

83-#653 - #11552  
1185

GEOLOGICAL, GEOCHEMICAL, AND GEOPHYSICAL REPORT

on the  
MID 1 - 4 Mineral Claims  
N.T.S. 82F/6  
Latitude 49°19' North  
Longitude 117°22' West  
Nelson Mining Division  
British Columbia

for  
REX SILVER MINES LTD.  
Calgary, Alberta

by  
C. H. Aussant, P.Geol.  
TAIGA CONSULTANTS LTD.  
#100, 1300 - 8th Street S.W.  
Calgary, Alberta T2R 1B2

OCTOBER 1983

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

11,552

## TABLE OF CONTENTS

### Certificate

INTRODUCTION. . . . .	1
REGIONAL GEOLOGY. . . . .	5
PROPERTY GEOLOGY. . . . .	9
ECONOMIC GEOLOGY. . . . .	10
EXPLORATION APPROACH - 1983 FIELD PROGRAM . . . . .	11
GEOCHEMICAL SURVEY. . . . .	12
VLF-EM SURVEY . . . . .	13
PROSPECTING, GEOLOGICAL MAPPING, AND STREAM SEDIMENT SAMPLING . . . . .	14
CONCLUSIONS AND RECOMMENDATIONS . . . . .	15
Appendix A Sample Descriptions and Certificates of Analysis . . . . .	16
Appendix B Analytical Techniques and Personnel. . . . .	30
Appendix C Summary of Expenditures. . . . .	36

### FIGURES

1 Property Location Map. . . . .	2
2 Regional Geology Map . . . . .	7

### TABLES

I Table of Formations. . . . .	8
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### MAPS in back pocket

1 Geology Map	1:5000
2 VLF-EM Survey, Profiles	1:2500
3 VLF-EM Survey, Fraser-filtered	1:2500
4 Geochemistry - Au / ppb	1:2500
5 Geochemistry - Ag / ppb	1:2500
6 Geochemistry - Cu / ppm	1:2500
7 Geochemistry - Pb / ppm	1:2500
8 Geochemistry - Zn / ppm	1:2500

CERTIFICATE

I, the undersigned, of the City of Calgary in the Province of Alberta, do hereby certify that:

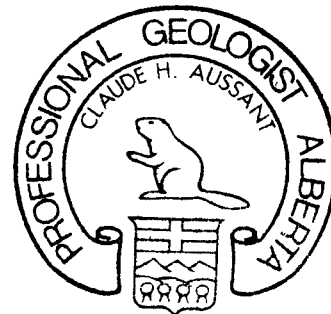
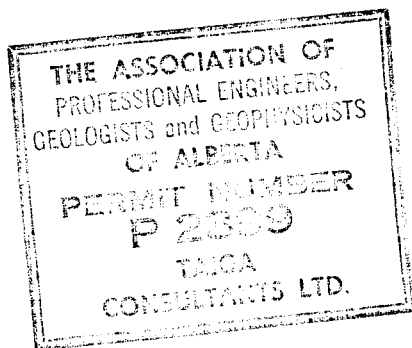
1. I am a consulting Geologist with the firm of Taiga Consultants Ltd. with offices at #100, 1300 - 8th St. S.W., Calgary, Alberta.
2. I am a graduate of the University of Calgary (B.Sc. Geology, 1976).
3. I have practised my profession for seven years since graduation.
4. I am a member in good standing since 1979 of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
5. I have personally worked on the MID 1-4 mineral claims, and supervised exploration work carried out thereon.

Respectfully submitted,



Claude H. Aussant, B.Sc., P.Geol.

October 1983



## INTRODUCTION

At the request of Mr. S. J. Stricker, Vice President of Exploration for Rex Silver Mines Ltd., Taiga Consultants Ltd. was contracted to carry out a reconnaissance mineral exploration program on the MID 1-4 mineral claims located 10 km west-northwest of Ymir, British Columbia.

During August 12 to 16, 1983, a total of 12 man days of helicopter and four-wheel-drive truck supported reconnaissance and semi-reconnaissance grid-controlled exploration were carried out on the property. Reconnaissance work consisted of prospecting, stream sediment sampling, and geological mapping. Ground VLF-EM and soil geochemical surveys were completed over a wide-spaced reconnaissance grid situated to the east of the Second Relief Mine.

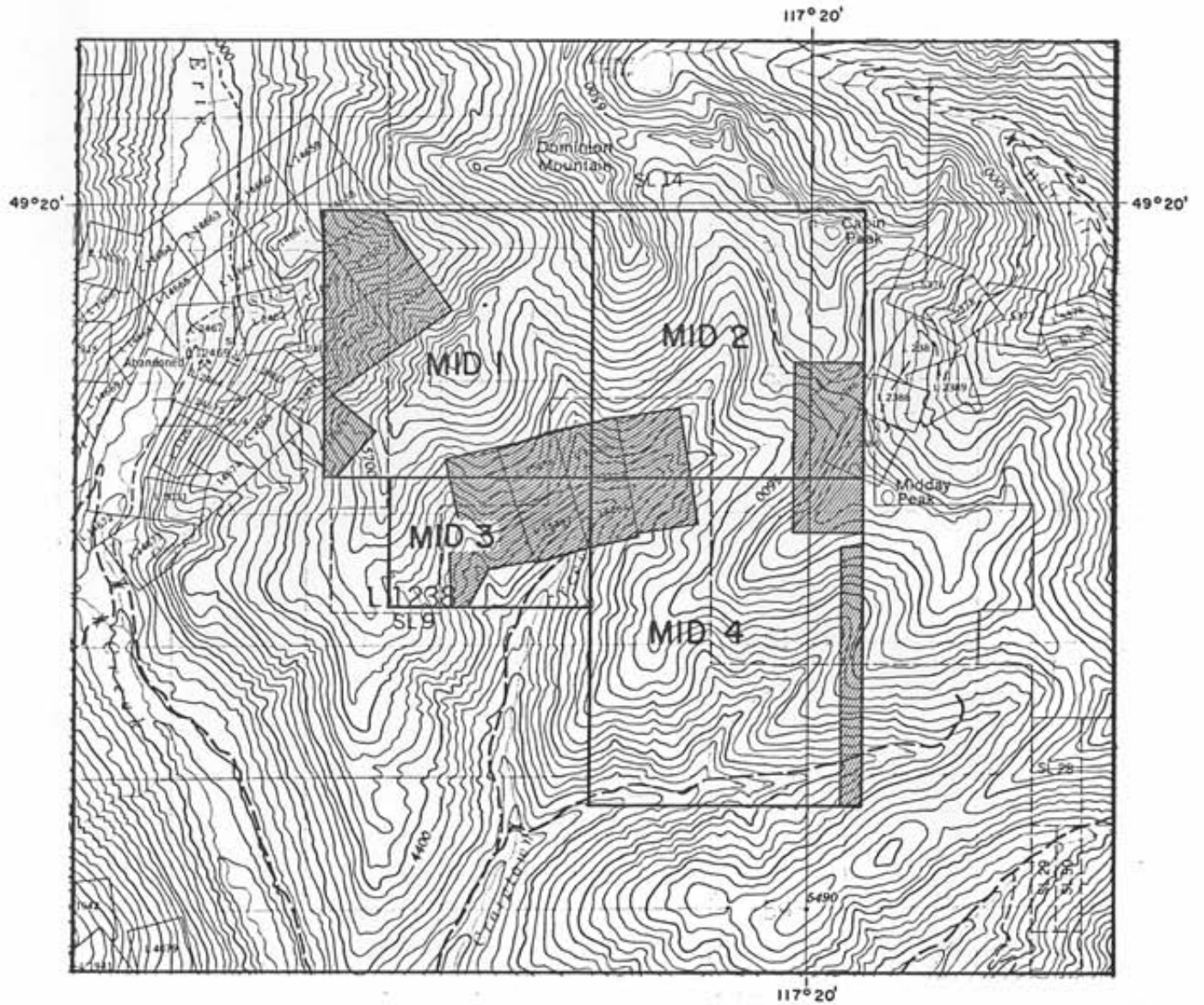
### Location and Access

The location and access to the property are illustrated on Figure 1. The claim group is situated in southern British Columbia, 10 km west-northwest of Ymir, astride the headwaters of the west fork of Craighton Creek, on the southern slopes of Dominion Mountain, at approximately 49°19' North latitude and 117°22' West longitude, in N.T.S. 82F/6, Nelson Mining Division.

The southern portion of the property is accessible via a gravelled logging road from the village of Erie, 14 km south of the claim group, off B.C. Highway 3B. Four-wheel-drive vehicles are recommended. The northern portion of the property is accessible only by helicopter.

### Property and Ownership

The property consists of four mineral claims, the MID 1 to 4, all staked under the modified grid system, and registered in the name of Rex Silver Mines Ltd. The claims are indicated on Figure 1.



■ Areas excluded from Mid Claims  
due to pre-existing mineral claims  
in good standing

Figure 1  
PROPERTY LOCATION MAP  
MID 1-4 CLAIMS

<u>Claim Name</u>	<u>Size</u>	<u>No.of Units</u>	<u>Record Number</u>	<u>Date of Record</u>
Mid 1	4 x 4	16	3126	} April 11, 1983
Mid 2	4 x 4	16	3127	
Mid 3	2 x 3	6	3128	
Mid 4	5 x 4	<u>20</u>	3129	
58 units (1,450 hectares)				

The MID 1 - 4 mineral claims encompass pre-existing mineral claims which are currently in good standing. These areas have been excluded from the MID claims and are depicted on Figure 1 by hatchured zones.

Physiography and Glaciation

The claim group is located within the Bonnington Range of the Selkirk Mountains which form an imposing mountain barrier in the area, breached only by Kootenay River. The range is transected by the valley of Beaver Creek which provides access to the Salmo River valley and the town of Nelson.

The southern part of the range, which is underlain by volcanic rocks, contains wooded rounded mountains, but the northern part, which is underlain predominantly by granite, contains higher more serrated peaks.

The claims themselves are situated near the northeast-central portion of the range on the southern slopes of Dominion Mountain and are underlain by sedimentary and volcanic rocks. Granitic rocks of the Nelson Batholith occur directly north, west, and south of the claim group.

The country is rugged but sub-alpine in character with modified cirque basins recognizable at the heads of north-flowing streams that rise at high elevations. Sharply defined cirques and cirque lakes are seen only in the granodiorite terrain such as Barrett Lake on the north slope of Dominion Mountain. Here, particularly on northern granodiorite exposures, the stream valleys are conspicuously U-shaped. Elsewhere, V-shaped valleys,

dominantly the result of stream erosion, are the rule particularly on southern exposures.

The topography of the area has been considerably influenced by Cordilleran glaciation. Evidence of this, in the form of transported material and erratics, is found everywhere, but is not common above 6000'. Fragmentary terraces in alluvial material are quite prominent along Erie Creek about the mouth of Craigton Creek. A drift veneer mantles the greater part of the area, supporting a thick growth of timber and bush. The movement of the Cordilleran ice sheet has been recorded by many measurements of glacial striae and roches moutonnées. In all cases, the direction of ice movement was southerly. Valley glaciation appears to have been on a small scale and confined to the headwaters of some of the streams rising in the higher elevations.

Much of the claim group is covered by overburden, overlying the steep south-facing slopes of Dominion Mountain. Exposures are remarkably poor considering the relief and steepness of the slopes. Outcrop areas tend to be confined to the higher elevations along the ridges and along the trough-like creeks which drain the property. Elevations within the claim group range from 1060 m (3500') in the southernmost end of the property, steadily rising to an elevation of 2130 m (7000') in the northern portion.

At one time, the area was heavily forested with white pine, Douglas fir, spruce, hemlock, and cedar, but forest fires and logging operations have largely obliterated any stands of large trees. Consequently, the claims are largely covered by a dense secondary growth of small timber and bush. Much of the land along the ridges above 5500' is open grassland, although here too, there is evidence of earlier forest cover destroyed by fire.

The climate of the area is pleasant with moderate winters and fairly hot summers. Snowslides are common in seasons of heavy snowfall, especially on over-steepened north-facing rocky slopes. The snow has almost entirely disappeared by the first of June except for small areas on the higher summits, and does not interfere with prospecting until late in October.

## REGIONAL GEOLOGY

The oldest rocks in the area are those of the Archibald Formation - Ymir Group (RJAγ), a thick succession of nonfossiliferous sediments the base of which is not exposed. These are overlain with apparent conformity by predominantly volcanic rocks of the Elise Formation (IJCV). Towards the north, the Archibald Formation - Ymir Group displays increasing proportions of argillaceous and calcareous rocks, and resembles the Slocan Group which lies north of the Nelson Batholith. For this reason, the Archibald Formation - Ymir Group is assumed to be partly of Triassic age and because it underlies the Elise Formation, the upper part is believed to be Early Jurassic. A narrow belt of these rocks extends southward from the Second Relief Mine, with complex subsidiary structures probably present on this western limb of the synclinorium which forms the major structural feature of the Rossland Group in the map-area.

A large body of granodiorite of the Nelson Intrusives is centered about Siwash and Grassy Mountains with small peripheral bodies of granodiorite to the north and east. These intrusions have sharp contacts and distinct crosscutting relationships with the folded rocks. Faulting has probably been instrumental in controlling the emplacement of this large central batholithic wedge and the other bodies.

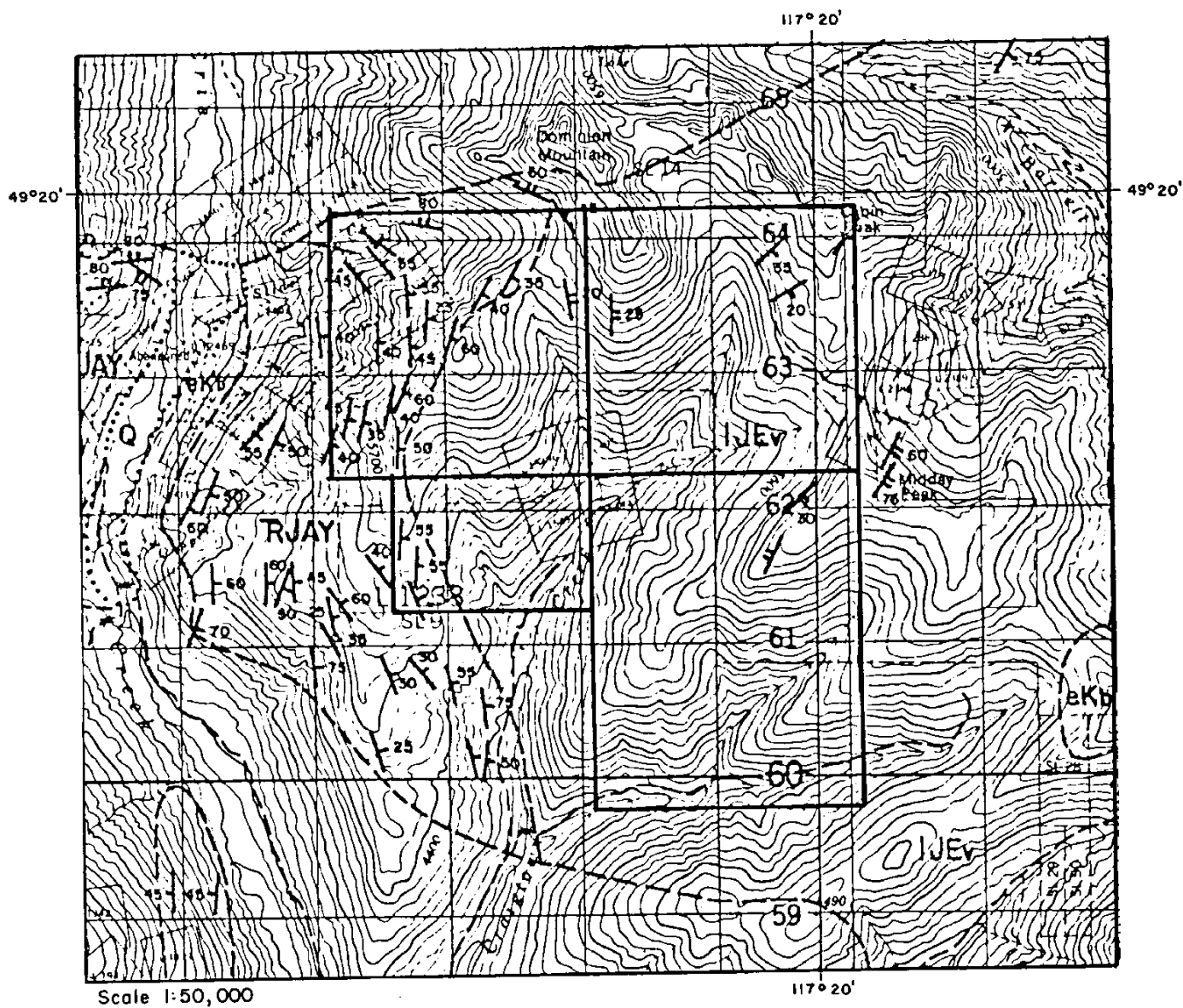
The most common granitic type in the area is a massive, coarsely jointed, medium-grained, grey granodiorite, but variations range all the way from a true granite to quartz diorite. The body at the head of the south fork of Barrett Creek is a dark quartz-free rock with large augite crystals and abundant inclusions around which feldspar and hornblende laths form complex fluidal patterns. These rocks are believed to be early phases of the Nelson Intrusives. Radiometric ages of the Nelson Intrusives indicate a Late Jurassic age, with possible plutonic activity extending into the Early Cretaceous.



Numerous dykes of syenite porphyry, granite porphyry, quartz porphyry, and lamprophyre of Tertiary age (ekb) have invaded all of the rocks described above. Some of these cut the vein deposits and some occupy post-mineral faults.

Considering the severity of the deformation to which the bedded rocks of the area have been subjected, remarkably few faults on a mappable scale have been recognized. Small-scale faults have been observed in many places, and the abundance of mineralized fissure veins testifies to the presence of others. Both pre- and post-ore faults have been described in many of the mines in the area. It can only be concluded that post-intrusive faulting has been limited to small-scale local movements.

The regional geology is indicated in Figure 2. Table I summarizes the geological stratigraphy of the area.



- Q Quaternary alluvium and drift
- eKb Early Cretaceous Intrusions: non-porphyrific granite to granodiorite
- lJEv Elise Fm.; flow breccia, massive andesites and basalts, agglomerate, tuff, breccia, siltstone
- rJAY Archibald Fm. and Ymir Gp.; tuffaceous siltstone, arenaceous arg., arg. qtzite; slate, minor limestone and shale

Figure 2

REGIONAL GEOLOGY MAP

Table 1. Table of Formations

ERA	PERIOD OR EPOCH	GROUP OR FORMATION	MAP SYMBOL	LITHOLOGY	THICKNESS (metres)		
CENOZOIC	QUATERNARY			Till, sand, gravel, silt			
	EOCENE Middle	Coyell Intrusions	etc	Syenite, quartz monzonite; minor granite, palaskite, and biotite-augite monzonite			
		INTRUSIVE CONTACT					
		Marron Formation	EM	Augite and/or hornblende and/or biotite andesite; trachyandesite	900+		
		RELATIONSHIP UNKNOWN, BUT MAY BE FEEDER TO MARRON ANDESITE FLOWS					
		Map-unit Ti	Ti	Hornblende-feldspar and hornblende porphyrys			
		CONFORMABLE(?) CONTACT WITH MARRON FORMATION					
	Kettle River Formation	EKR	Tuffaceous arkose	100+			
MESOZOIC	CRETACEOUS Upper	RELATIONSHIP UNKNOWN; UNCONFORMABLE ON HALL FORMATION					
		Sophie Mountain Formation	uKsm	Coarse conglomerate with minor interbeds of siltstone and arenaceous argillite	100+		
	JURASSIC AND/OR CRETACEOUS	RELATIONSHIP UNKNOWN; UNCONFORMABLE ON ELISE FORMATION					
		Map-unit Kqp	Kqp	Quartz-feldspar porphyry			
		RELATIONSHIP UNKNOWN; INTRUSIVE INTO ULTRAMAFIC INTRUSIONS					
		Nelson Intrusions	JN	Granodiorite; minor quartz diorite, and diorite			
		RELATIONSHIP CONTRADICTIONARY; SEEMS TO BE INTRUSIVE					
		Rossland Monzonite	JNmz	Biotite-hornblende-augite monzonite; mainly medium grained			
	JURASSIC Lower and Middle	INTRUSIVE RELATIONSHIP					
		Rossland Group	Hall Formation	ImJhs	Black, soft carbonaceous shale, buff to brown argillaceous sandstone; some siltstone and minor greywacke	300+	
			CONFORMABLE(?) CONTACT				
			Elise Formation	IJev	Flow breccia, massive andesites and basalts, agglomerate, tuff, breccia; black, laminated siltstone (IJes); augite porphyry (IJei)	2,150-3,000	
			CONFORMABLE(?) AND INTERDIGITATED CONTACT; UNCONFORMABLE ON MOUNT ROBERTS FORMATION				
	Archibald Formation	TRJAY	Black, hard, brittle, laminated siltstone, commonly tuffaceous, and arenaceous argillite	900			
PALEOZOIC	PENNSYLVANIAN(?)	INTRUSIVE RELATIONSHIP WITH ROSSLAND GROUP, BUT MAY BE COLD INTRUSION					
		Ultramafic Intrusions	MPum	Serpentinite; some dunite			
		INTRUSIVE CONTACT					
		Mount Roberts Formation	MPMR	Black siltstone and argillaceous quartzite, slate, greywacke, chert, pebble conglomerate, lava flows; limestone (Pmrl); paragneiss (Pmrgn)	1,200-1,500		
	CARBONIFEROUS(?)	RELATIONSHIP UNKNOWN					
		Map unit Cs	MPM	Black argillite, slate, phyllite, minor chert and greenstone; grey to black limestone (Csl)	2,100		
	AGE UNKNOWN	RELATIONSHIP UNKNOWN					
		Gneiss in Bonnington Pluton	ATRSM	Layered granitoid gneiss and amphibolite			
		RELATIONSHIP UNKNOWN					
		Porphyritic leucogranitic rocks	ATRSM lqd	Porphyritic leucogranite			
RELATIONSHIP UNKNOWN							
Cestlegar Gneiss		ATRSM	Augen gneiss				
GRADATIONAL CONTACT							
	Trail Gneiss	ATRSM	Amphibolite and grey biotite gneiss, hornblende gneiss, mica schist, aplite, and pegmatite; mylonitized gneiss (pC1gnm)	1,200			

BASE NOT EXPOSED

PROPERTY GEOLOGY

The MID 1 - 4 mineral claims are underlain mainly by andesite, basalt flows, flow breccia, tuffs, and augite porphyry of the Elise Formation with the beds striking northeasterly and dipping generally southeasterly. A number of northerly to northeasterly trending feldspar porphyry diorite dykes were found cutting across these volcanics.

The western portion of the claims is underlain by argillite and hornfels of the Archibald Formation - Ymir Group. Complex subsidiary structures are probably present on this western limb of the synclinorium which forms the major structural feature of the Rosslund Group in the Bonnington and the Ymir map-areas.

The property geology is illustrated on Figure 2 and on the accompanying geology map, depicting the work completed on the property.

ECONOMIC GEOLOGY

The claim group is located directly along strike from the Second Relief Mine, a former gold producer situated approximately 500 m to the west of the western side of the MID group. On the east, the MID group butts against claims covering the old Porto (Puerto) Rico Mine, which was also a significant gold producer. Brief descriptions of these mines follow.

Second Relief. Northeasterly striking, steeply northwesterly dipping veins at the Second Relief Mine are hosted in greenstones intercalated with sediments in the Archibald Formation - Ymir Group. Pyrite, pyrrhotite, chalcopyrite, and minor molybdenite occur in a gangue of country rock and quartz occasionally carrying magnetite, garnet, and epidote. The veins average about 0.4 oz/ton Au and lose both values and continuity where they pass from the competent greenstones into less competent sediments. Most of the MID group to the east is underlain by massive competent rocks of the Elise Formation. Recorded production from the Second Relief Mine to 1959 was 228,000 tons mined and milled, which yielded 100,235 ounces gold; 27,856 ounces silver; 44,555 pounds copper; 2,338 pounds lead; and 324 pounds zinc.

Porto Rico. The principal vein at the Porto Rico strikes northeasterly and dips approximately 45°NW. The vein averages some 2' in width and is hosted by augite porphyry and augite-feldspar porphyry of the Elise Formation. The vein evidently follows the footwall of an augite-kersantite (lamprophyre) dyke. Total production to 1969 was 6,320 tons mined and 6,000 tons milled, which yielded 5,738 ounces gold; 1,491 ounces silver; 709 pounds copper; 304 pounds lead; and 112 pounds zinc.

Four Crown grants located in the centre of the claim group cover old workings which consist of at least six adits, none of which was accessible. Old mine cars and a large tailings pile attest to the extent of these workings; however, no literature describing them has yet been found.

EXPLORATION APPROACH - 1983 FIELD PROGRAM

In order to evaluate the property and to set the stage for future exploration, silt samples were systematically collected from all the streams which drain the property; a wide-spaced reconnaissance grid was also placed on the property.

This grid (designated as the "M" Grid) is situated immediately to the east of the Second Relief Mine. Grid lines were spaced 200 m apart and were soil sampled at 25 m station intervals. A VLF-EM survey was also completed at the same spacings on the grid. The grid consisted of 1,400 m of base line and eight cross lines totalling 4 km each extending 500 m at a bearing of  $120^{\circ}$ . All the grid lines were flag-and-compass lines.

The VLF-EM survey was extended to the north, as the survey was being done because of a strong conductor trending to the north of the grid area. These line extensions were pace-and-compass lines and they were not flagged.

One man day of reconnaissance prospecting and mapping was also completed on the northern slopes of the property.

All samples collected were forwarded to TerraMin Research Labs Ltd. in Calgary and analyzed for gold, silver, copper, lead, and zinc. These analytical results are presented in Appendix A.

### GEOCHEMICAL SURVEY

A small soil sampling grid, totalling 4 line km of flag-and-compass cross lines and 1.4 line km of base line was placed over an area immediately to the east of the Second Relief Mine to cover the possible extension of mineralization onto this part of the property.

A total of 224 soil samples were collected and forwarded to TerraMin Research Labs Ltd. in Calgary for analysis for gold, silver, copper, lead, and zinc. These analytical results are presented in Appendix A. A series of maps (4 to 8) have been contoured for each of these elements at a scale of 1:2500.

On the whole, the analytical results from the samples collected were very poor; however, when contoured, weak geochemical trends become obvious. Lead, copper, silver, and zinc outlined very weak roughly corresponding northeasterly trending zones through the centre of the grid. Within this zone, lead values were up to 122 ppm but generally between 20 and 30 ppm; copper values were generally within the 60 to 80 ppm range. Zinc values were very low; however, a weak trend could be inferred from the values over 100 ppm. Silver values within this area were within the 200 to 400 ppb range.

Higher silver values tended to be concentrated along the base line, roughly corresponding with a strong VLF-EM conductor delineated here. Samples within this area returned values of up to 1180 ppb.

Gold values on the whole were very low with no trend discernible. One sample site, located on L6+00S,4+75E, returned anomalous results of 204 ppb. There are no corresponding anomalies in the other elements.

VLF-EM SURVEY

A VLF-EM survey was completed over the grid using a Crone Radem unit employing Seattle, Washington, as the transmitting station. The survey was carried out using a 25 m station interval along the grid lines. The results are presented in profile format on Map 2 and in Fraser-filtered contour format on Map 3.

The survey delineated a strong northeasterly trending conductor which crossed the entire grid area. This has been designated as Conductor A on Map 2. This conductive zone exhibits a parallel strike trend to the mineralized veins at the Second Relief Mine. Further work is needed to fully evaluate the significance.

A second, northerly trending conductive zone (Conductor B on Map 2) was delineated in the southern portion of the grid. It also requires further detailed work to evaluate its significance.



PROSPECTING, GEOLOGICAL MAPPING  
AND STREAM SEDIMENT SAMPLING

One man day was spent reconnaissance prospecting and geologically mapping the northern part of the property. The geochemical and geophysical grid was also geologically mapped and prospected in conjunction with the completion of these surveys. One area, underlain by rusty weathering pyritic silty argillite, was sampled as well as grab samples collected from the old workings located on the Crown grants situated within the centre of the claim group. The sample collected from the old workings returned 0.117 oz/ton Au. Sample descriptions and assay results are presented in Appendix A.

All streams which drain the claim group were systematically silt sampled. These samples were analyzed for gold, silver, lead, zinc, and copper with the results presented in Appendix A.

One silt sample, moderately anomalous in gold, was collected at either station CA-83 or CA-86. These locations should be re-sampled and the surrounding area prospected.

The property geology, prospecting traverses, grid location, sample locations, and stream silt sample results are depicted on the accompanying Map 1.

### CONCLUSIONS AND RECOMMENDATIONS

Twelve man days were spent exploring the claim group which is situated immediately to the east of the Second Relief Mine. Reconnaissance work consisted of prospecting, stream sediment sampling, and reconnaissance geological mapping. In addition, a total of 4 line km of semi-reconnaissance ground VLF-EM surveying and soil geochemical sampling were carried out at 25 m station intervals along 200 m spaced lines over a small grid situated to the east of the Second Relief Mine.

Two strong VLF-EM conductive zones (Conductors A and B) with coincident geochemical anomalies, have been identified. Conductor A, which has coincident gold/silver/copper geochemistry, strikes northeasterly, exhibiting a similar strike to the mineralized veins at the Second Relief Mine. This anomaly follows the grid baseline along a possible faulted contact between the Archibald Formation - Ymir Group and the Elise Formation. Conductor B has a northerly strike with coincident gold/silver/copper/lead geochemistry. This anomaly merges with Conductor A described above.

Reconnaissance mapping and prospecting of the property confirmed the underlying geology. Prospecting of the northern portion of the property outlined an area of "epidote" alteration. Epidote alteration is present in the Second Relief vein, the strike projection of which passes through the above area of epidote alteration.

The above areas require further work in order to fully evaluate their significance. The geochemical and geophysical grid coverage should be extended in order to further define the conductors delineated and to evaluate the significance of the epidote alteration located north of the present grid coverage.

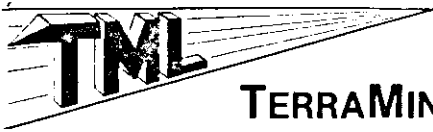
Silt samples were systematically collected from all the streams which drain the property. One of these sample sites was moderately anomalous in gold. This location should be re-sampled and the surrounding area should be prospected.

A P P E N D I X    A

Sample Descriptions  
and  
Certificates of Analysis

SAMPLE DESCRIPTIONS

- CA-81            Grab sample from old workings covered by Crown grants located in the centre of the MID claim group. The workings consist of at least six different adits, none of which are accessible. Old mine cars and track, and the size of the tailings pile attest to the significance of these workings.
- The sample is a grab sample from one of the adit entrances. It consists of quartz fissure veining 1 to 6 inches wide in a green hornblende andesite porphyry. The veining strikes at 225°, and dips 45°W.
- DL-83-20        Light grey, rusty weathering, pyritic silty argillite.



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- 18 (a) -

Rock Samples

ANALYTICAL REPORT

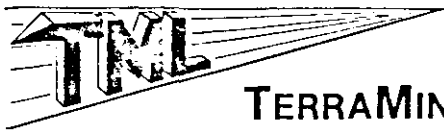
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Date

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Page 3/3

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
<u>MID CLAIMS</u>					
CA-81	4020	320	7	-1	40
DL-83-20	14	210	100	1	15



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"M" Grid  
Soil samples

ANALYTICAL REPORT

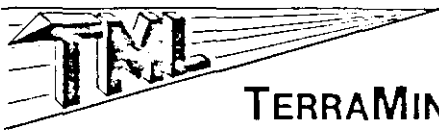
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Date

Client Project BC-83-2

Page 9/31

Sample No.			Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"M"	BL	6+00 N	4	190	38	11	51
		5+75	-2	180	24	14	37
		5+50	-2	140	26	11	32
		5+25	-2	140	28	11	42
		5+00	-2	170	27	12	42
		4+75	-2	130	40	17	70
		4+50	4	60	48	13	100
		4+25	2	210	76	15	78
		4+00	26	90	53	12	98
		3+75	4	170	24	11	32
		3+50	2	260	38	12	240
		3+25	-2	300	38	13	123
		3+00	6	1180	23	49	112
		2+75	4	270	32	15	98
		2+50	2	150	42	23	131
		2+25	4	180	49	14	116
		2+00	-2	150	42	14	110
		1+75	2	80	43	10	87
		1+50	2	190	35	14	70
		1+25	4	270	50	22	97
		1+00	18	320	48	11	66
		0+75	2	150	34	10	74
		0+50	2	400	35	14	75
		0+25	-2	230	28	9	58
		0+00	8	250	41	16	113



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ANALYTICAL REPORT

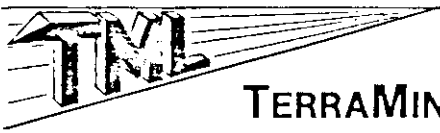
Job # 83-239

Date

Client Project BC-83-2

Page 10/31

Sample No.			Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"M"	BL	0+25 S	6	170	31	19	102
		0+50	6	300	62	20	129
		0+75	10	480	43	39	119
		1+00	-2	300	34	16	89
		1+25	2	150	60	13	89
		1+50	4	150	73	8	113
		1+75	2	330	54	8	123
		2+00	4	330	57	12	126
		2+25	2	240	67	9	104
		2+50	-2	270	37	35	132
		2+75	26	180	41	30	130
		3+00	4	180	54	22	109
		3+25	-2	140	43	15	93
		3+50	26	510	101	70	350
		3+75	8	200	40	13	110
		4+25	4	300	46	15	105
		4+50	4	110	40	44	122
		4+75	6	160	35	9	95
		5+00	4	140	40	30	114
		5+25	2	170	49	54	180
		5+50	2	140	37	15	102
		5+75	2	160	35	60	132
		6+25	2	140	27	10	102
		6+50	-2	170	35	8	97
		6+75	2	130	34	10	91



# TERRAMIN RESEARCH LABS LTD.

## ANALYTICAL REPORT

Job # 83-239

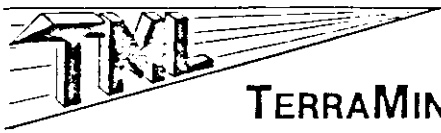
Date

Client Project BC-83-2

Page 11/31

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"M" BL 7+00 S	-2	130	29	19	130
7+25	2	150	28	20	105
7+50	2	130	35	9	104
7+75	2	210	36	26	125
8+00 (or 6)	4	150	47	15	128
L 6 N 0+25 E	-2	410	24	11	42
0+50	4	600	26	12	71
0+75	2	720	35	6	118
1+00	4	360	37	13	126
1+25	2	220	38	19	84
1+50	-2	260	40	10	118
1+75	-2	170	37	24	177
2+00	2	230	37	16	130
2+25	-2	120	47	16	144
2+50	4	50	60	13	160
2+75	2	50	47	30	150
3+00	4	200	66	17	137
3+25	2	120	74	38	170
3+50	-2	100	48	8	87
3+75	-2	360	33	13	70
4+00	-2	190	36	7	72
4+25	6	200	30	11	85
4+50	4	170	31	12	86
4+75	2	170	24	10	77
5+00	2	140	25	11	77





# TERRAMIN RESEARCH LABS LTD.

## ANALYTICAL REPORT

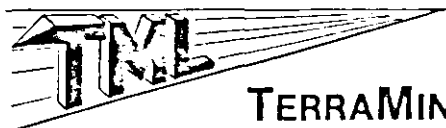
Job # 83-239

Date

Client Project BC-83-2

Page 12/31

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"M" L 4 N 0+25 E	-2	480	40	18	111
0+50	4	290	47	13	184
0+75	-2	270	39	16	109
1+00	-2	270	43	11	80
1+25	-2	140	41	26	159
1+50	-2	410	59	16	126
1+75	-2	560	37	11	83
2+00	2	250	53	12	104
2+25	-2	140	52	27	135
2+50	-2	120	54	17	105
2+75	10	130	51	20	146
3+00	-2	210	54	48	133
3+25	4	190	56	28	126
3+50	2	250	49	31	130
3+75	6	180	42	18	132
4+00	-2	130	41	19	146
4+25	4	190	42	11	135
4+50	-2	200	43	14	142
4+75	-2	350	42	18	140
5+00	-2	230	57	11	129
L 2 N 0+50 E	-2	170	44	9	139
0+75	-2	220	44	20	126
1+00	-2	200	63	17	108
1+25	-2	170	47	10	95



# TERRAMIN RESEARCH LABS LTD.

## ANALYTICAL REPORT

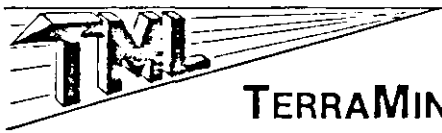
Job # 83-239

Date

Client Project BC-83-2

Page 13/31

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"M" L 2 N 1+50 E	-2	10	67	6	72
1+75	2	110	55	24	124
2+00	2	150	58	21	126
2+25	4	50	62	12	111
2+50	2	60	61	31	118
2+75	-2	100	47	17	101
3+00	-2	190	41	14	84
3+25	2	150	53	16	110
3+50	-2	200	41	23	92
3+75	-2	330	36	33	101
4+00	4	460	48	28	90
4+25	2	240	42	18	95
4+50	2	240	21	20	51
4+75	4	240	37	25	114
5+00	2	260	37	17	127
L 0 0+25 E	-2	370	27	9	44
0+50	-2	320	56	12	71
0+75	-2	210	35	10	62
1+00	-2	310	23	16	37
1+25	6	410	44	13	51
1+50	-2	630	36	17	70
1+75	-2	180	45	14	61
2+00	2	150	33	13	49
2+25	-2	190	27	15	54
2+50	8	280	55	9	73



# TERRAMIN RESEARCH LABS LTD.

## ANALYTICAL REPORT

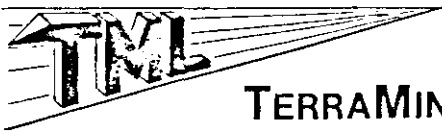
Job # 83-239

Date

Client Project BC-83-2

Page 14/31

Sample No.			Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"M"	L 0	2+75 E	-2	230	50	6	69
		3+00	2	150	70	6	75
		3+25	18	230	55	10	84
		3+50	6	280	85	34	112
		3+75	-2	230	51	12	79
		4+00	-2	320	41	10	73
		4+25	-2	90	43	14	98
		4+50	2	210	62	10	106
		4+75	-2	130	62	10	107
		5+00	-2	180	44	10	101
	L 2 S	0+25 E	-2	140	73	7	86
		0+50	4	180	64	29	127
		0+75	-2	190	66	18	100
		1+00	-2	140	68	10	88
		1+25	-2	110	77	11	89
		1+50	-2	170	70	17	96
		1+75	-2	130	58	9	90
		2+00	-2	150	66	22	109
		2+25	-2	260	62	9	88
		2+50	2	280	72	9	76
		2+75	2	160	66	6	97
		3+00	-2	180	50	10	96
		3+25	-2	150	53	22	101
		3+50	-2	220	55	17	87
		3+75	4	180	43	16	93



TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

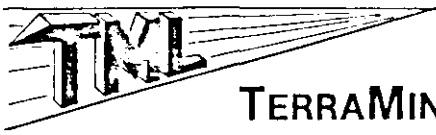
Job # 83-239

Date

Client Project BC-83-2

Page 15/31

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"M" L 2 S 4+00 E	2	330	47	11	89
4+25	-2	180	54	7	94
4+50	4	270	50	10	98
4+75	-2	190	50	8	90
5+00	2	380	46	13	106
L 4 S 0+25 E	10	160	45	13	113
0+50	-2	290	46	10	105
0+75	-2	190	58	11	96
1+00	2	130	46	12	113
1+25	2	150	64	7	109
1+50	2	190	49	11	93
1+75	2	150	64	11	99
2+00	-2	210	67	8	77
2+25	2	190	49	15	97
2+50	-2	160	48	9	96
2+75	-2	180	46	11	99
3+00	8	230	48	22	108
3+25	-2	180	42	32	100
3+50	-2	180	42	21	92
3+75	-2	210	43	12	89
4+00	4	190	34	7	91
4+25	-2	210	43	17	115
4+50	-2	260	44	10	121
4+75	-2	240	40	12	120
5+00	-2	180	48	10	116



# TERRAMIN RESEARCH LABS LTD.

## ANALYTICAL REPORT

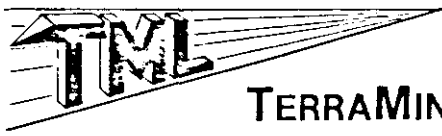
Job # 83-239

Date

Client Project BC-83-2

Page 16/31

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"M" L 6 S BL	2	140	36	13	112
0+50 E	-2	280	34	10	95
0+75	4	160	33	8	94
1+00	4	220	32	8	112
1+25	2	170	37	10	104
1+50	-2	110	47	6	77
1+75	2	120	51	8	79
2+00	-2	200	48	15	101
2+25	-2	170	41	11	103
2+50	-2	260	31	10	105
2+75	4	330	49	31	137
3+00	2	210	84	21	115
3+25	2	150	42	17	123
3+50	2	330	54	9	116
3+75	2	270	66	15	104
4+00	16	320	67	122	182
4+25	4	190	57	15	104
4+50	-2	150	53	12	110
4+75	204	140	46	17	115
5+00	-2	220	51	36	111
L 8 S BL	2	190	37	35	123
0+25 E	-2	170	34	9	115
0+50	12	250	34	13	108
0+75	2	200	29	13	106
1+00	-2	240	38	8	99



# TERRAMIN RESEARCH LABS LTD.

## ANALYTICAL REPORT

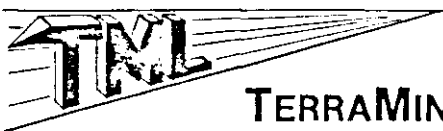
Job # 83-239

Date

Client Project BC-83-2

Page 17/31

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"M" L 8 S 1+25 E	-2	190	39	7	96
1+50	-2	170	38	16	105
1+75	-2	160	38	8	98
2+00	-2	200	39	8	107
2+25	-2	200	29	8	98
2+50	-2	170	26	8	90
2+75	-2	200	32	34	107
3+00	-2	110	38	5	90
3+25	10	90	37	31	110
3+50	4	150	44	7	93
3+75	6	190	43	7	99
4+00	2	320	38	7	82
4+25	8	160	41	32	80
4+50	4	180	100	8	125
4+75	14	200	84	28	106
5+00	4	280	33	15	131



TERRAMIN RESEARCH LABS LTD.

Silt Samples

ANALYTICAL REPORT

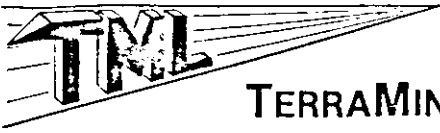
Job # 83-239

Date

Client Project BC-83-2

Page 30/31

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"CA" 2 Creek MO 83	2	40	18	48	94
72 S	160	40	28	5	92
77 S	8	20	45	18	110
81 S	8	120	42	21	182
<u>S-83-1</u> } <i>CNEIS CA-83</i>	90	110	52	16	103
<u>S-83-2</u> } <i>and one is</i>	2	200	32	22	148
<u>S-84</u> } <i>CA-86</i>	4	90	39	14	90
<u>85</u>	16	80	46	15	95
<u>87</u>	8	80	53	16	99
<u>88</u>	4	40	42	16	80
<u>89</u>	-2	40	41	9	83
<u>90</u>	4	40	46	13	87
<u>91</u>	-2	50	46	10	80
<u>93</u>	-2	80	45	26	93
<u>96</u>	4	60	50	11	70
<u>97</u>	8	40	48	7	65
<u>98</u>	-2	80	55	13	75
<u>99</u>	-2	120	67	13	76
<u>100</u>	-2	100	52	12	74
<u>101</u>	30	80	54	15	71
<u>102</u>	2	110	59	17	82
<u>103</u>	12	40	48	10	75
<u>105</u>	8	40	37	11	68
<u>106</u>	8	40	37	8	70
<u>107</u>	8	200	41	22	77



# TERRAMIN RESEARCH LABS LTD.

## ANALYTICAL REPORT

Job # 83-239

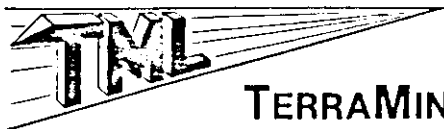
Date

Client Project BC-83-2

Page 31/31

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"CA" <u>S-108</u>	2	100	34	26	80
<u>109</u>	8	120	39	29	84
<u>110</u>	2	100	38	21	86
<u>111</u>	8	120	51	12	87
<u>112</u>	8	120	45	21	88
<u>113</u>	36	100	50	14	93
<u>115</u>	8	120	48	9	89
<u>116</u>	4	160	49	10	86
<u>117</u>	8	240	53	17	106
TTW 18	2	90	16	12	60
<u>TT-M-30 S</u>	4	160	63	18	114
TT-M-39 S	20	200	37	3	60
TT-OR-44 Silt	8	160	56	37	118
TT-B 25	8	680	130	41	600





# TERRAMIN RESEARCH LABS LTD.

## ANALYTICAL REPORT

Job # 83-239

Date

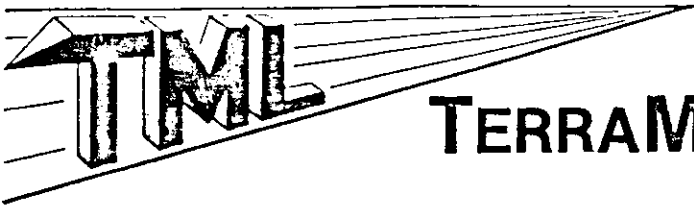
Client Project BC-83-2

Page 28/31

Sample No.	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm
"BIRD" AC AF-13	4	100	85	8	83
16	4	70	81	3	79
AF 83 49 SO	8	40	16	6	109
<u>AF 83 67 Silt</u>	8	40	50	21	97
<u>AF 83 68 Stream</u>	8	80	44	39	96

A P P E N D I X B

Analytical Techniques  
and  
Personnel



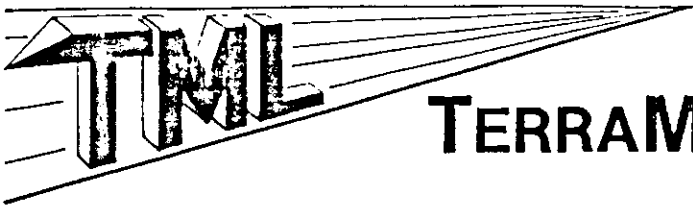
# TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7  
(403) 276-8668

## SAMPLE PREPARATION

Soil and sediment samples are dried and sieved through 80 mesh nylon screen (maximum particle size 200 microns).

Rock or drill core samples are crushed to approximately 1/8" in a jaw crusher, riffled to obtain a representative sample, and pulverized to 100 mesh (180 micron particle size).

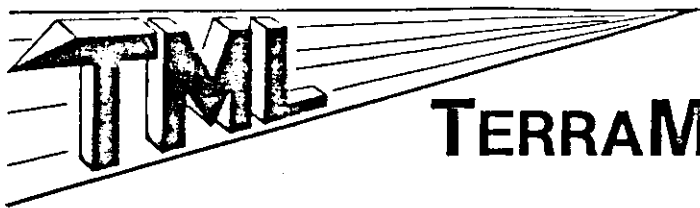


# TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7  
(403) 276-8668

## FIRE ASSAY/AA METHOD FOR GOLD AND SILVER PLATINUM AND PALLADIUM

Approximately 1 assay ton of prepared sample is fused with a litharge flux charge to obtain a lead button. The button is cupelled down to a precious metal prill which is then dissolved in aqua regia. The resulting solution is analysed by atomic absorption spectrophotometry to determine the precious metals.



# TERRAMIN RESEARCH LABS LTD.

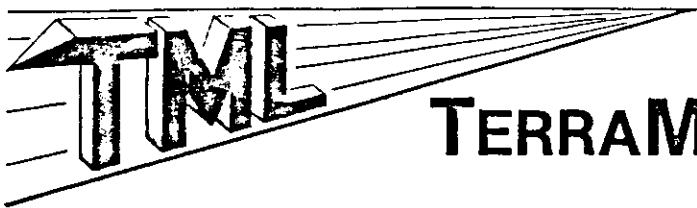
14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7  
(403) 276-8668

## ANALYTICAL METHODS FOR BASE METALS

Cd, Cr, Co, Cu, Fe (soluble), Pb, Mn (soluble), Mo, Ni, Ag, Zn

A portion of the prepared sample is digested in hot nitric/perchloric acid mixture, or hot aqua regia (nitric/hydrochloric acids).

Elements are determined by atomic absorption spectrophotometry.



# TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7  
(403) 276-8668

## ANALYTICAL METHOD FOR ARSENIC AND ANTIMONY

A portion of the prepared sample is digested in acid at low temperature. As and Sb are determined with a vapour generation accessory with atomic absorption.

PERSONNEL

Claude H. Aussant, P.Geol. 31 Templebow Way N.E. Calgary, Alberta	Aug. 12,13,14,15,16	5 days
Tim Termuende Wildhorse Farm Fort Steele, B.C.	Aug. 13,14	2 days
Alex Francoeur 6132 Beaver Dam Way N.E. Calgary, Alberta	Aug. 12,13	2 days
Brenda Gregoire #201, 823 - 19th Ave. S.W. Calgary, Alberta	Aug. 13	1 day
D'Arcy Lincoln #201, 823 - 19th Ave. S.W. Calgary, Alberta	Aug. 13,14	<u>2 days</u>
		12 man days

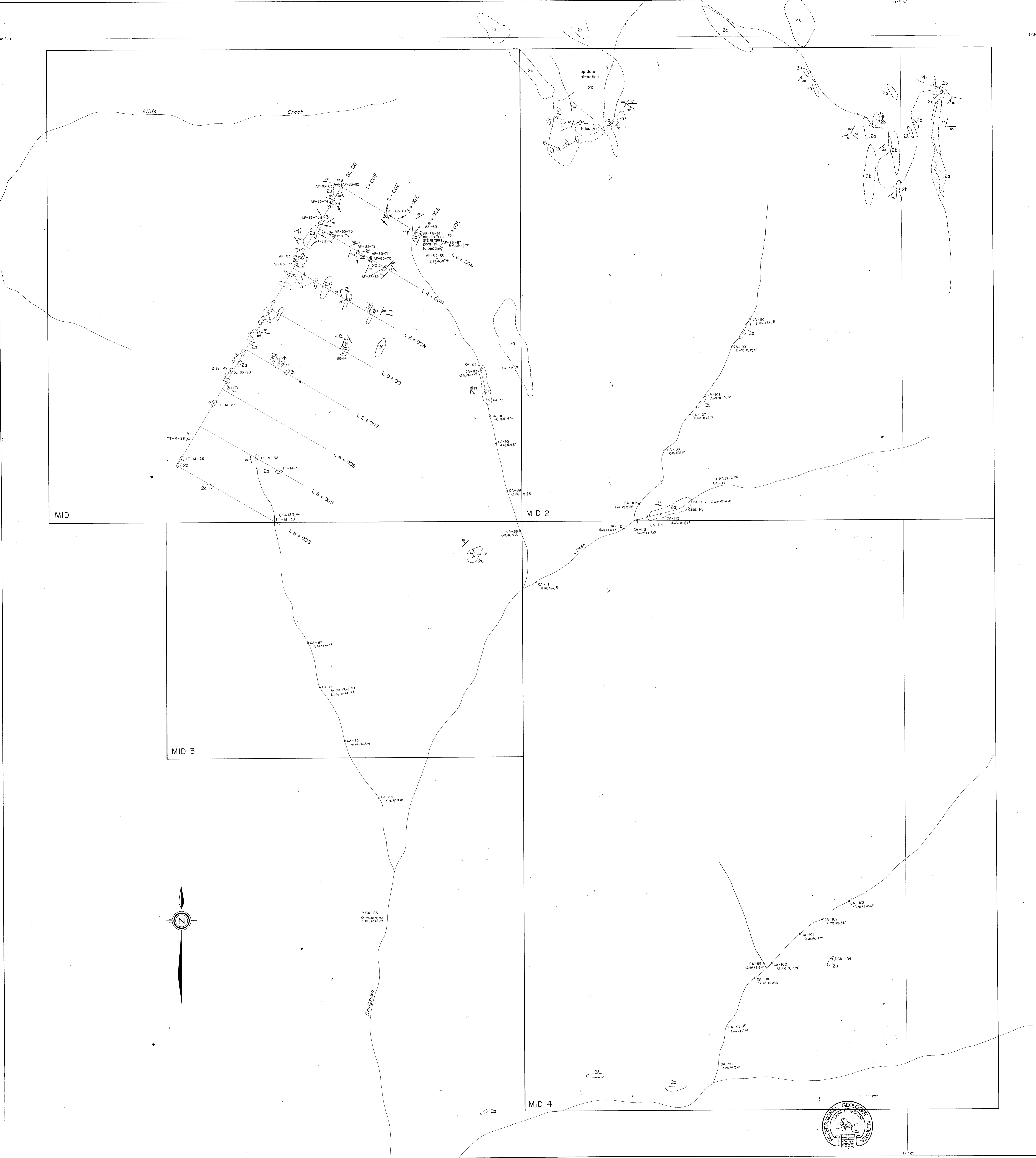
A P P E N D I X C

Summary of Expenditures



SUMMARY OF EXPENSES  
MID 1-4 Mineral Claims  
Nelson Mining Division  
BRITISH COLUMBIA

Pre-field Preparation			490.00
<u>Field Personnel</u>			
Project Geologist	5 days	@\$250 diem	1,250.00
Senior Prospector	2 days	@\$175 diem	350.00
Junior Prospector	5 days	@\$165 diem	<u>825.00</u>
			2,425.00
<u>Transportation and Travel</u>			
Fuel & Travel expenses:			388.44*
4 x 4 Truck rental	4½ days	@\$75 diem	337.50
3/4 ton van	1 day	@\$45 diem	<u>45.00</u>
			770.94
<u>Charter Transportation</u>			
Okanagan Helicopter	2 hrs	@\$430/hr	860.00
Fuel			<u>117.51</u>
			977.51*
<u>Equipment Rental</u>			
VLF-EM 16	2 days	@\$15 diem	30.00
<u>Field Accommodation</u>			
Food & Lodging	12 mandays	@\$40 diem	480.00
Disposable supplies			66.08*
			546.08
<u>Geochemical Analysis</u>			
215 Soil samples analyzed for Au, Ag, Cu, Pb, Zn		@9.80	2,107.00
2 Rock samples analyzed for Au, Ag, Cu, Pb, Zn		@11.95	23.90
33 Silt samples analyzed for Au, Ag, Cu, Pb, Zn		@9.80	<u>323.40</u>
			2,454.30*
<u>Miscellaneous</u>			
Maps, publications, reproduction			486.73*
Courier, freight, telephone			<u>36.93*</u>
			523.66*
<u>Post-Field Compilation</u>			
Report writing, data compilation			1,562.50
Drafting & secretarial			<u>739.22</u>
			2,301.72
<u>*Handling charge on all third-party expenditures @12% of 4409.99</u>			
			<u>529.20</u>
			TOTAL
			<u>\$11,048.41</u>

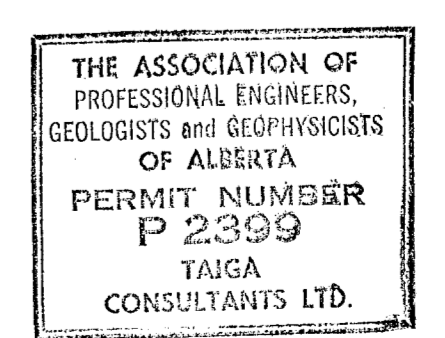


GEOLOGICAL BRANCH  
ASSESSMENT REPORT

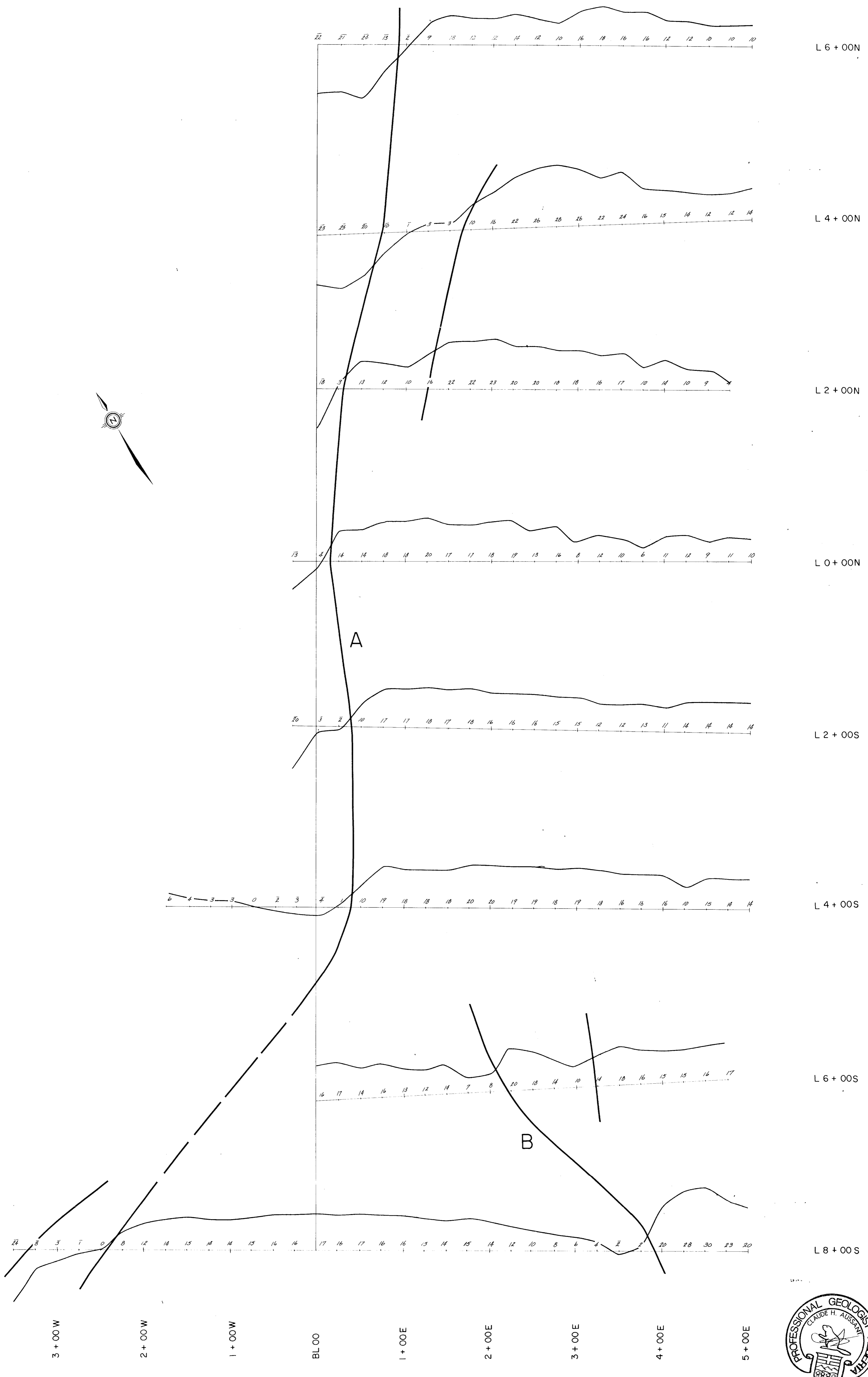
11,552

- 1 Quartz - feldspar porphyry dykes
- 2 Elise Fm.
- a Hornblende - augite porphyry, andesite
- b Tuff
- c Andesite breccia
- 3 Archibald Fm.: Argillites and hornfels

- Adit
- Silt sample location
- x Sample description location or Rock sample location
- Bedding
- Jointing
- Shear vein
- Rock/silt sample results Au(ppb), Ag(ppb), Cu(ppm), Pb(ppm), Zn(ppm)



<b>REX SILVER MINES LTD.</b>	
MID 1-4 CLAIMS	
GEOLOGY MAP	
DATE AUGUST, 1983	NTS 82 F/6
PROJECT BC-83-2	MAPPED/DRAWN BY C. AUSSANT
SCALE 1:5000	0 50 100 150 200 METERS
TAIGA CONSULTANTS LTD	MAP 1

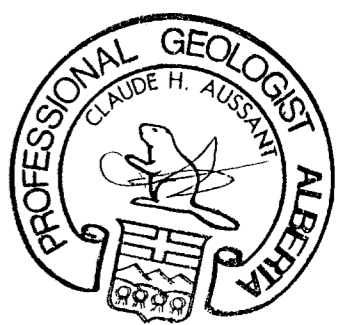


GEOLOGICAL BRANCH  
ASSESSMENT REPORT

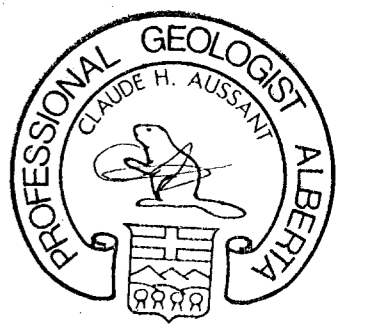
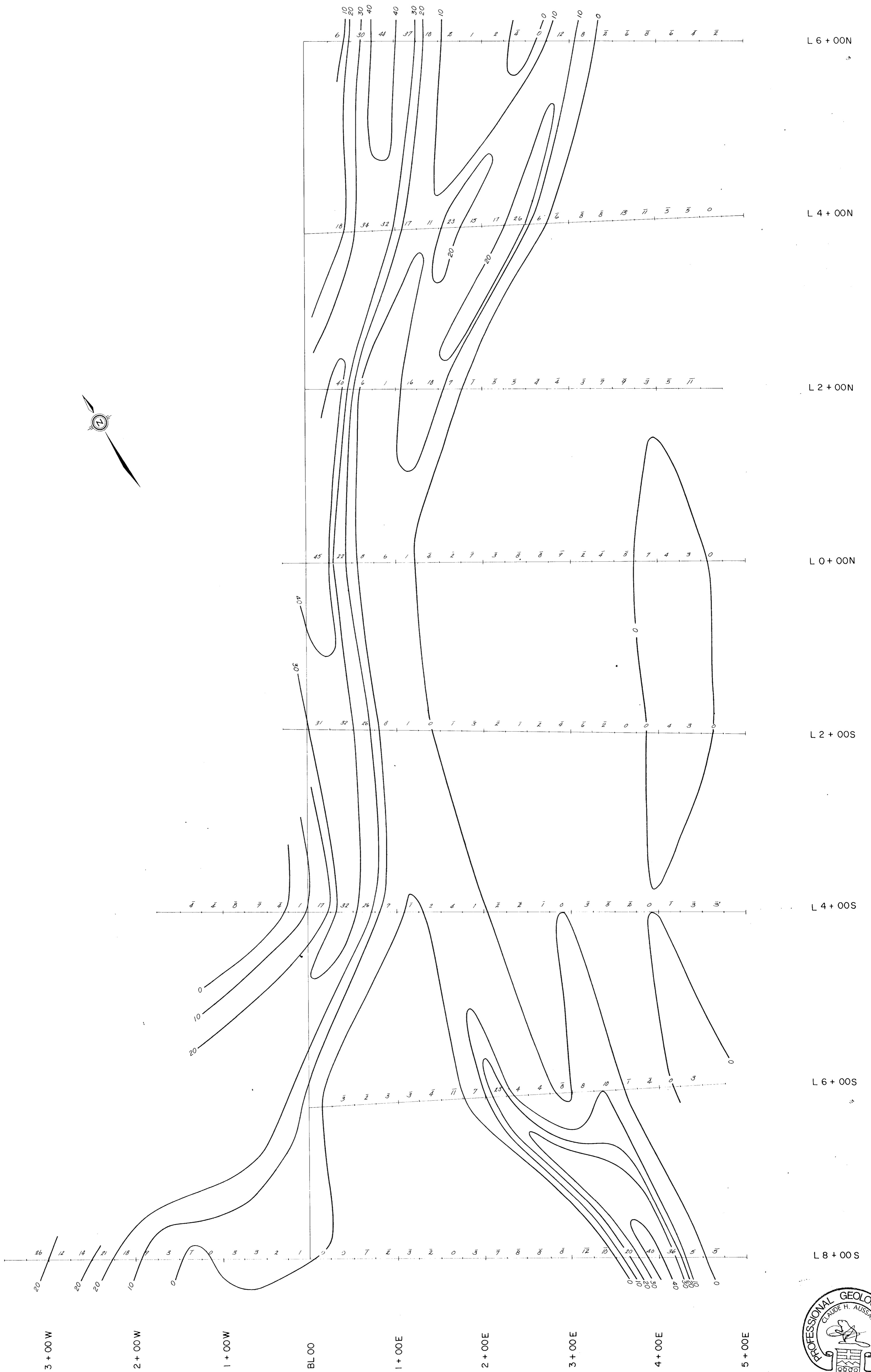
11,552

Instrument: Crone Radem VLF-EM  
 Operator: T. Termuende  
 Station: Seattle, Wash.  
 Profile scale: 1 cm = 10°  
 Horizontal scale: 1:2500  
 North dip: positive  
 South dip: negative  
 Conductor axis ———

THE ASSOCIATION OF  
PROFESSIONAL ENGINEERS,  
GEOLOGISTS and GEOPHYSICISTS  
OF ALBERTA  
PERMIT NUMBER  
P 2399  
TAIGA  
CONSULTANTS LTD.



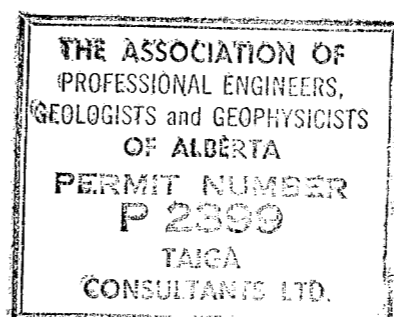
REX SILVER MINES LTD	
M GRID - MID CLAIMS	
VLF - EM PROFILES	
DATE AUGUST, 1983	NTS 82 F/6
PROJECT BC - 83 - 2	MAPPED/ DRAWN BY C. AUSSANT
SCALE 1:2500	0 25 50 75 100 METRES
TAIGA CONSULTANTS LTD	MAP 2



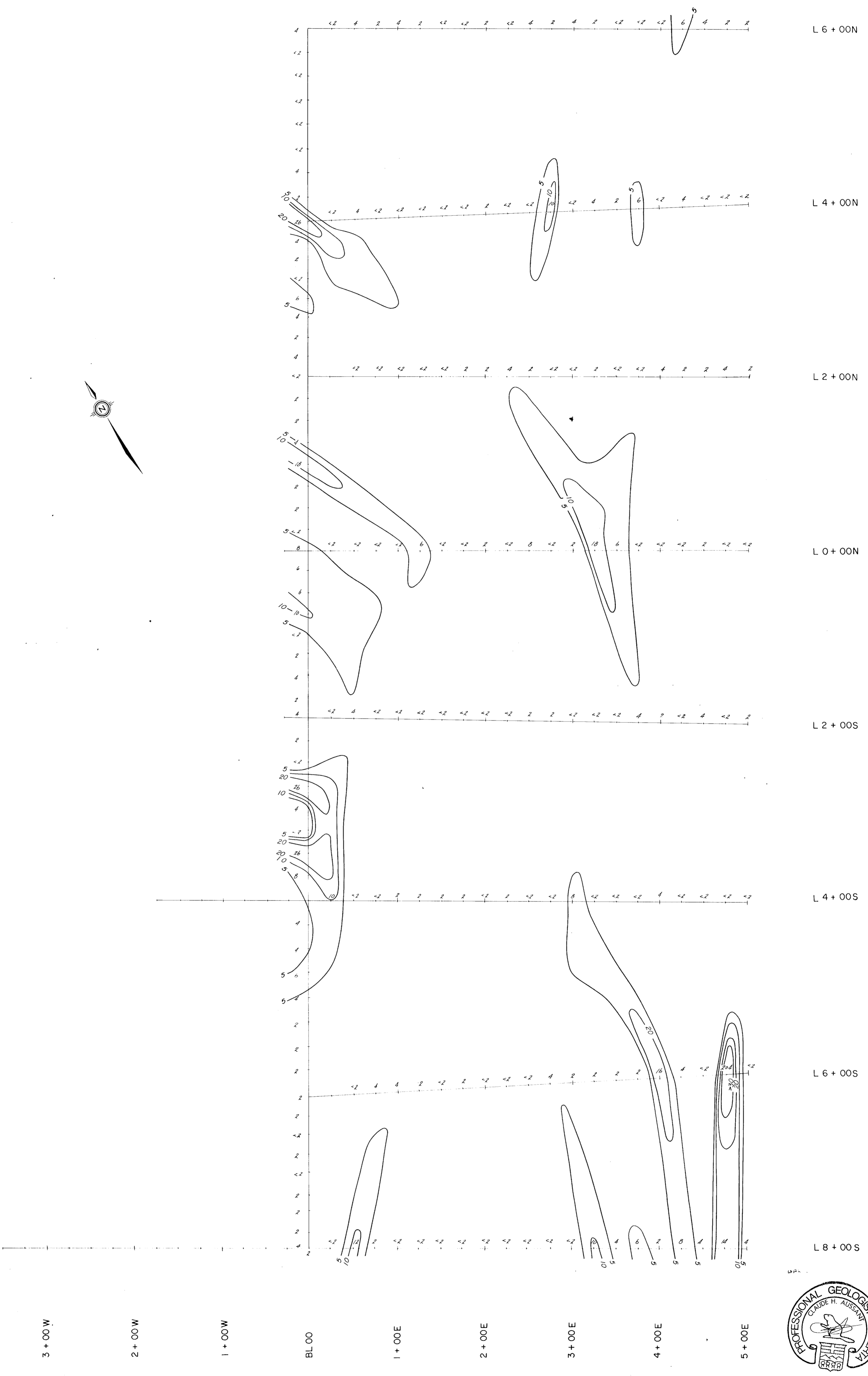
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

11 552

Instrument: Crone Radem VLF - EM  
Operator: T. Termuende  
Station: Seattle, Wash.  
Contour interval: 10



REX SILVER MINES LTD	
M GRID - MID CLAIMS	
FRASER FILTERED VLF-EM	
DATE AUGUST, 1983	NTS 82 F/6
PROJECT BC - 83-2	MAPPED/ DRAWN BY C. AUSSANT
SCALE 1:2500	0 25 50 75 100 METRES
TAIGA CONSULTANTS LTD	MAP 3



3 + 00 W

2 + 00 W

1 + 00 W

B L 0 0

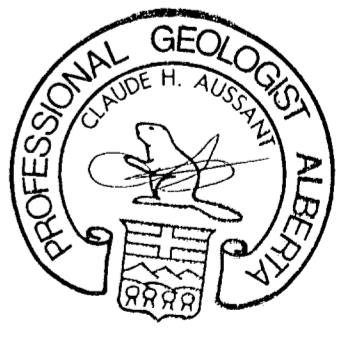
1 + 00 E

2 + 00 E

3 + 00 E

4 + 00 E

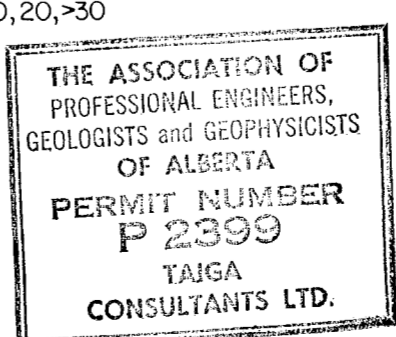
5 + 00 E



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ASSESSMENT REPORT

11,552

Contour intervals: 5, 10, 20, >30



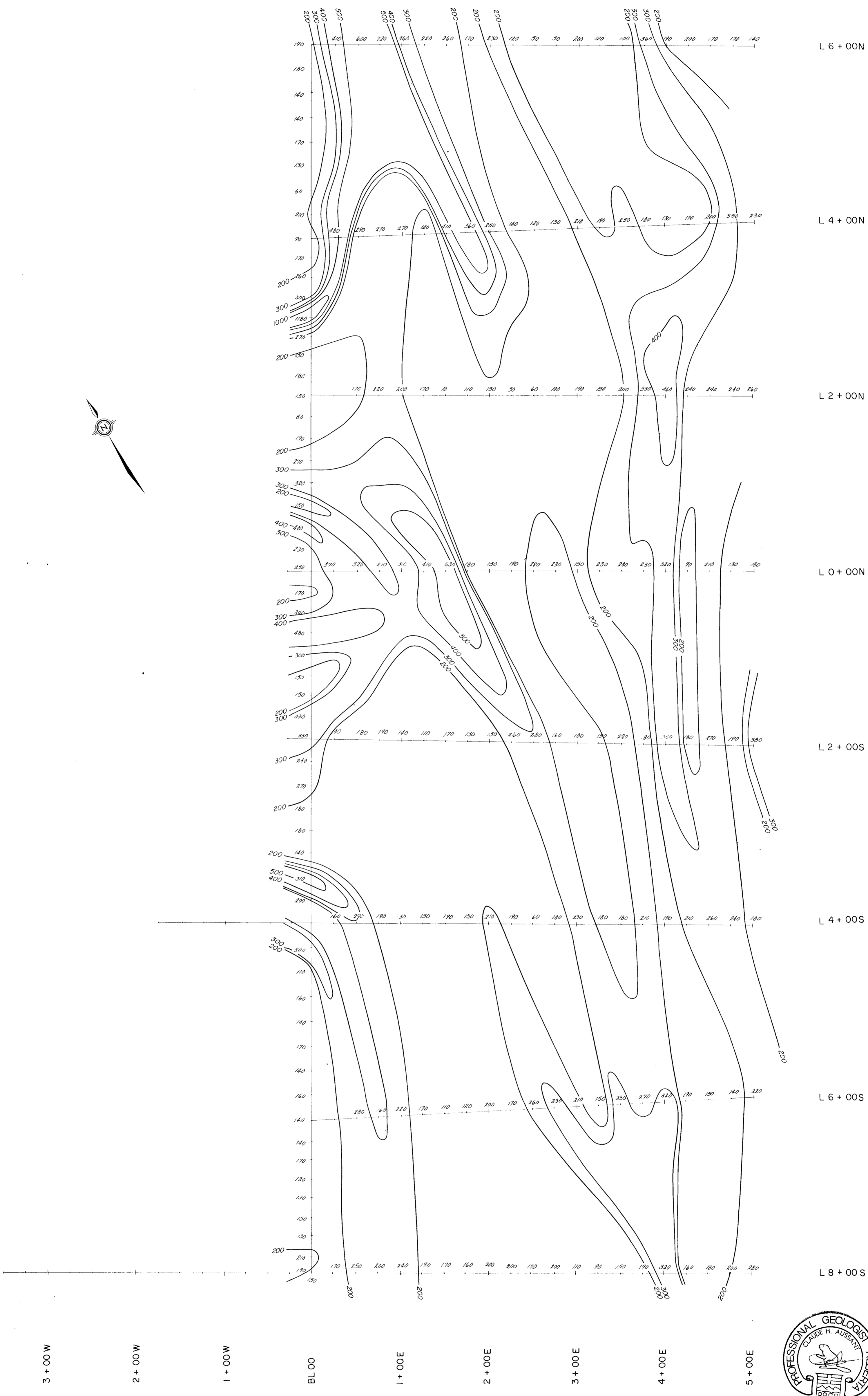
REX SILVER MINES LTD

M GRID - MID CLAIMS

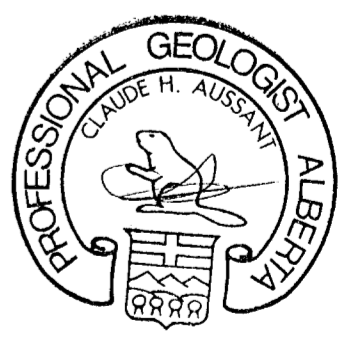
SOIL GEOCHEMISTRY

Au (ppb)

DATE AUGUST, 1983	NTS 82 F/6
PROJECT BC - 83 - 2	MAPPED/ DRAWN BY C. AUSSANT
SCALE 1:2500	0 25 50 75 100 METRES
TAIGA CONSULTANTS LTD	MAP 4



3 + 00 W      2 + 00 W      1 + 00 W      B L 00      1 + 00 E      2 + 00 E      3 + 00 E      4 + 00 E      5 + 00 E



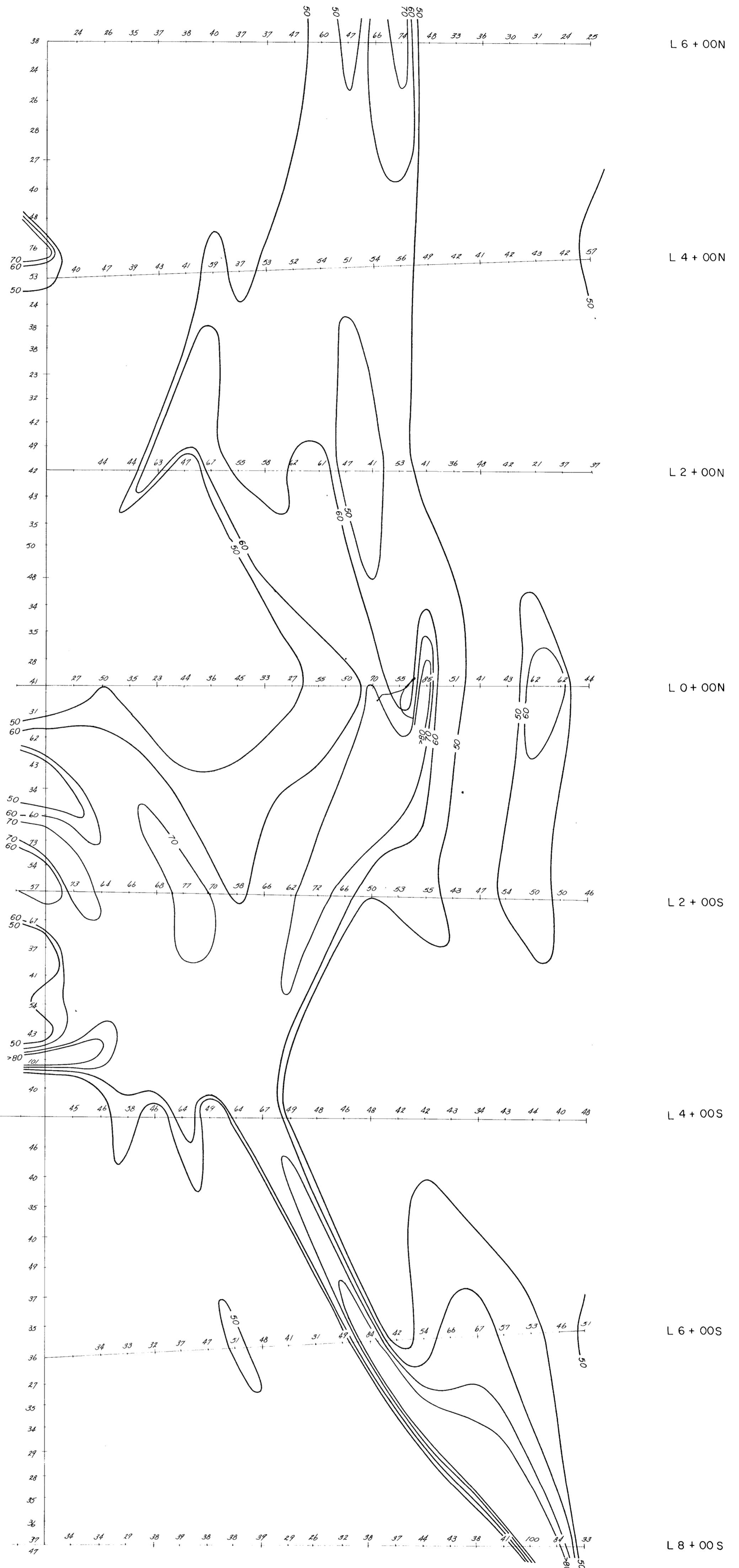
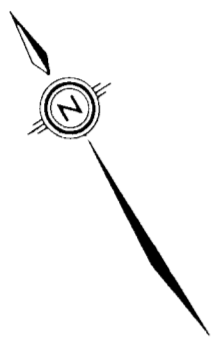
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ASSESSMENT REPORT

**11,552**

Contour intervals: 200, 300, 400, 500, 1000

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REX SILVER MINES LTD	
M GRID - MID CLAIMS	
SOIL GEOCHEMISTRY Ag (ppb)	
DATE AUGUST, 1983	NTS 82 F/6
PROJECT BC - 83 - 2	MAPPED/ DRAWN BY C. AUSSANT
SCALE 1:2500	0 25 50 75 100 METRES
TAIGA CONSULTANTS LTD	MAP 5



3 + 00 W

2 + 00 W

1 + 00 W

BL 00

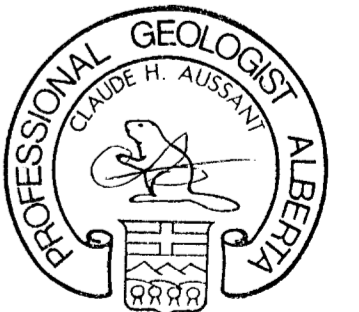
1 + 00 E

2 + 00 E

3 + 00 E

4 + 00 E

5 + 00 E



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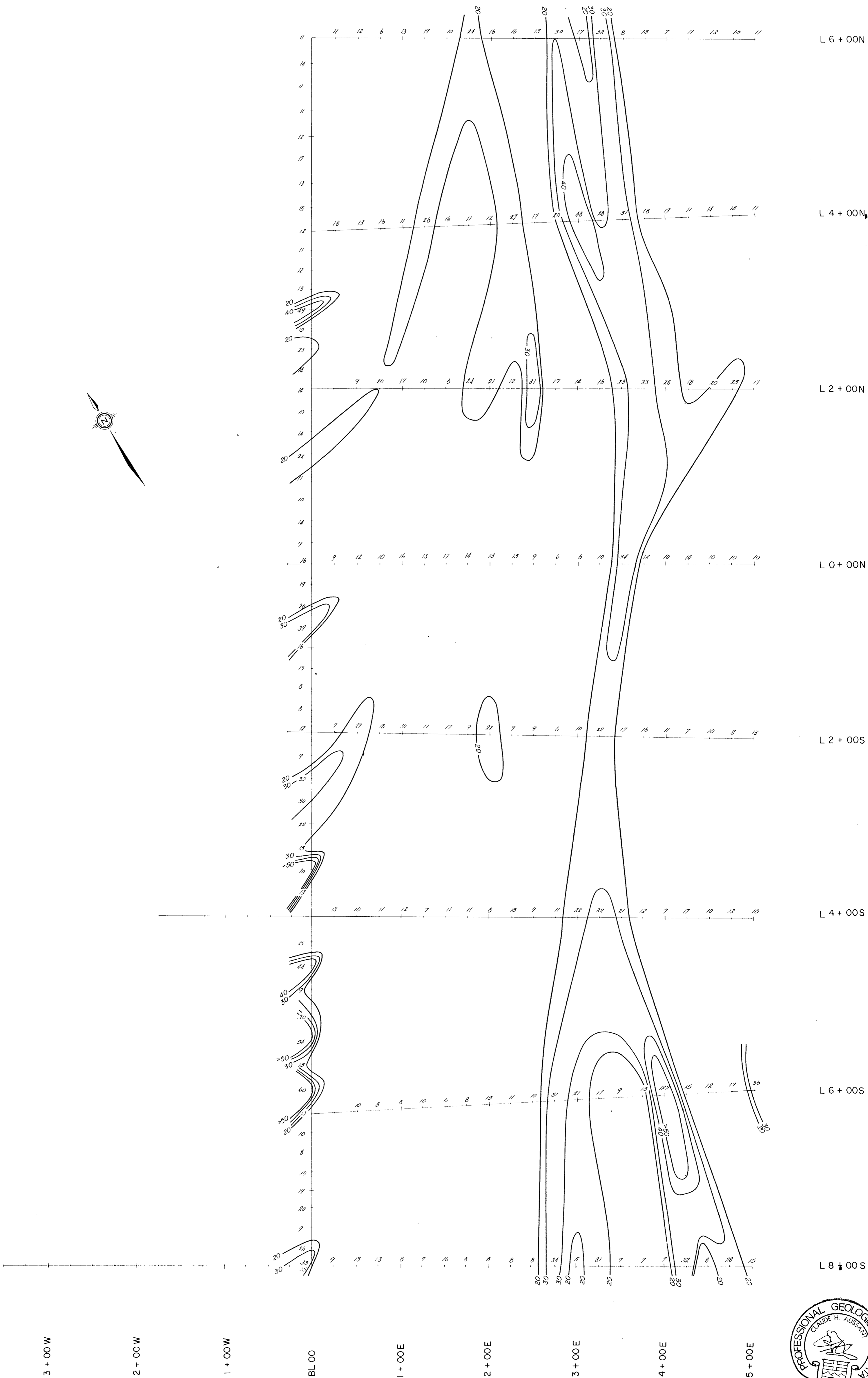
11,552

Contour intervals: 50, 60, 70, >80

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REX SILVER MINES LTD	
M GRID - MID CLAIMS	
SOIL GEOCHEMISTRY Cu (ppm)	
DATE AUGUST, 1983	NTS 82 F/6
PROJECT BC - 83 - 2	MAPPED/ DRAWN BY C. AUSSANT
SCALE 1:2500	0 25 50 75 100 METRES
TAIGA CONSULTANTS LTD	MAP 6

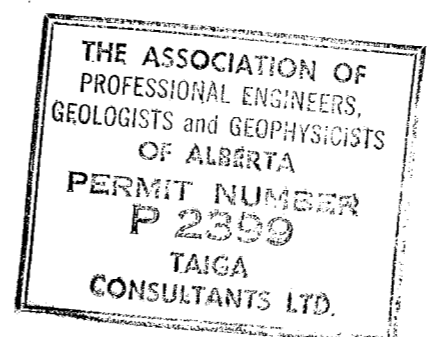




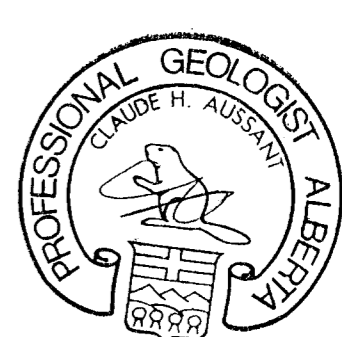
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**11,552**

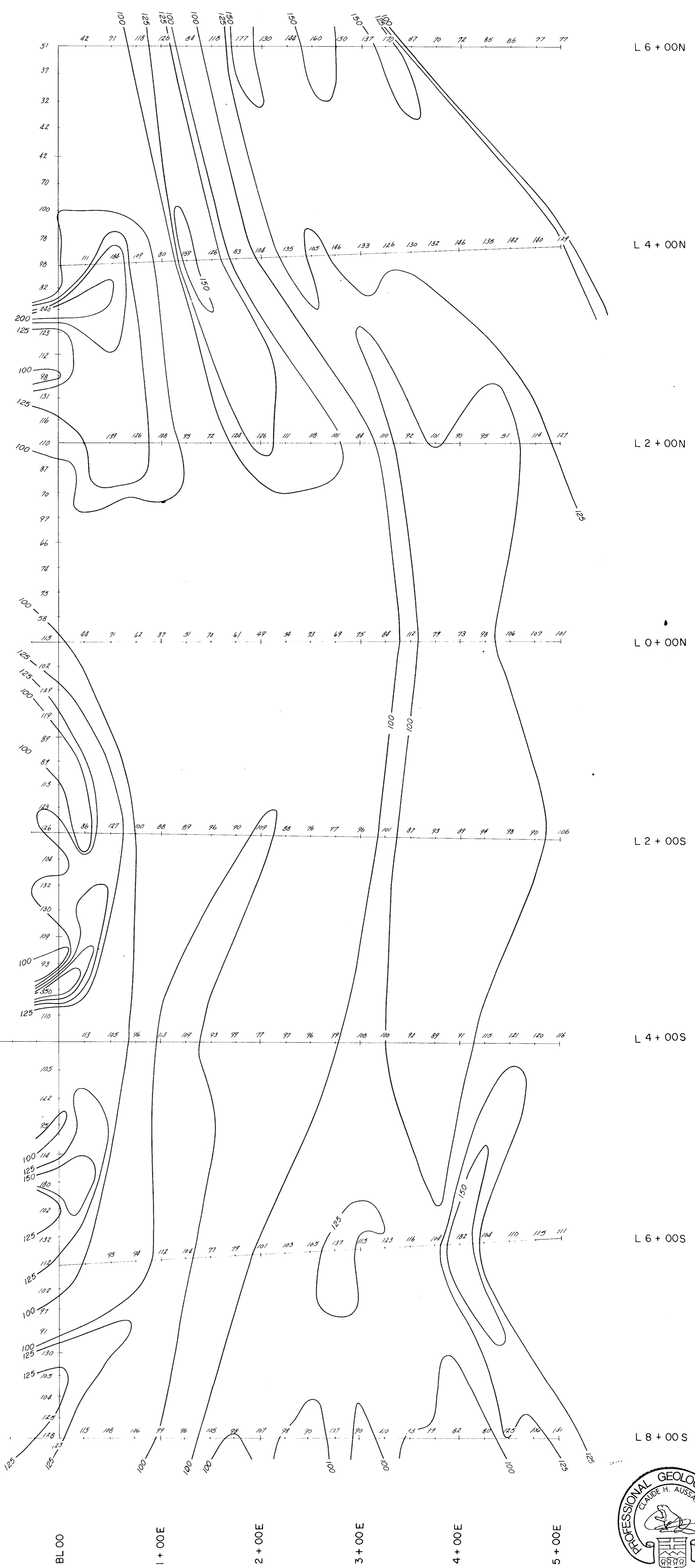
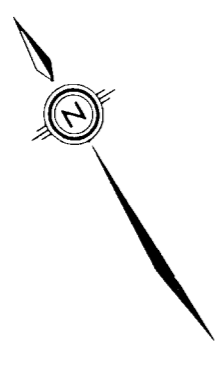
Contour intervals: 20,30,40,>50



<b>REX SILVER MINES LTD</b> <b>M GRID - MID CLAIMS</b> <b>SOIL GEOCHEMISTRY</b> <b>Pb (ppm)</b>	
DATE AUGUST, 1983	NTS 82 F/6
PROJECT BC - 83-2	MAPPED/ DRAWN BY C. AUSSANT
SCALE 1:2500	
<b>TAIGA CONSULTANTS LTD</b>	<b>MAP 7</b>





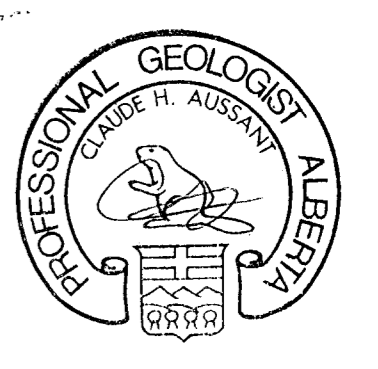


GEOLOGICAL BRANCH  
ASSESSMENT REPORT

11,552

Contour intervals: 100, 125, 150, 200, 300

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REX SILVER MINES LTD	
M GRID - MID CLAIMS	
SOIL GEOCHEMISTRY Zn (ppm)	
DATE AUGUST, 1983	NTS 82 F/6
PROJECT BC - 83 - 2	MAPPED/ DRAWN BY C. AUSSANT
SCALE 1:2500	0 25 50 75 100 METRES
TAIGA CONSULTANTS LTD	MAP 8