKSBANK AVE
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE 985-0648
 AREA CODE 604
 TELEX 043-52597

ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

CERTIFICATE NO. 62442
 INVOICE NO. 36634
 RECEIVED June 16/80
 ANALYSED July 2/80

TO: Utah Mines Ltd.
 1600 - 1050 w. Pender St.
 Vancouver, B.C.
 V6E 3S7
 ATTN: P. Burt

SAMPLE NO. :	% Pb	% Zn	oz/ton Ag	% Ba	
83021 WT12	1.53	4.79	0.04	30.3	- 0-45'
83022 WT12	0.04	0.54	0.04	8.02	5-10'
83023 WT12	0.04	0.22	0.01	42.5	- 10-15'
83024 WT12	0.07	1.13	0.06	31.6	- 15-20'
83025 WT12	<0.01	0.05	0.02	5.00	50-55'
83026 WT12	<0.01	0.08	0.01	7.08	- 55-60'
83027 WT12	<0.01	0.03	0.30	10.7	- 60-65'
83030 WT12	<0.01	0.01	0.01	19.7	- 65-70' lower 50'
83031 WT9	0.26	6.41	0.04	17.5	- 20' grab
83034 AT17	1.50	4.26	0.26	41.9	
83033 AT20	1.30	4.11	0.10		

↑
 ↓
 94K/E



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 ASSOCIATION



CHEMEX LABS LTD.

112 BROOKSBANK AVE
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE 984-0221
 AREA CODE 604
 TELEX 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 54500
 INVOICE NO. 37175
 RECEIVED July 13/80
 ANALYSED July 23/80

TO: Utah Mines Ltd.
 1600 - 1050 W. Pender St.
 Vancouver, B.C.
 V6E 3S7

ATTN:

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag	PPM Cd
80 ZLL 68	6	130	0.1	2.2
69	8	150	0.1	1.2
70	6	280	0.1	6.6
71	6	115	0.1	0.6
72	8	220	0.2	1.8
73	6	80	0.1	0.6
74	4	325	0.1	4.2
75	6	220	0.1	5.8
76	4	195	0.2	5.6
77	12	95	0.1	0.4
78	4	80	0.1	1.2
79	4	110	0.1	3.8
80	12	110	0.1	0.6
81	8	290	0.1	5.6
82	10	60	0.1	0.8
83	6	50	0.1	0.6
84	4	170	0.1	4.0
85	8	155	0.1	0.6
86	8	200	0.1	0.1
87	4	310	0.1	7.8
88	6	45	0.1	0.2
89	18	240	0.1	1.2
90	10	220	0.1	1.2
91	6	195	0.1	5.2
92	14	40	0.1	0.2
93	10	280	0.1	4.2
94	4	410	0.1	4.6
95	8	910	0.1	3.4
96	6	120	0.2	0.8
97	4	105	0.1	1.4
98	6	135	0.1	0.6
99	12	250	0.1	0.4
100	12	150	0.1	0.2
101	10	145	0.1	0.1
102	14	190	0.1	0.2
103	10	185	0.1	0.6
104	14	165	0.1	0.2
105	16	180	0.4	0.1
106	14	195	0.1	0.2
80 ZLL 107	6	320	0.4	1.2



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY

Hart Biddle



CHEMEX LABS LTD.

2 BROOKSBANK AVE
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE 984-0221
 AREA CODE 604
 TELEX 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 54499
 INVOICE NO. 37175
 RECEIVED July 13/80
 ANALYSED July 23/80

TO: Utah Mines Ltd.
 1600 - 1050 W. Pender St.
 Vancouver, B.C.
 V6E 3S7

ATTN:

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag	PPM Cd
80 ZFL 101	2	130	0.1	0.6
102	4	<u>300</u>	0.2	<u>2.8</u>
103	8	<u>175</u>	0.1	0.1
ZFL 104	12	100	0.1	0.2
ZLL 31	2	160	0.2	1.2
32	8	175	0.4	2.0
33	12	270	0.1	1.0
34	12	90	0.1	0.6
35	12	100	0.1	0.6
36	10	330	0.1	1.6
37	10	<u>360</u>	0.1	2.6
39	10	<u>140</u>	0.1	1.0
40	12	210	0.1	0.8
41	4	370	0.2	3.4
42	2	45	0.1	0.4
43	2	20	0.1	0.2
44	6	30	0.1	0.1
45	2	70	0.1	0.4
46	12	250	0.2	1.6
47	6	345	1.0	4.0
48	14	220	0.1	1.4
49	8	115	0.1	0.6
50	4	<u>1800</u>	0.1	<u>220</u>
51	10	<u>210</u>	0.1	2.2
52	6	110	1.0	0.6
53	8	60	0.6	0.4
54	6	140	0.4	0.4
55	4	130	0.1	0.4
56	4	<u>300</u>	1.0	3.2
57	8	140	0.1	3.2
58	24	420	0.1	1.0
59	8	120	0.1	2.0
60	8	170	0.1	3.8
61	12	50	0.1	0.2
62	14	30	0.1	0.4
63	14	210	0.1	9.2
64	1	400	0.1	5.8
65	4	100	0.1	2.6
66	8	75	0.1	1.2
80 ZLL 67	4	110	0.1	2.6

JUL 24 1980

U.S. CUSTOMS
- 100 -

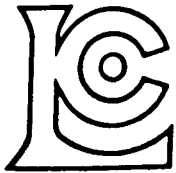
94K/8



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY

Hart Biddle



CHEMEX LABS LTD.

12 BROOKSBANK AVE
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE 985-0648
AREA CODE 604
TELEX 043-52597

ANALYTICAL CHEMISTS · GEOCHEMISTS · REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 69051

INVOICE NO. 37294

RECEIVED July 13, 1980

ANALYSED July 28, 1980

TO: Utah Mines Ltd.,
1600 - 1050 W. Pender St.,
Vancouver, B.C.
V6E 3S7

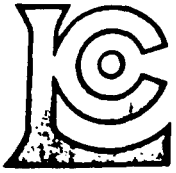
ATTN: Phil Burt

SAMPLE NO. :	% Pb	% Zn	oz/ton Ag	
80 ZAT 18	8.02	26.1	1.80	94K/8



MEMBER
CANADIAN TESTING
ASSOCIATION

P. Stewart
REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE 985-0648
 AREA CODE 604
 TELEX 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO: Utah Mines Ltd.,
 1600 - 1050 W. Pender St.,
 Vancouver, B.C.
 V6E 3S7

ATTN:

CERTIFICATE NO. 68740

INVOICE NO. 36974

RECEIVED June 28, 1980

ANALYSED July 17, 1980

SAMPLE NO. :	% Pb	% Zn	oz/ton Ag
83041 802 WT/6 (0-3')	<0.01	0.02	0.01
83042 WT/6 (0-5')	<0.01	0.01	<0.01
83043 WT/6 (5-10')	<0.01	0.02	<0.01
83044 WT/6 (5'-5'')	<0.01	0.01	<0.01
83045 WT/6 (5'30"-5')	0.01	<0.01	<0.01
83046 WT/6 (5'40"-0-5')	0.01	0.01	<0.01
83047 WT/6 (5'40") (5-10')	0.01	<0.01	<0.01
83048 BT7	38.6	10.1	2.26

JUL 18 1980

ANAL. DEPT.

*REP. JAMES
 PROB. 3000
 S. 1. 3000*

*NE. BC
 Metals Recon ??*

Altaite



MEMBER
 CANADIAN TESTING
 ASSOCIATION

APPENDIX II

CERTIFICATION

I, Philip Burt of 2280 Alexander Crescent Abbotsford, B. C. and currently employed by Utah Mines Ltd., have graduated from the British Columbia Institute of Technology in 1971 with a Diploma of Mining Technology and have graduated from the University of British Columbia in 1980 with a BSc in Geology. I have worked for various exploration and mining companies including Dolmage Campbell and Associates, Churchill Copper Corporation, Union Carbide Exploration, Amax Exploration (Australia) and Utah Mines Ltd. over the past eleven years.

A handwritten signature in black ink, appearing to be 'PB', with a long horizontal stroke extending to the right.

CERTIFICATION

I, JOHN RAYMOND DEIGHTON, of 3250 West 33rd Avenue, Vancouver, British Columbia, do hereby certify that:

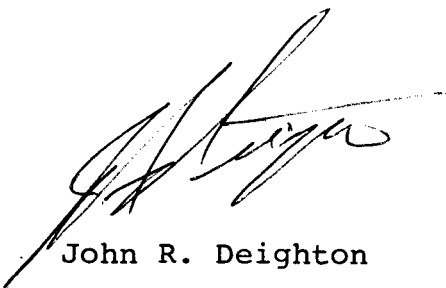
I am a graduate of the University of British Columbia, with a Bachelor of Science Degree in Geology, 1965.

Since graduation I have been engaged in Mineral Exploration in British Columbia, Yukon, Northwest Territories, Washington, Arizona and California.

I am a Fellow of the Geological Association of Canada and of the Canadian Institute of Mining and Metallurgy.

I am a Geologist

Vancouver, B. C.



John R. Deighton
Geologist

APPENDIX III

STATEMENT OF COSTS

J. R. Deighton - Geologist		
3 Days @ \$150/day	\$	450.00
P. Burt - Geologist		
6 Days @ \$90/day	\$	540.00
G. Wesa - Geologist/Prospector		
6 Days @ \$100/day	\$	600.00
B. Laird - Assistant		
3 Days @ \$50/day	\$	150.00
R. Gopal - Draftsman		
15 Days @ \$100/day	\$	<u>1,500.00</u>
	TOTAL WAGES	\$ <u>3,240.00</u>

Transportation

Helicopter

3 Hrs @ \$285	\$855.00	
Fuel	<u>\$ 90.00</u>	\$ 945.00

Vehicle

4 wheel drive 5 days @ \$45.00	\$	225.00
Air Fare - Vancouver to Ft. Nelson -		
3 men @ \$313.20	\$	939.60

Room & Board

5 days 5 men @ \$40.00	\$	1,000.00
------------------------	----	----------

Report Preparation

Typing, Xeroxing, Printing Etc. \$ 800.00

Assaying

44 Rocks @ \$9.50/sample \$418.00

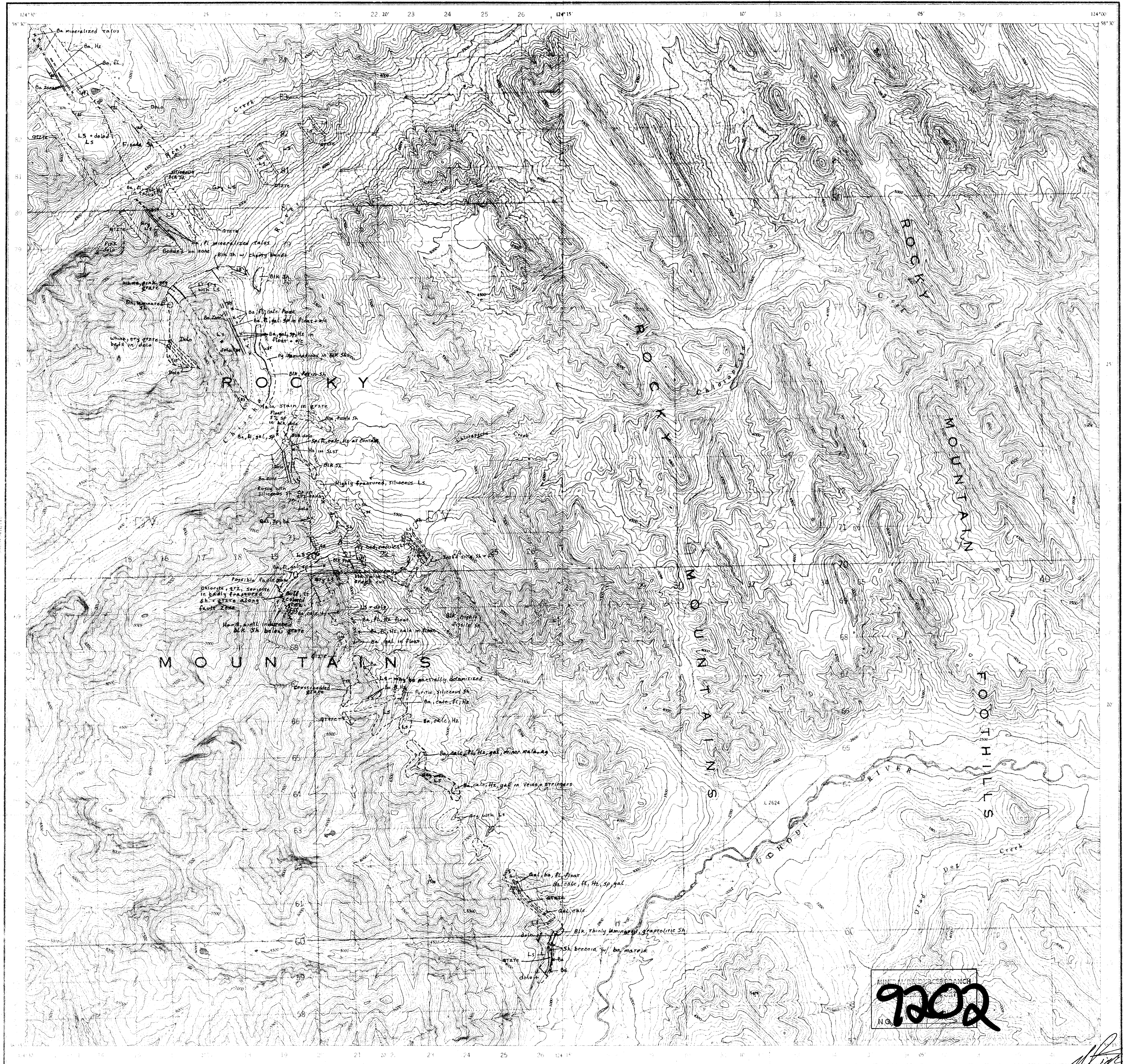
88 Soils silts @ \$4.25/sample \$374.00 \$ 792.00

TOTAL \$ 7,941.60

20% WITHDRAW FROM PAC

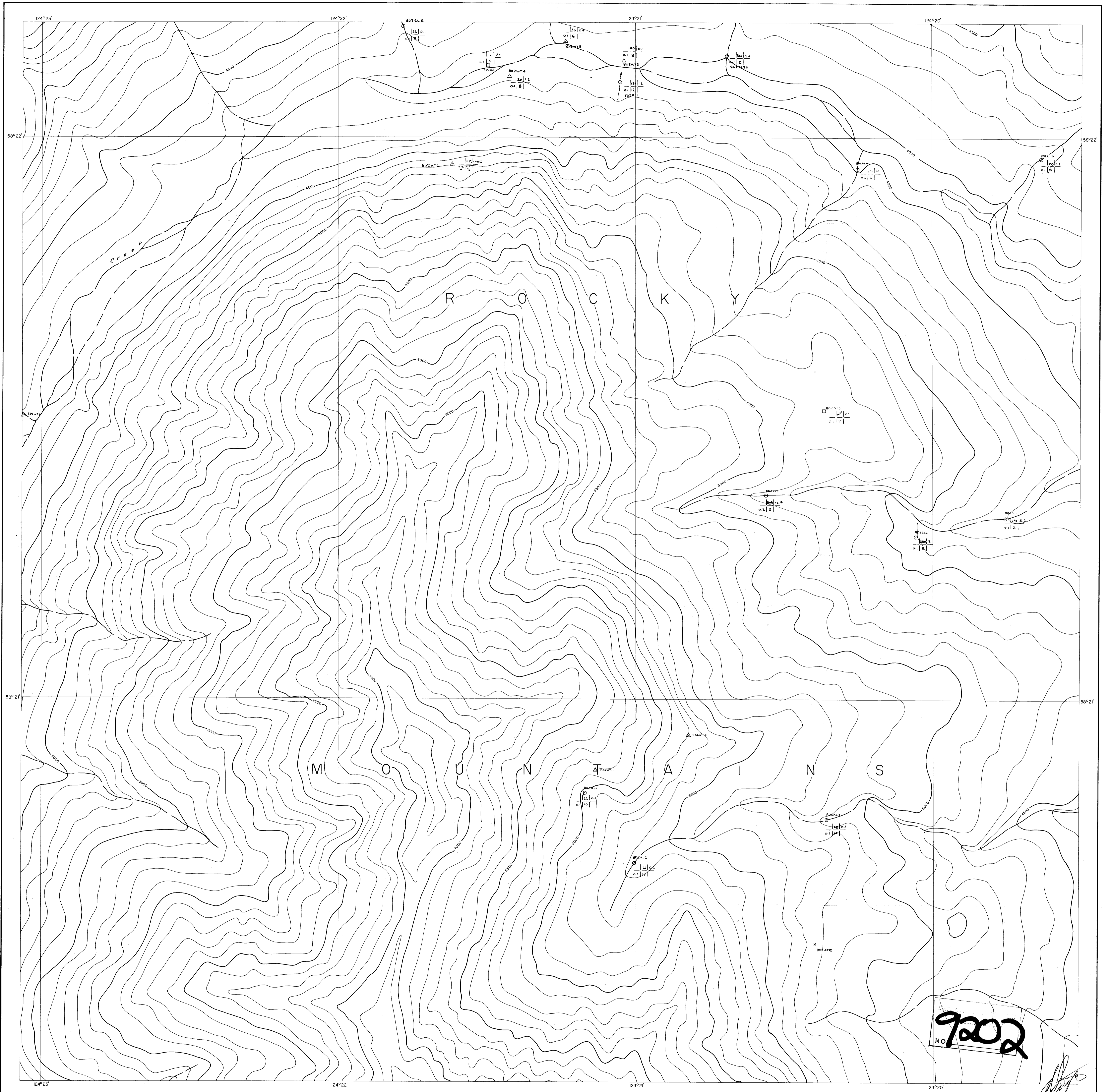
\$ 1,588.32

\$ 9,529.92



MINISTRY OF RESEARCH
9202
 No.

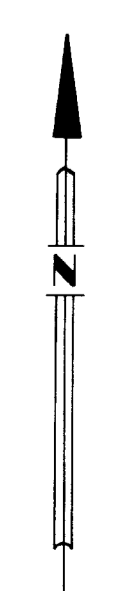
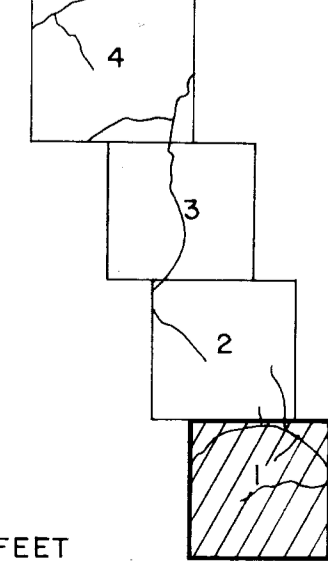
Handwritten signature



NO 9202

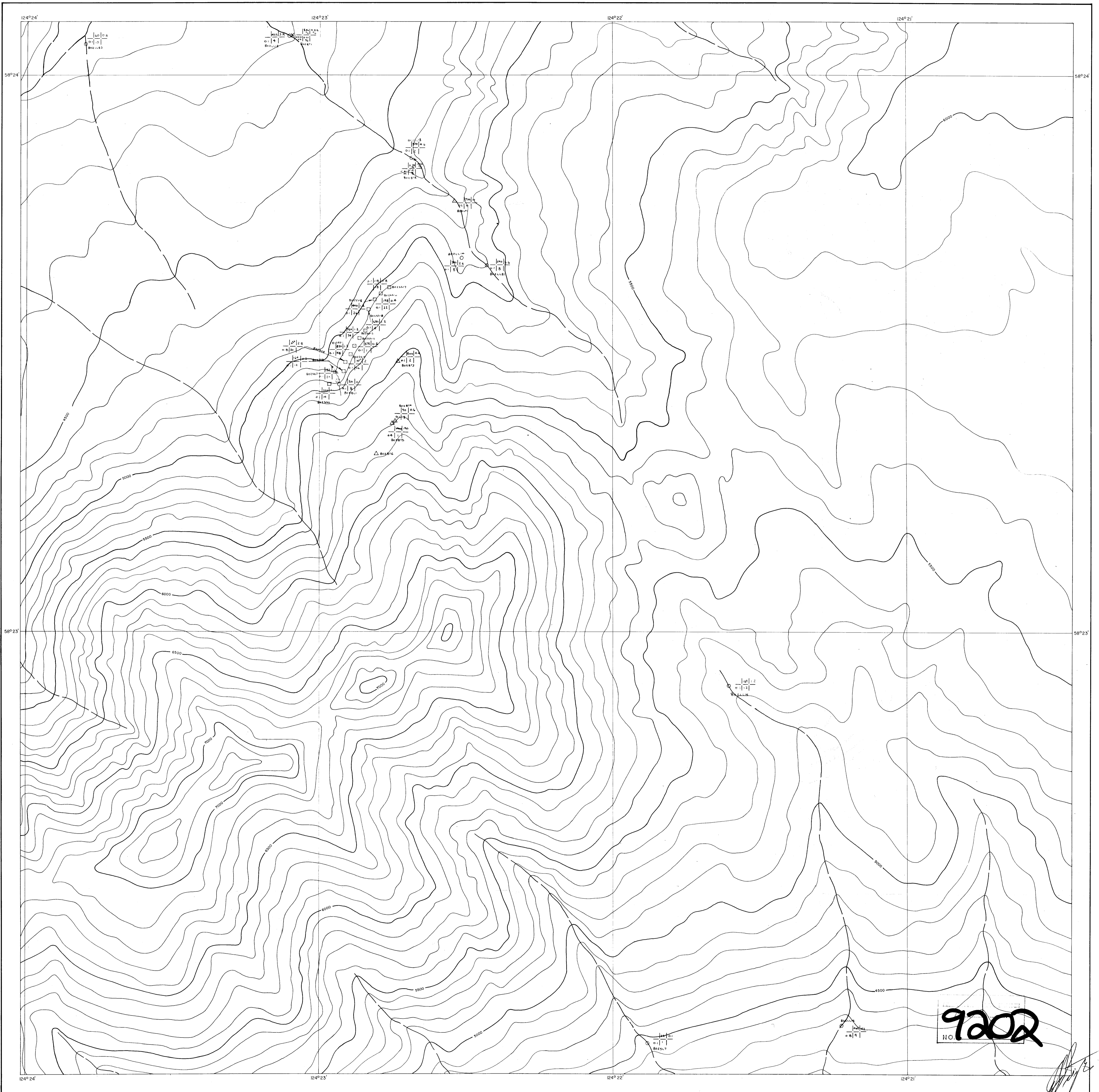
- L-O Silt sample
 - S-□ Soil sample
 - T-△ Rock sample
- | | | |
|----------|--------------|--|
| 142 02 | Cu Zn Cd | Results in ppm unless otherwise stated |
| 01 18 | Ag Pb Ba | |
- 002AL2 Sample number

SHEET INDEX



NOTE: CONTOUR INTERVAL IS 100 FEET

UTAH MINES LTD.		
EXPLORATION DEPARTMENT VANCOUVER BRITISH COLUMBIA		
REP Pb-Zn-Ba PROSPECT		
GEOCHEMISTRY		
&		
SAMPLE LOCATIONS		
Work by: P.B.	Date: Nov '80	NTS Ref: 94 K/BW (portion)
Drawn by: Ram N. Gopal	Revised:	SHEET 1 of 4
SCALE 1:5000		
100 0 200 300 400 METRES		



L-O Silt sample
 S-O Soil sample
 T-Δ Rock sample

84	12	Cu	Zn	Ag	Pb	Bi	As	result in ppm unless otherwise stated
01	12							

802215 Sample number

SHEET INDEX
 4
 3
 2
 1

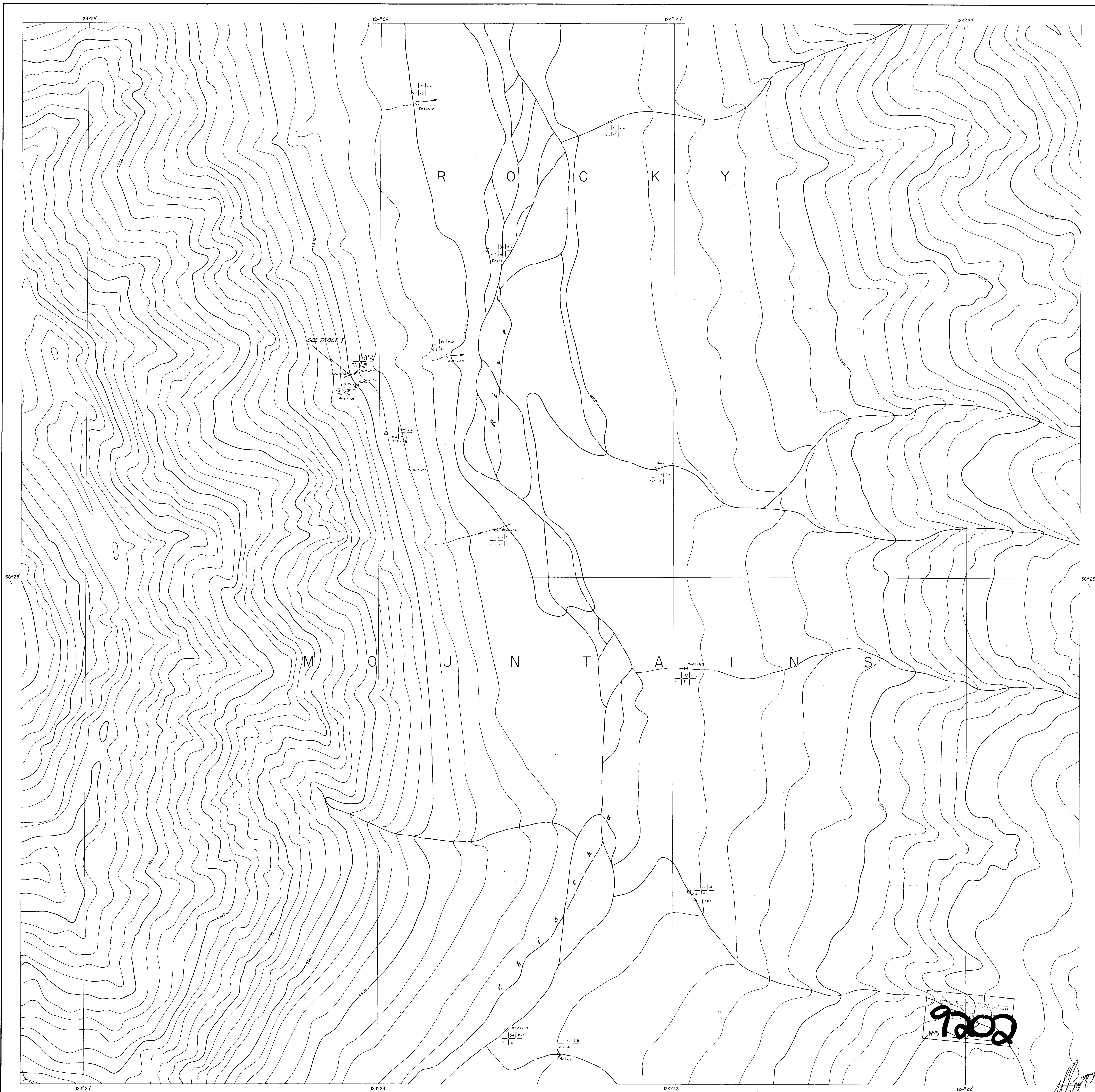
NOTE: CONTOUR INTERVAL IS 100 FEET

UTAH MINES LTD.
 EXPLORATION DEPARTMENT
 VANCOUVER BRITISH COLUMBIA

REP Pb-Zn-Ba PROSPECT
GEOCHEMISTRY
 &
SAMPLE LOCATIONS

Work by: P.B.	Date: Nov '80	NTS Ref: 94 K/ BW (portion)
Drawn by: Ron N. Gopal	Revised:	SHEET 2 of 4

SCALE 1:5000
 100 50 0 50 100 200 300 400 METRES



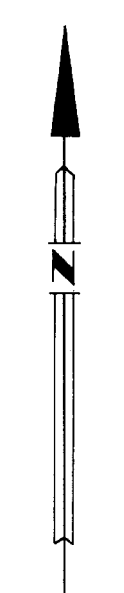
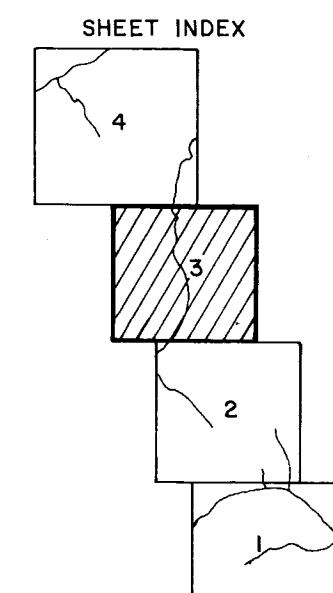
L-O Silt sample
 S-□ Soil sample
 T-△ Rock sample

155	0.6	Cu	Zn	Cd	results in ppm unless otherwise stated
01	18	Ag	Pb	Ba	

 802L85 Sample number

TABLE 1 (802L85)

0-5' (Chip)	155	0.6
5-10' "	01	18
10-15' "	155	0.6
15-20' "	01	18
20-25' "	155	0.6
25-30' "	01	18
30-35' "	155	0.6
35-40' "	01	18
40-45' "	155	0.6
45-50' "	01	18
50-55' "	155	0.6
55-60' "	01	18
60-65' "	155	0.6
65-70' "	01	18
70-75' "	155	0.6
75-80' (Grub)	01	18



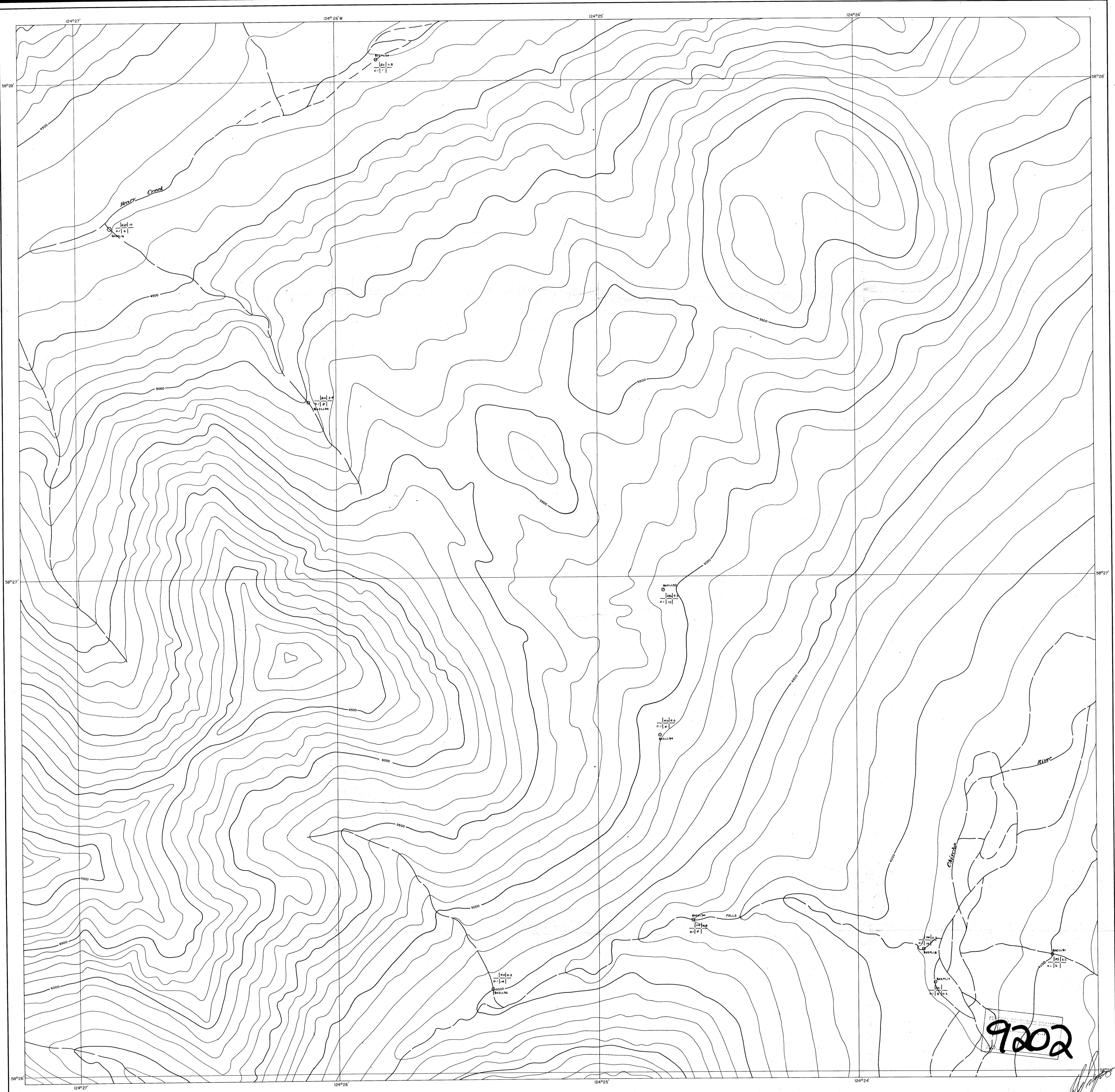
UTAH MINES LTD.
EXPLORATION DEPARTMENT
Vancouver British Columbia

REP Pb-Zn-Ba PROSPECT
GEOCHEMISTRY
&
SAMPLE LOCATIONS

Work by: Phil Burkes Date: Nov. '80 NTS Ref. 94 K/B/W (portion)
 Drawn by: Rom N. Gopal Revised: SHEET 3 of 4

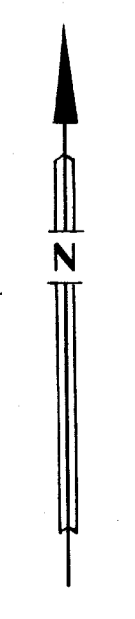
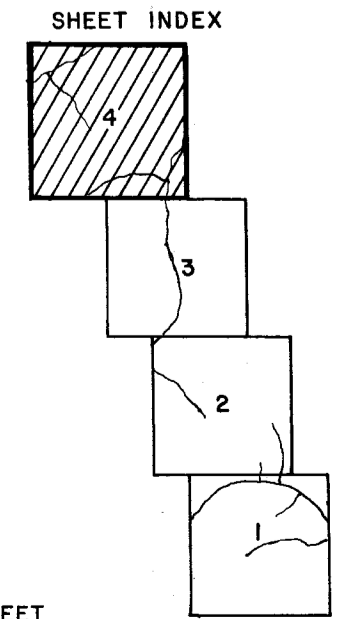
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 METRES

NOTE: CONTOUR INTERVAL IS 100 FEET



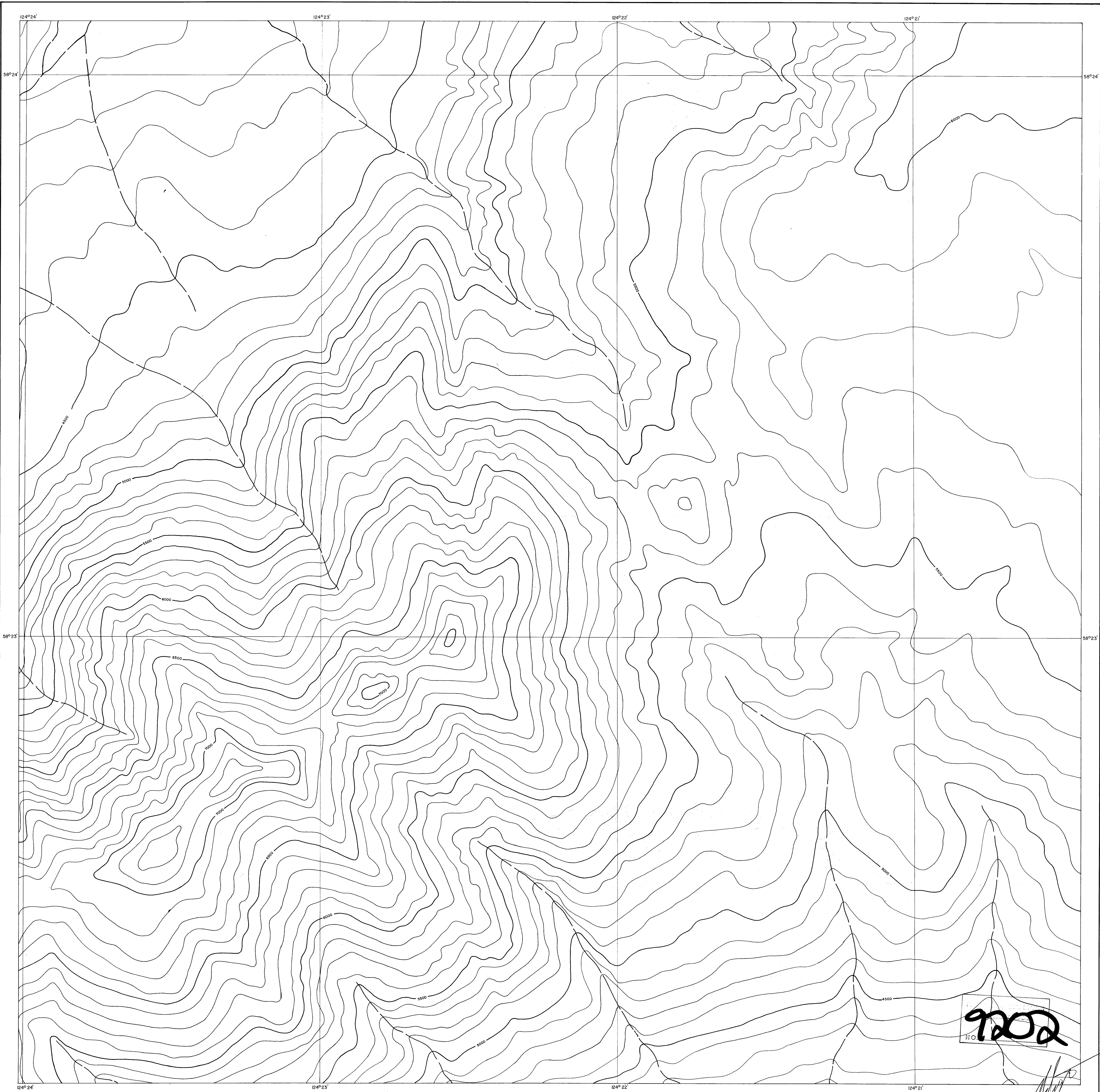
9202

- L - O Silt sample
 - S - □ Soil sample
 - T - Δ Rock sample
- | | | | | | | | | | | | | | | | | | | | | |
|---------|----------|----|----|----|----|----|----|----|----|----|----|---|----|----|----|---|---|---|---|----|
| 100 100 | Cu Zn Pb | Ag | As | Sb | Bi | Cd | Co | Cr | Fe | Mn | Ni | P | Se | Si | Tl | U | V | W | Y | Zn |
| ppm | | | | | | | | | | | | | | | | | | | | |
| 0.1 | | | | | | | | | | | | | | | | | | | | |
| % | | | | | | | | | | | | | | | | | | | | |
- 0021195 Sample number



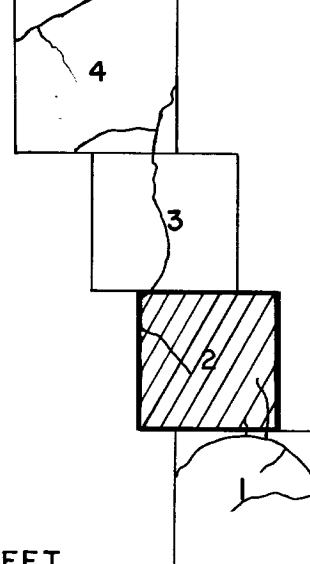
UTAH MINES LTD.		
EXPLORATION DEPARTMENT		
VANCOUVER BRITISH COLUMBIA		
REP Pb-Zn-Ba PROSPECT		
GEOCHEMISTRY		
&		
SAMPLE LOCATIONS		
Work by: P.B.	Date: Nov. 80	NTS Ref. 94K/BW (portion)
Drawn by: Rom N. Gopal	Revised:	SHEET 4 of 4
SCALE 1:5000		

NOTE: CONTOUR INTERVAL IS 100 FEET



No. 9200

SHEET INDEX



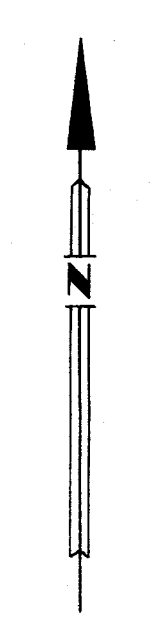
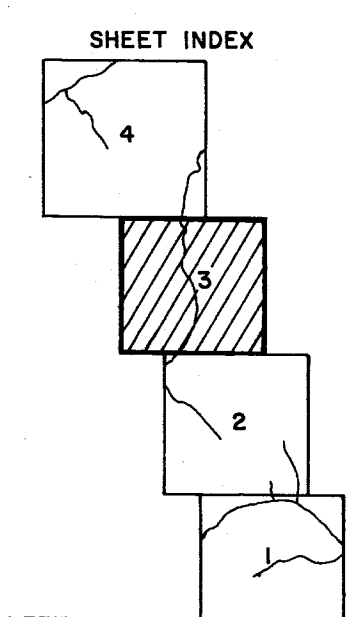
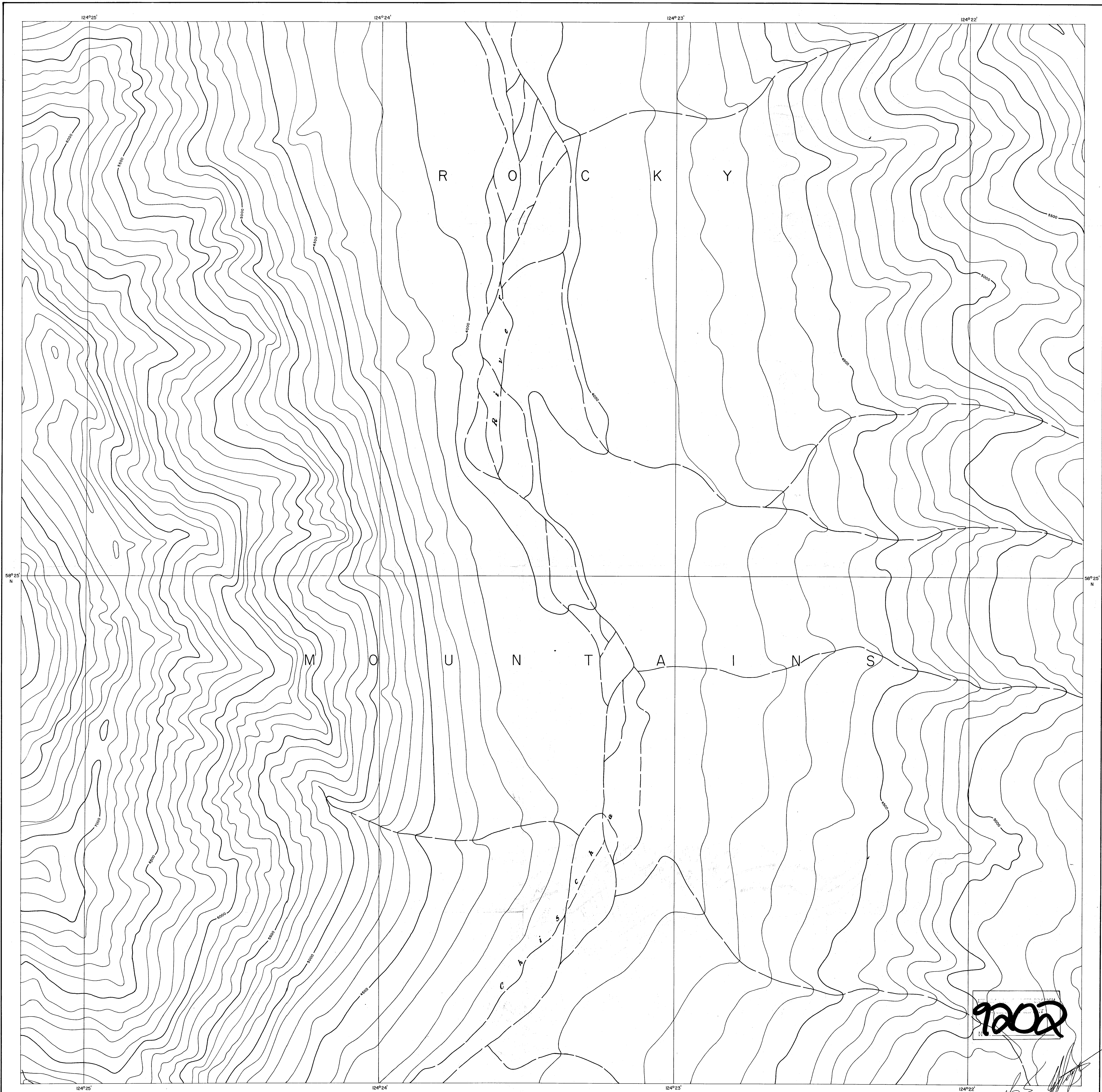
UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

REP Pb-Zn-Ba PROSPECT

Work by:	Date: Nov '80	NTS Ref. 94 K/BW (portion)
Drawn by: Ram N. Gopal	Revised:	SHEET 2 of 4

SCALE 1:5000
100 50 0 100 200 300 400
METRES

NOTE: CONTOUR INTERVAL IS 100 FEET



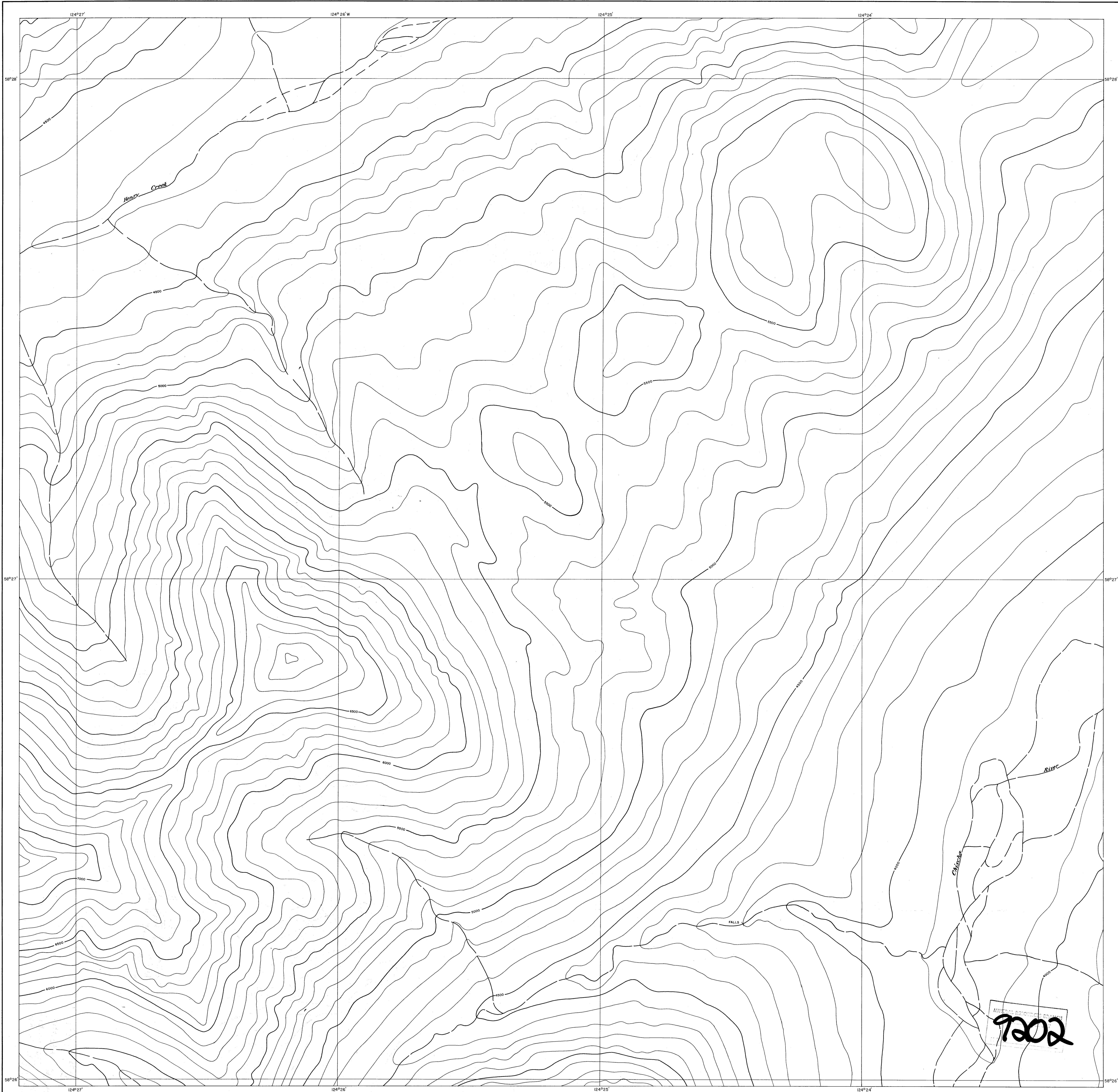
UTAH MINES LTD.
EXPLORATION DEPARTMENT
Vancouver British Columbia

REP Pb-Zn-Ba PROSPECT

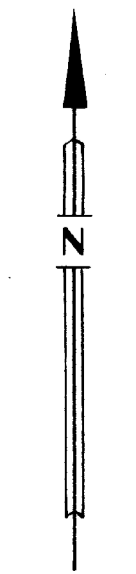
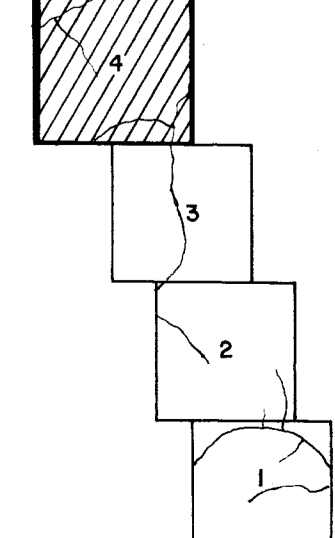
Work by:	Date: Nov '80	NTS Ref. 94 K/B/W (parties)
Drawn by: Ram N. Gopal	Revised:	SHEET 3 of 4

SCALE 1:5000
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NOTE: CONTOUR INTERVAL IS 100 FEET



SHEET INDEX



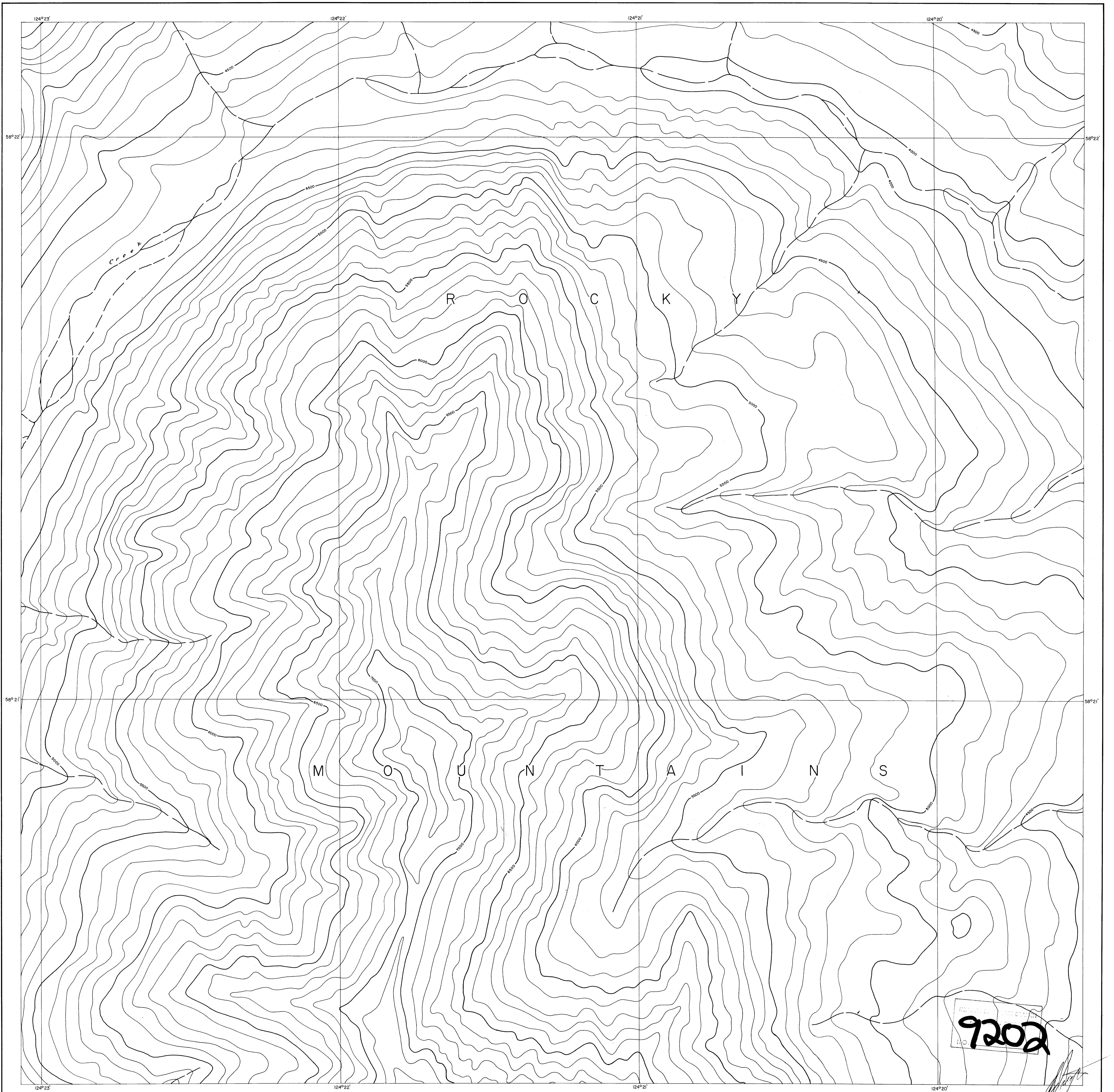
NOTE: CONTOUR INTERVAL IS 100 FEET

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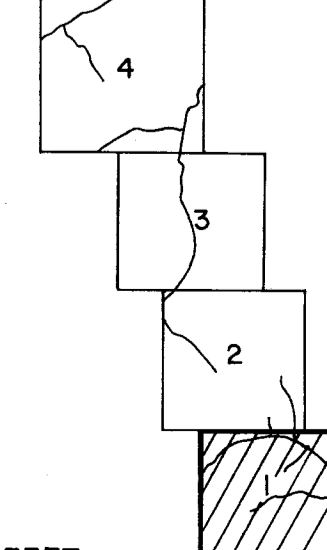
REP Pb-Zn-Ba PROSPECT

Handwritten signatures and initials

Work By:	Date:	NTS Ref:
Drawn By: Ram N. Gopal	Revised:	94 K/B/W (portion)
SCALE 1:5000		SHEET 4 of 4



SHEET INDEX



UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

REP Pb-Zn-Ba PROSPECT

Work by:	Date: Nov '80	NTS Ref. 94 K/SW (portion)
Drawn by: Ram N. Gopal	Revised:	SHEET 1 of 4

SCALE 1:5000
100 0 100 200 300 400
METRES

NOTE: CONTOUR INTERVAL IS 100 FEET