1/85

GEOLOGICAL, GEOCHEMICAL, AND GEOPHYSICAL REPORT

on the

BIRD 1 to 5 MINERAL CLAIMS

N.T.S. 82F/6

Latitude 49°26' North Longitude 117°29' West Nelson Mining Division British Columbia

for
REX SILVER MINES LTD.
Calgary, Alberta

Ъу

C. H. Aussant, P.Geol.

TAIGA CONSULTANTS LTD.

#100, 1300 - 8th Street S.W.
Calgary, Alberta T2R 1B2

OCTOBER 1983

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,554



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## CERTIFICATE

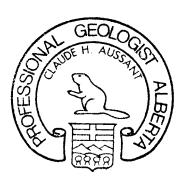
I, the undersigned, of the City of Calgary in the Province of Alberta, do hereby certify that:

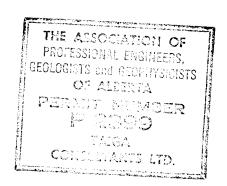
- 1. I am a consulting Geologist with the firm of Taiga Consultants Ltd. with offices at #100, 1300 8th St. S.W., Calgary, Alberta.
- 2. I am a graduate of the University of Calgary (B.Sc. Geology, 1976).
- 3. I have practised my profession for seven years since graduation.
- 4. I am a member in good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

Respectfully submitted,

October 1983

Claude H. Aussant, P.Geol.





## 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 Bird 1 to 5 mineral claims located 14 km west-southwest of Nelson, British Columbia.

During the period August 10 to 12, 1983, a total of 13 man days of reconnaissance and semi-reconnaissance grid-controlled exploration work 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 south of the Ophir-Good Hope occurrence, in an area in which numerous old trenches were located and where secondary copper mineralization was found along new road cuts.

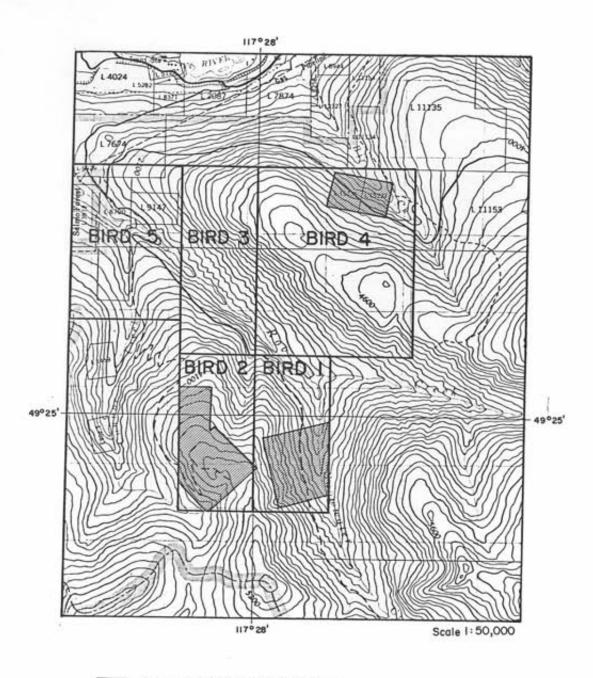
#### Location and Access

The location and access to the property are illustrated in Figure 1. The claim group is situated in southern British Columbia, 14 km west-southwest of Nelson, astride the placer gold producing reaches of Snowwater Creek, at approximately 49°26' Nort-latitude and 117°29' West longitude, in N.T.S. 82F/6, Nelson Mining Division.

Access to the property is via a gravelled logging road off B.C. Highway 3A, along the western arm of Kootenay Lake. Four-wheel-drive vehicles are not necessary but would be an asset.

## Property and Ownership

The property consists of five mineral claims, the Bird 1 to 5, 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 Bird Claims due to pre-existing mineral claims in good standing

Figure 1
PROPERTY LOCATION MAP
BIRD I-5 CLAIMS

Claim Name	Size	No.of Units	Record Number	Date of Record
Bird 1	2 x 4	8	3005	]
Bird 2	2 x 4	8	3006	
Bird 3	2 x 5	10	3007	March 25, 1983
Bird 4	5 x 4	20	3008	
Bird 5	4 x 3	12	3009	ل
	(1	58 unit ,450 hect		

The Bird 1, 2, and 4 mineral claims encompass pre-existing mineral claims which are presently in good standing. These areas have been excluded from the Bird 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 pointed peaks.

The claims themselves are situated near the northwestern portion of the range, astride Rover and Snowwater Creeks, and are underlain by a metamorphic assemblage of schists and gneisses. Granitic rocks of the Nelson Batholith occur directly south of the claim group.

The country is rugged but sub-alpine in character with predominantly V-shaped stream-eroded valleys. The topography of the area has been considerably influenced by Cordilleran glaciation with evidence of the glaciation, in the form of transported material and erratics, found every-

where. A heterogeneous boulder drift forms 30 m (100') banks at about 850 m (2800') elevation on Bird Creek. No continuous terraces border Kootenay River, but extensive alluvial deposits occur in the vicinity of Tagham and old fans mark the mouths of larger tributary creeks. Parts of Nelson are built on deltas of Cottonwood and Anderson Creeks. A drift veneer mantles the greater part of the area, supporting a thick growth of timber and bush. The movement of the glacial ice sheet has been recorded by many measurements of glacial striae and a few roches moutonée. 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 at higher elevations.

Much of the claim group is overburden covered, and overlies the steep slopes of Bird, Rover, and Snowwater Creeks. Exposures are remarkably poor considering the relief and steepness of these slopes. The exposures are usually small in area, confined to road cuts, tops of ridges, and along the trough-like creeks which drain the property. Elevations within the claim group range from 670 m (2200') along the lower reaches of Rover Creek, steadily rising to 1680 m (5500') in the southernmost portion of the property.

At one time, the area was heavily forested with white pine, Douglas fir, spruce, hemlock, and cedar, but forest fires and logging operations have for the most part obliterated any stands of large trees. Consequently, the claims are largely covered by a secondary growth of small timber and bush.

The climate of the area is pleasant with moderate winters and fairly hot summers. 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 (\$\tilde{K}JAY\$), 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 (\$\textit{IJEV}\$). Towards the north, the Archibald Formation - Ymir Group displays increasing proportions of argillaceous and calcareous rocks resembling 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. These rocks lie on the western limb of a structurally complex synclinorium which is the principal structural feature of the Rossland Group in the map-area.

A large body of dioritic rocks, termed pseudodiorite, straddles
Kootenay River west of Tagham bridge. The pseudodiorite appears to be
concordant with bedded rocks and nowhere shows crosscutting relationships.
This pseudodiorite is cut by late Jurassic Nelson granodiorite and is thus,
with little doubt, Jurassic.

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 show sharp contacts and distinct crosscutting relationships to the folded rocks of the region. Faults have probably been instrumental in controlling the emplacement of this large central batholithic wedge as well as the small peripheral bodies.

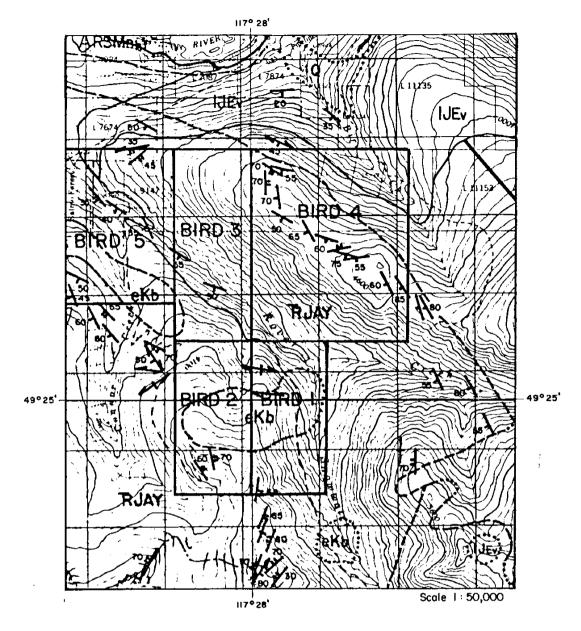
The most common granitic rock type in the area is a massive, coarsely jointed, grey, medium-crystalline granodiorite, but variations range all the way from a true granite to quartz diorite. Radiometric ages of the Nelson Intrusives indicate a Late Jurassic age, with possible plutonic activity extending into the Early Cretaceous.

Numerous dykes of syenite porphyry, granite porphyry, quartz porphyry, lamprophyre, and aplite 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.

Small bodies of biotite monzonite are scattered throughout the area. These are part of the Coryell Intrusions ( $e^{7}c$ ) of Middle Eocene age.

Considering the severity of 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 from many of the mines in the area. It can only be concluded that post-intrusive faulting has been limited to small-scale local movements.

Metamorphism increases northward in the map-area. Greenschist facies is noted toward the south. In the north, metasomatic processes have apparently converted volcanic rocks of the Elise Formation into pseudodiorite and limestone of the Ymir Group into marble. The regional geology is depicted on Figure 2. Table I summarizes the geological succession of the area.



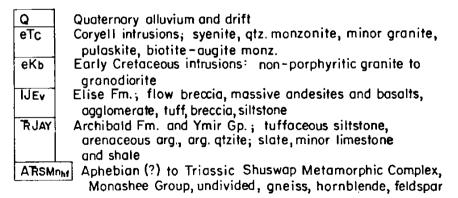


Figure 2

ERA	PERIOD OR EPOCH		GROUP OR FORMATION	MAP SYMBOL	LITHOLOGY	THICKNES		
	QUATERNARY				Till, sand, gravel, sitt			
		Coryell	Intrusions	еТс	Syenite, quartz monzonite; minor granite, palaskite, and biotite-augite monzonite			
័ក្ត					INTRUSIVE CONTACT			
CENOZOIC		Marron	Formation	EM	Augite and/or hornbiende and/or biotite andesite; trachyandesite	900+		
า	EOCENE		RE	LATIONSHIP U	NKNOWN, BUT MAY BE FEEDER TO MARRON ANDESITE FLOWS			
i	Middle	Map-uni	it Ti	Ti	Hornbiende-feldspar and hornblende porphyrys			
				CONFOR	MARLE(?) CONTACT WITH MARRON FORMATION			
-		Kerile F	River Formation	EKR	Tuffac eous arkose	100+		
			RE	LATIONSHIP U	NKNOWN; UNCONFORMABLE ON HALL FORMATION			
	CRETACEOUS Upp <del>er</del>	Sophie A	doubtain Formation	uKsm	Coarse conglomerate with minor interbeds of siltstone and arenaceous argillite	100+		
1			REI	LATIONSHIP U	NKNOWN; UNCONFORMABLE ON ELISE FORMATION			
1		Map-uni	t Kopp	Корр	Quartz-feldspar porphyry			
	JURASSIC AND/		REL	LATIONSHIP UN	NKNOWN; INTRUSIVE INTO ULTRAMAFIC INTRUSIONS			
	OR CRETACEOUS	Neison I	ntrusions	JN	Granodiorite; minor quartz diorite, and diorite			
			REL	ATIONSHIP CO	ONTRADICTORY; SEEMS TO BE INTRUSIVE			
MESOZOIC		Ressland	Monzonite	JNMZ	Biotite-hornblende-augite monzonite; mainly medium grained			
ESO					INTRUSIVE RELATIONSHIP			
Σ		,	Hall Formation	lm3hs	Black, soft carbonaceous shale, buff to brown argillaceous sandstone; some siltstone and minor greywacke	300+		
			CON	CONFORMABLE(?) CONTACT				
	JURASSIC Lower and Middle		Elise Formation	13ev	Flow breccia, massive andesites and basalts, agglomerate, tuff, breccia; black, laminated siltstone (IJes); augite porphyry (IJei)	2,150- 3,000		
•		Group	· •		TATED CONTACT; UNCONFORMABLE ON MOUNT ROBERTS			
			Archibald Formation	RJAY	Black, hard, brittle, laminated siltstone, commonly tuffaceous, and arenaceous argillite	900		
	į		INTRUSIVE RELATIO	NSHIP WITH RO	DSSLAND GROUP, BUT MAY BE COLD INTRUSION .			
		Ultramaf.	ic Intrusions	MPum	Serpentinite; some dunite			
,	PENNSYLVANIAN(?)				INTRUSIVE CONTACT			
		Mount Ro	berts Formation	MPMR	Black siltstone and argillaceous quartzite, slate, greywacke, chert, pebble conglomerate, lava flows; limestone (Pmrl); paragneiss (Pmrgn)	1,200- 1,500		
				l	RELATIONSHIP UNKNOWN			
ي	CARBONIFEROUS(?)	Map unit (	Cs	MPM	Black argillite, slate, phyllite, minor chert and greenstone; grey to black limestone (Csl)	2,100		
370					RELATIONSHIP UNKNOWN			
rALEOZOIC		Gneiss in Pluton	Bonning ton	ATRSM	Layered granitoid gneiss and amphibolite			
Ì					RELATIONSHIP UNKNOWN			
	AGE UNKNOWN	Porphyriti rocks	c leucogranitic	ATRSM Igd	Porphyritic leucogranite			
1	l				RELATIONSHIP UNKNOWN			
1	[	Castlegar	Gneiss	ATRSM	Augen gneiss			
ŀ	Ĺ		GRAI	DATIONAL COM				
		Trail Grei		ATRSM	Amphibolite and grey biotite gneiss, hornblende gneiss, mica schist, aplite, and pegmatite; mylonitized gneiss (pCtgnm)	1,200		

## PROPERTY GEOLOGY

The Bird 1 to 5 mineral claims are underlain by intercalated flows and metasediments of the Archibald Formation - Ymir Group, generally striking northwesterly and dipping southwesterly. Complex subsidiary structures are probably present on this western limb of the synclinorium which forms the major structural feature of the Rossland Group in the Bonnington and the Ymir map-areas.

These rocks have been metamorphosed to an assemblage of brown quartz biotite schist, green and white banded quartz biotite schist, greenish banded biotite quartz feldspar gneiss, and granite gneiss.

Several small areas of granodiorite of the Nelson Batholith (originally referred to as the Bonnington Complex) intrude these sediments. The rocks of the Archibald Formation - Ymir Group are probably quite thin within the claim group, the degree of metamorphism related to the proximity of the underlying batholithic rocks.

The northeastern corner of the claims is underlain by augite porphyry flows, breccias, and tuffs of the Elise Formation.

The property geology is illustrated on Figure 2 and on the accompanying Geology Map (1) depicting the work completed on the property.

## ECONOMIC GEOLOGY

A number of old workings are present in the vicinity of the claims and at least one of these, located along the lower part of Rover (Snowwater) Creek has been acquired (in the vicinity of the placer leases). Very little is known (i.e., documented in the existing literature) about these workings. The Ophir - Good Hope and the Whitewater properties, however, provide a positive indication of the potential of the property. These two are described briefly below.

## Ophir - Good Hope

Workings at this former producer consist of three adits presently covered by two Crown-granted mineral claims enclosed within the southern part of the Bird group. The zones of interest are easterly striking "fissures" hosted by quartz-mica and quartz-mica-chlorite schists, which exhibit foliations parallel to the quartz veins. The "veins" are bands and lenses of quartz interbanded with pyritic and siliceous schist together reaching widths of up to three feet. Pyrite and chalcopyrite occur in the quartz and free gold is present in oxidized sections of the mineralized zones. Samples collected over narrow widths (2" to 10"), taken from the footwall vein in the lowermost or No.3 adit, reported assays of 1.8 oz/ton Au, 2.62 oz/ton Ag, and 1% Cu. Production to 1944 consisted of 50 tons which yielded 89 ounces of gold and 80 ounces of silver.

## Whitewater

The Whitewater (Columbia, Snowwater) former producer is situated approximately 2 km southeast of the southeastern corner of the Bird group. Initial work at this property delineated a quartz vein with an attitude of N40 $^{\rm O}$ E/60 $^{\rm O}$ SE. Values were evidently erratic with some of the better values reported as follows:

Width	Au (oz/ton)	Ag (oz/ton)
66"	0.54	0.7
50"	0.29	1.0
32"	4.08	3.6
30"	0.05	0.8
float	0.37	3.6
float	7.06	37.6
float	0.15	1.7
grab (ore bin)	0.90	0.9
misc. float	3.76	16.3

Considerable effort has been expended in trying to locate the source of the high-grade pyritic quartz float which has a fairly well-defined trend towards the northwest through an overburden-covered area. The source could possibly lie within the Bird claims.

## EXPLORATION APPROACH - 1983 FIELD PROGRAM

In order to evaluate the property and to set the stage for future exploration, 13 man days of reconnaissance exploration, which included reconnaissance mapping, prospecting, and stream sediment sampling, as well as a wide-spaced reconnaissance grid, were conducted on the property.

The grid (designated as the "B" Grid) is situated immediately south of the Ophir - Good Hope occurrence on the northeastern portion of the property. Grid lines, spaced 200 m apart, were soil sampled, and a ground VLF-EM survey was completed at 25 m station intervals. The grid consisted of 1,400 m of base line and 8 flag-and-compass lines totalling 4.9 km. The logging road which follows Bird Creek was used as the grid base line.

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 4.9 line km of flag-and-compass cross lines and 1.4 line km of base line was placed over an area immediately to the south of the Ophir-Good Hope occurrence to cover an area in which numerous old trenches and secondary copper mineralization was found.

A total of 197 soil samples were collected and forwarded to TerraMin Research Labs Ltd. in Calgary for analysis of 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.

When contoured, weak geochemical anomalies trending easterly to northeasterly were outlined for each of the elements. A very good correspondence exists between the silver and copper geochemical anomalies. Within these anomalous zones, copper values ranged up to 410 ppm but were generally between 50 and 70 ppm. Silver values ranged up to 1900 ppb. Lead trends were very weakly defined with values ranging between 20 and 30 ppm; only two sites returned values of over 100 ppm. Higher zinc values tended to be concentrated within the southwestern portion of the grid, with a background of 250 to 300 ppm, containing areas of over 1000 ppm. The remainder of the grid returned zinc values of less than 200 ppm, generally less than 150 ppm.

Gold values, on the whole, were very low, delineating very weak easterly to northeasterly trending zones. Only three sample sites returned results greater than 100 ppb.

## 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.

No conductors were delineated by this survey.

## PROSPECTING, GEOLOGICAL MAPPING, AND STREAM SEDIMENT SAMPLING

Geological mapping of the property was undertaken coincidentally with prospecting and stream sediment sampling. The accompanying geology map (1) illustrates the property geology, prospecting, traverses, and locations of outcrop and samples.

Prospecting of the property located numerous old trenches in the vicinity of the reconnaissance grid, as well as one trench along the lower reaches of Connor Creek. In all cases, the trenches followed siliceous shears and quartz veining. Grab samples were collected from the trenches and forwarded to TerraMin Research Labs Ltd. in Calgary to be assayed for gold, silver, copper, lead, and zinc. Sample descriptions and assay results are presented in Appendix A.

Weak malachite and azurite mineralization was found in a road cut located along the northern boundary of the claim group. The mineralization coated fracture surfaces within a metamorphosed assemblage of silt-stones and quartzite. These sediments have been metamorphosed to an assemblage of quartz biotite gneisses. Relict sedimentary features are easily recognizable. Grab samples collected returned assay results upto 0.24 oz/ton Ag and 0.45% Cu. Sample descriptions and assay results are present in Appendix A.

During prospecting traverses conducted on the property, silt samples were collected from any streams encountered. Sample CA-72 returned 160 ppb gold. However, this sample was collected from Rover Creek which is known to contain placer deposits. Nevertheless, this area should be re-examined. All the other samples returned negligible results.

## CONCLUSIONS AND RECOMMENDATIONS

Thirteen man days were spent exploring the Bird claim group which is underlain by sedimentary and volcanic rocks of the Archibald Formation - Ymir Group, metamorphosed to an assemblage of schists and gneisses. Several small granodiorite plugs of the Nelson Batholith intrude these sediments. A number of large quartz veins and numerous old trenches were found on the property. Weak malachite mineralization within a sheared zone was found along the northern boundary of the claims, and heavily pyritized argillites were found near the southern boundary of the claims. Grab samples collected from the malachite mineralized aone returned assay results of up to 0.24/ton Ag and 0.45% Cu.

A total of 4.9 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 south of the Ophir-Good Hope occurrence.

No VLF-EM conductive zones were delineated by the survey. Geochemical results outlined a series of weak easterly to northeasterly trending zones for each of the elements with good correspondence existing between silver and copper. Gold values on the whole were very low, only three samples returning results greater than 100 ppb. These areas should be re-examined as well as the silver/copper trends which were delineated.

Further work of a recommaissance nature is warranted. Exploration should consist of additional prospecting, geological mapping, and lithogeochemical sampling of the property to delineate favourable geological strata. The areas mentioned above (i.e., the anomalous gold soil sample site and the silver/copper trend, delineated by the geochemical survey) should be examined. The malachite mineralized area, the pyritized argillites, and any of the quartz veining found should be prospected, mapped and re-sampled.

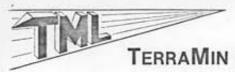
# APPENDIX A

Sample Descriptions  $\quad \text{and} \quad$  Certificates of Analysis

## SAMPLE DESCRIPTIONS

- AF-83-57 Quartz veining in a medium grey micaceous schistose metasediment. Sample collected from a small trench 6' long trending 110°.
- AF-83-58 Quartz veining in a light grey quartz-biotite gneiss. Relic sedimentary structures easily recognizable. Sample collected from a trench, trending 030°, 150 feet long.
- "B" Grid
  L1+75W 0+00 Quartz veining in a sheared green-and-white banded quartzbiotite schist; minor disseminated pyrite within the quartz.
- BR-1 Quartz veining in a quartz-biotite gneiss.
- BR-6 Well banded quartz-biotite gneiss, diss pyrite. Relic sedimentary features easily recognizable. Weak malachite and azurite staining along fracture surfaces. Pyrite and chalcopyrite disseminated throughout the gneiss. Foliation striking 150° dipping 90°; jointing 90°,60°S; 150°,56°NW; 03°,44°E; 110°,60°N. Mineralized zone is approximately 2' wide and 10-15' long, trending 140°. Lateral extent is unknown.
- BR-7 Quartz veining in a quartz-biotite gneiss (BR-6), weak malachite mineralization along the edge of the vein.
- MO-83-195 Sheared, rusty weathering well banded chloritic quartz feldspar gneiss, disseminated with pyrite; epidote alteration.
- MO-83-196 Greenish banded chloritic quartz feldspar gneiss, well banded, epidote alteration. Relic sedimentary features easily recognizable. Beds of white quartzite present containing crystals of magnetite (appearance very similar to BR-6), numerous narrow 1" quartz stringers striking 024°,60°E dip.
- MO-83-207 Buff-coloured, rusty weathering very fine-grained quartzite; gneissic banding (weakly metamorphosed, changing to a quartz feldspar gneiss), massive white quartz veining, brecciation along the edge of the vein. Veining approximately 6" wide, striking 136°, dipping 40°SW. Jointing 030°,45°SE; 107°,85°SW; 043°,80°SE; foliation 004°, 30°E.
- CA-70 Reddish brown, thin bedded micaceous meta-argillite (quartz biotite gneiss), diss with pyrite. Bedding 130°, 60°W; jointing 084°, 30°S.
- CA-71 1'-2' wide quartz vein, striking 040°, dipping 22°E, rusty stained; narrow 2" wide quartz vein, striking 120°, dipping 24°N cuts the main vein. The quartz veining is in a granite gneiss. Shallow adit 10' deep, 6' wide had previously been dug along the quartz veining.

CA-72	(wallrock at CA-71 location); granite gneiss
CA-78	Massive white quartz vein at least 1' wide, striking 031°, dipping vertically. Found in the middle of a logging road. Country rock is a fine- to medium-grained granodiorite.
CA-79	Purple rusty weathering meta-argillite, weak gneissic banding, heavily disseminated with pyrite.
CA-80	Very rusty, pyritic, carbonaceous meta-argillite and pyritic quartzite, banded.



# TERRAMIN RESEARCH LABS LTD.

Rock Samples

# ANALYTICAL REPORT

Job # 83-325

Taiga Consultants

Date Nov.9, 1983

Client Project BC-83-2

Page 1/3

Sample No.		Au	Ag	Cu	Pb	Zn	
		ppb	ppb	ppm	ppm	ppm	
BIRD CLAIMS					4		
AF-83	3-57	18	380	19	1360	25	
	58	8	250	52	3	50	
BF	R- 1	6	150	15	-1	6	
	6	36	8200/0-24	4500	58	49	
	7	34	3800/0.11	//) 890	8	30	1
CA	A-70	16	, 230	25	6	58	
	71	2	- 40	11	-1	14	
	72	54	230	82	-1	91	
	78	4	40	3	-1	12	
	79	8	120	28	10	122	
	80	70		63	2	70	
MO-83-	195	2	1000 (0.030	-/7)181	-1	21	
	196	2	90	13	-1	15	
	207	-2	50	3	1	38	
B Grid L 1+7	5 W 0+00	2	60	18	-1	9	



# TERRAMIN RESEARCH LABS LTD.

"B" Grid

Soil Samples

# **ANALYTICAL REPORT**

Job # 83-239

Taiga Consultants

Date Sept.23.1983

Client Project BC-83-2

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Samp	le No.	Au	Ag	Cu	Pb	Zn	
		ppb	ppb	ppm	ppm	ppm	
"B" L 14 W	0+00 S	2	270	124	10	153	
	0+25	84	70 ·	93	16	113	
	0+50	4	290	22	8	123	
	0+75	6	70	138	14	130	
	1+25	20	480	53	4	87	
	1+50	-2	480	45	6	109	!
	1+75	-2	310	76	5	96	•
	2+00	4	300	47	8	175	
	2+25	4	310	44	14	370	
	2+50	2	370	42	75	580	
	2+75	-2	180	32	18	600	
	3+00	-2	130	46	22	280	
	3+25	6	130	32	40	300	-
	3+50	22	190	42	24	300	
	3+75	22	340	65	160	710	
	4+00	2	450	37	35	440	
	4+25	-2	440	21	25	206	
	4+50	-2	200	79	11	300	
	4+75	-2	160	64	11	360	
	5+00	-2	520	52	19	850	
	5+25	-2	330	23	14	710	
	5+50	-2	320	29	18	810	
	5+75	-2	380	27	14	200	
	6+00	-2	160	24	13	205	
L 12 W	0+00 S	4	490	44	12	114	



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Client Project BC-83-2

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Sam	iple No.	Au	Ag	Cu	Pb	Zn	
		ppb	ppb	ppm	ppm	ppm	
"B" L 12 W	0+25 S	-2	170	39	9	114	
	0+50	4	420 -	50	15	230	
	0+75	-2	170	48	10	97	
	1+00	14	120	113	21	79	
	1+25	-2	210	28	7	64	
	1+50	2	320	29	25	103	1
	1+75	2	470	32	7	97	*
	2+00	4	900	55	5	86	
	2+25	24	300	290	5	95	
	2+50	18	330	26	10	184	
	2+75	6	310	37	17	390	
	3+00	6	590	26	20	600	
	3+25	-2	450	34	22	290	
	3+50	4	500	47	42	320	
	3+75	6	450	40	24	208	
	4+00	2	1900	52	35	510	
	4+25	-2	490	33	38	400	
	4+50	-2	390	39	37	340	
	4+75	4	330	28	16	103	
	5+00	2	410	26	14	300	
	5+25	2	420	26	19	420	
	5+50	22	130	26	13	250	
	5+75	24	220	34	17	470	
	6+00	-2	160	22	17	230	
L 10 W	0+25 S	-2	410	17	11	78	



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Client Project BC-83-2

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Sam	ple <b>No</b> .	Au	Ag	Cu	Pb	Zn	
		ppb	ppb	ppm	ppm	ppm	
B" L 10 W	0+50 S	4	640	21	17	120	
	0+75	8	370 .	37	14	92	
	1+00	2	310	30	9	61	
	1+25	-2	460	44	30	90	
	1+50	6	240	76	18	72	
	1+75	2	500	67	21	75	i
	2+00	2	430	21	11	75	į.
	2+25	4	510	28	14	101	
	2+50	26	220	116	16	105	
	2+75	6	240	22	13	320	
	3+00	14	300	52	15	240	
	3+25	2	360	23	44	370	
	3+50	-2	270	33	16	186	
	3+75	-2	260	19	26	216	
	4+00	4	280	38	12	206	
	4+25	-2	320	52	23	410	
	4+50	-2	1030	71	18	310	
	4+75	-2	270	71	24	310	
	5+00	2	300	68	23	380	
	5+25	-2	820	159	35	1940	
	5+50	-2	240	42	25	420	
	5+75	2	180	83	33	1360	
	6+00	-2	480	70	33	1480	
r 8 M	0+25 S	2	600	21	11	134	
	0+50	6	1000	43	6	71	



Job # 83-239

Date

Client Project BC-83-2

Page

Sample No.	Au	Ag	Cu	Pb	Zn	
	ppb	ppb	ppm	ppm	ppm	
"B" L 8 W 0+75 S	4	540	21	10	135	
1+00	2	510	33	14	93	
1+25	4	<b>47</b> 0	19	9	79	
1+50	4	360 .	26	11	87	
1+75	2	570	17	11	122	
2+00	26	280	28	12	128	f t
2+25	6	420	40	14	182	*
2+50	8	1200	68	9	410	
2+75	8	80	53	6	89	
3+00	12	410	23	10	163	
3+25	10	260	28	9	97	
3+50	8	640	21	12	145	
3+75	4	730	24	20	209	
4+00	2	600	24	13	206	
4+25	-2	290	89	12	300	
4+50	-2	240	32	14	300	
4+75	-2	170	65	9	260	
5+00	-2	220	89	8	280	
5+25	-2	310	44	14	770	
5+50	2	570	51	20	1400	
5+75	-2	300	. 36	23	700	
6+00	-2	710	57	24	440	
L 6 W 0+00 S	18	480	61	4	91	
0+25	-2	380	20	6	96	
0+50	-2	520	27	30	141	



Job # 83-239

Date

Client Project BC-83-2

Page

Sam	ple No.	Au	l Ag	Cu	Pb	Zn	
		ppb	ppb	ppm	ppm	ppm	
'B" L 6 W	0+75 S	2	350	19	15	140	
	1+00	16	210 .	38	6	87	
	1+25	16	1040	126	15	780	
	1+50	8	180	21	7	260	
	1+75	8	880	125	16	1260	
	2+00	6	340	19	21	370	i
	2+25	6	270	31	9	430	
	2+50	4	280	27	11	270	
	2+75	-2	680	21	21	210	
	3+00	2	160	30	40	181	
	3+25	-2	220	18	21	150	
	3+50	4	70	36	8	153	
	3+75	16	580	20	21	390	
	4+00	-2	720	20	21	490	
	4+25	8	580	30	20	250	
	4+50	2	790	17	10	320	
	4+75	-2	610	18	15	280	
	5+00	4	410	23	15	230	
L 4 W	2+00 N	12	270	32	16	146	
	1+75	4	440	21	9	141	
	1+50	244	320	27	17	137	
	1+25	12	150	54	12	125	
	1+00	4	700	28	15	153	
	0+75	2	640	16	30	151	
	0+50	2	390	22	25	170	



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Client Project BC-83-2

Page

Sample No.	Au	Ag	Cu	Pb	Zn	
	ppb	ppb	ppm	ppm	ppm	
"B" L 4 W 0+25 N	-2	710	20	18	123	
BL	24	100 ·	75	4	70	
0+25 S	2	730	21	12	138	
0+50	2	510	18	10	119	
0+75	-2	510	20	9	101	
1+00	-2	690	36	9	112	ſ
1+25	2	640	32	11	125	
1+50	6	40	79	6	75	
1+75	-2	480	22	34	124	
2+00	6	320	28	17	174	
2+25	10	230	56	41	187	
2+50	2	380	29	20	166	
2+75	-2	220	34	19	186	
3+00	2	340	42	11	157	
3+25	~2	410	19	11	380	
3+50	2	640	34	14	1840	
3+75	8	470	13	25	610	
4÷00	-2	940	12	12	370	
4+25	2	920	16	8	280	
4+50	-2	580	16	12	310	
4+75	-2	320	25	8	430	
5+00	-2	640	25	28	215	
L 2 W 2+00 N	8	510	50	103	134	
1+75	14	110	42	16	103	
1+50	-2	420	20	31	173	



Job # 83-239

Date

Client Project BC-83-2

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5	Sample No.	Au	Ag	Cu	Pb	Zn	
		ppb	ppb	ppm	ppm	ppm	
'B" L 2	W 1+25 N	4	470	23	9	135	
	1+00	-2	300 -	37	38	157	
	0+75	2	320	38	8	134	
	0+50	2	720	119	14	117	
	0+25	2	220	57	38	120	
	$_{ m BL}$	14	260	20	7	92	1
	0+25 S	6	250	21	10	81	
	0+50	-2	360	68	8	90	
	0+75	2	440	410	71	135	
	1+00	-2	440	41	18	137	
	1+25	-2	270	54	8	72	
	1+50	18	150	44	48	108	
	1+75	~2	260	350	13	105	
	2+00	8	290	48	16	89	
	2+25	2	230	20	12	130	
	2+50	-2	200	36	36	125	
	2+75	-2	350	25	26	126	
	3+00	-2	340	21	17	136	
	3+25	14	180	41	8	130	
	3+50	-2	360	19	10	180	
	3+75	10	280	26	11	206	
	4+00	-2	260	77	19	270	
BL	2+00 N	2	390	46	20	94	
	1+75	2	510	29	22	198	
	1+50	20	90	57	36	85	



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Client Project BC-83-2

Page

:	Sample No.		Ag	Cu	Pb	Zn	
		ppb	ppb	ppm	ppm	ppm	
'B" BL	1+25 N	32	40	69	14	75	
	1+00	10	20 .	60	22	67	
	0+75	6	310	26	20	89	
	0+50	20	240	39	32	95	
	0+25	8	480	24	11	80	
	0+00	-2	190	46	11	86	į.
	0+25 S	2	430	23	16	96	₹
	0+50	6	250	41	9	68	
	0+75	8	620	191	17	90	
	1+00	2	260	61	13	135	
	1+25	-2	460	56	18	135	
	1+50	8	130	48	11	80	
	1+75	8	150	147	11	69	
	2+00	8	200	59	14	77	
	2+25	32	520	21	14	70	
	2+50	4	360	39	17	87	
	2+75	276	410	35	11	78	
	3+00	4	500	31	12	160	
	3+25	4	270	36	20	152	
	3+50	4	640	15	22	96	
	3+75	184	660	18	12	88	
	4+00	12	790	26	13	109	



Stream Silt Samples

## **ANALYTICAL REPORT**

Job # 83-239

Date

Client Project BC-83-2

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Sample No.	Au	Ag	Cu	Pb	Zn	
	ppb	ppb	ppm	ppm	ppm	
"BIRD" BGSD #1	6	550	156	46	310	
#2_	4	550	250	72	240	
#3	8	560	67	47	240	`
#4	2	400	57	45	240	
<u>#5</u>	6	400	53	35	280	
#6	4	500	62	43	290	1
BGSD HC 7	12	130	56	8	86	
8	-2	110	58	10	93	
9	-2	140	49	12	73	
10	-2	140	51	17	90	
11	-2	260	63	36	90	
12	-2	180	48	30	122	
13	6	180	42	22	105	
14	8	130	56	33	181	
. 15	2	360	32	30	103	
16	8	280	35	240	114	
17	8	120	60	30	95	
18	4	260	71	24	87	
19	6	150	80	17	98	
20 A	4	140	75	17	97	
20 B	8	440	68	54	70	
21	2	280	73	20	93	
22	4	130	65	17	88	
DL-83-14 SS	8	90	38	14	113	
	8	80	30	7	86	



Job # 83-239

Date

Client Project BC-83-2

Page

0				· <u>-</u>	<del></del>	<b>-</b> "
Sample No.	Au	Ag	Cu	Pb	Zn	
	ppb	ppb	ppm	ppm	ppm	
"BIRD" DL-83-16 SS	22	90	29	9	78	<u> </u>
<u>17</u>	-2	50 ·	31	14	94	
18	4	50	28	10	79	
19	-2	40	27	9	77	
23	6	100	54	7	71	
24	10	80	54	6	75	ļ Ļ
25	4	80	50	4	68	
27	2	80	52	9	70	
28	-2	100	57	11	74	
29	2	80	50	9	70	
HC AF-03	-2	280	109	7	82	
03 (or 04?)	-2	130	95	3	77	
05	-2	180	86	2	68	
. 06	-2	130	87	8	76	
09	-2	120	70	6	67	
10	-2	200	78	12	76	
14	8	160	86	10	84	
15	2	120	78	5	75	
17	-2	160	87	2	76	
AC AF-04	2	190	101	3	80	
07	4	160	84	4	78	
08	4	160	88	3	74	
10	4	60	64	5	73	
11	-2	120	68	5	65	
12	8	40	75	2	87	

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Sample No.		Ag	Cu	Pb	$\mathbf{z}\mathbf{n}$	
	ppb	ppb	ppm	ppm	ppm	
83 28 S	-2	70	16	14	62	
29 S	4	40	20	20	80	
31 S (BIRD)?	6	70	35	7	98	
32 S	6	50	30	5	88	
						î !
			,			
Ì						
	83 28 S 29 S 31 S (BIRD)?	83 28 S -2 29 S 4 31 S (BIRD)? 6	83 28 S -2 70 29 S 4 40 31 S (BIRD)? 6 70 32 S 6 50	83 28 S	83 28 S	83 28 S



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Date

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



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Date

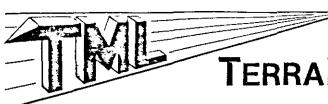
Client Project BC-83-2

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Sample No.	Au	Ag	Cu	Pb	Zn	
	ppb	ppb	ppm	ppm	ppm	
'CA" S-108	2	100	34	26	80	
109	8	120 ·	39	29	84	
110	2	100	38	21	86	
111	8	120	51	12	87	
112	8	120	45	21	88	
113	36	100	50	14	93	i
115	8	120	48	9	89	
116	4	160	49	10	86	
117	8	240	53	17	106	
TTW 18	2	90	16	12	60	
TT-M-30 S	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	
	}		•			

#### APPENDIX B

Analytical Techniques and Personnel

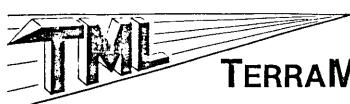


14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7 (403) 276-8668

#### SAMPLE PREPARATION

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

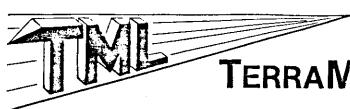
Rock or drill core samples are crushed to approximately 1/8" in a jaw crusher, riffled to obtain a representative sample, and pulverized to 100 mesh (180 micron particle size).



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 spectrophotemetry to determine the precious metals.



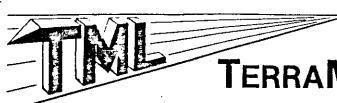
14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7 (403) 276-8668

#### 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.



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.

13 man days

#### PERSONNEL

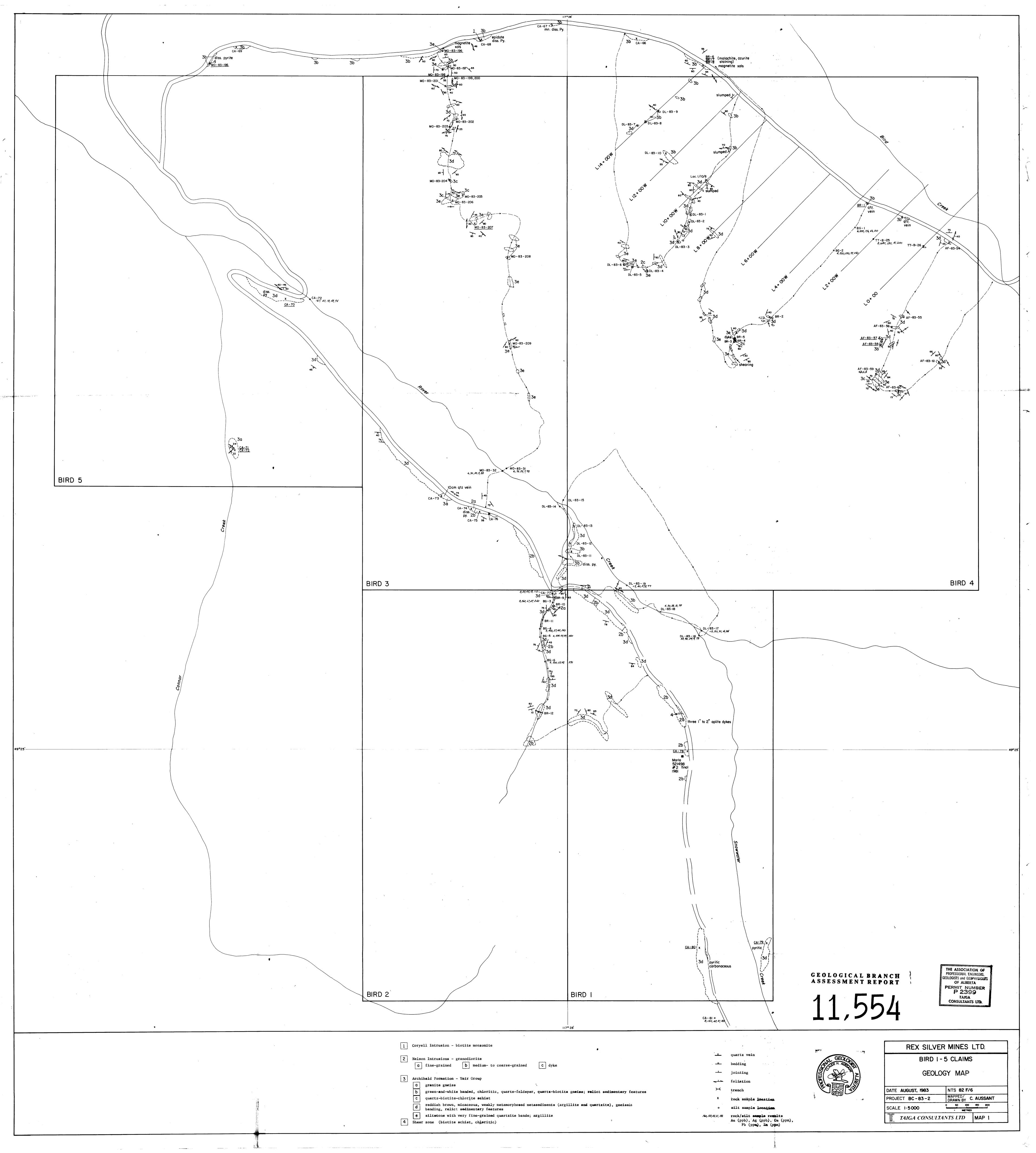
Claude H. Aussant, P.Geol. 31 Templebow Way N.E. Calgary, Alberta	Aug. 10	1 day
Megan O'Donnell 223 Trelawn Avenue Oakville, Ontario	Aug. 11	1 day
Tim Termuende Wildhorse Farm Fort Steele, B.C.	Aug. 10,11,12	3 days
Alex Francoeur 6132 Beaver Dam Way N.E. Calgary, Alberta	Aug. 10,11	2 days
Brenda Gregoire #201, 823 - 19th Ave. SW Calgary, Alberta	Aug. 10,11,12	3 days
D'Arcy Lincoln #201, 823 - 19th Ave. SW Calgary, Alberta	Aug. 10,11,12	3 days

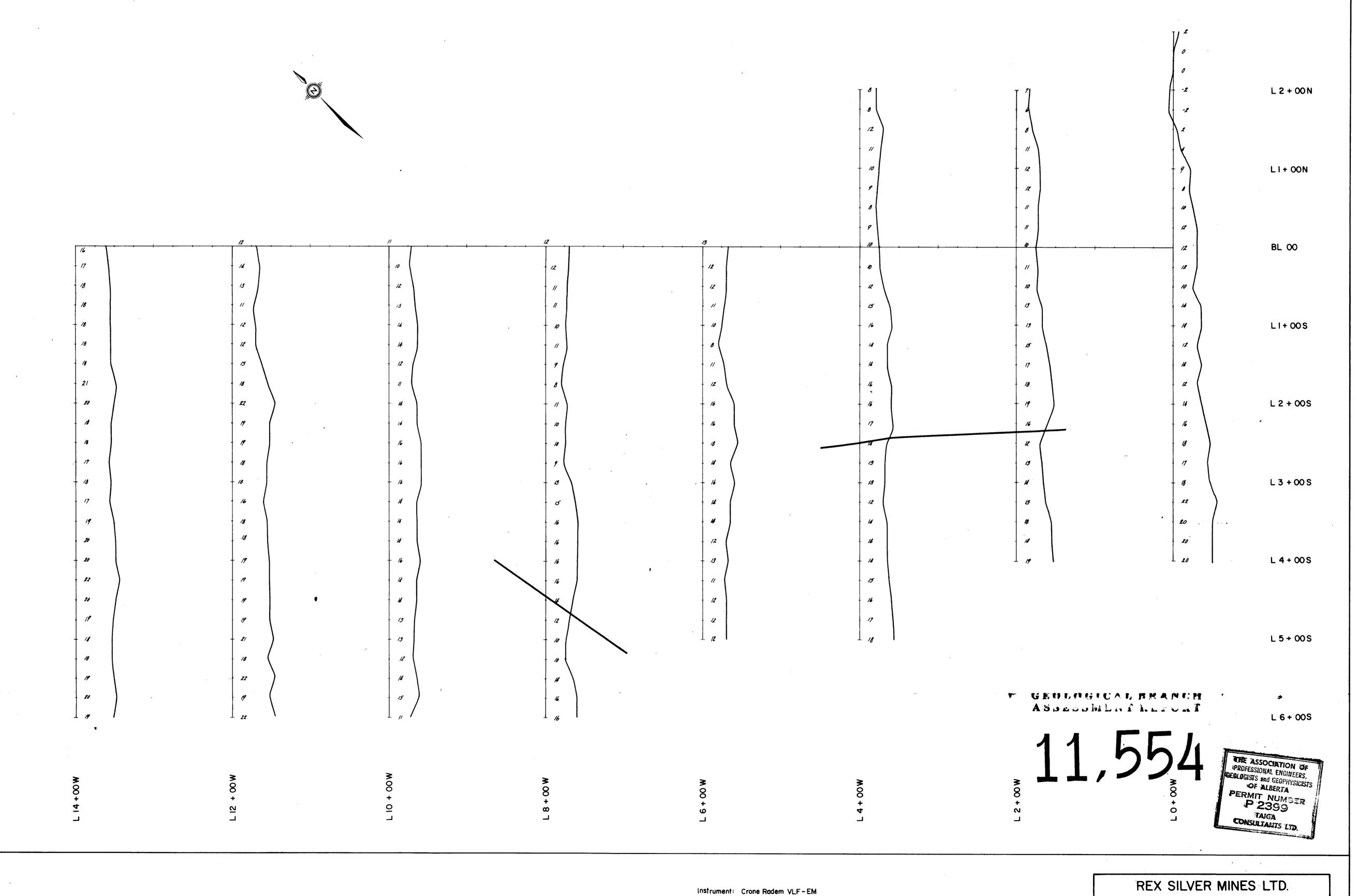
#### APPENDIX C

Summary of Expenditures

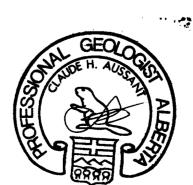
#### SUMMARY OF EXPENSES BIRD 1-5 Mineral Claims Nelson Mining Division BRITISH COLUMBIA

PRE-FIELD PREPARATION			240.00
Field Personnel Project Geologist Senior Prospector Junior Prospector	1 day @\$250 diem 3 days @\$175 diem 9 days @\$165 diem	250.00 525.00 1,485.00	2,260.00
Transportation and Travel	<u>L</u>		
Fuel & Travel expense		388.44*	
4 x 4 Truck rental		150.00	
3/4 ton van	1 day @\$45 diem	45.00	583.44
Equipment Rental VLF-EM 16	3 days @\$15 diem	45.00	45.00
Field Accommodations Food & Lodging Disposable supplies	13 man days @\$40 diem	520.00 66.08*	586.08
Geochemical Analysis  197 soil samples analy Au, Ag, Cu, Pb, 2  15 Rock samples analy Au, Ag, Cu, Pb, Zi 18 Silt samples analy Au, Ag, Cu, Pb, Zi	In @9.80 yzed for n @11.95 yzed for	1,930.60 179.25 176.40	2,286.25*
nu, ng, ou, rb, zi	1 63.00	1/0.40	2,200.25
Miscellaneous  Maps, publications, r  Telephone, courier, r	-	486.73 36.93	523.66*
Post-Field Compilation Report writing, data Drafting & secretaria		1,562.50 599.22	2,161.72
*Handling Charge on all t expendit	chird-party cures @12% of 3264.43		391.73
		TOTAL	\$ 9,077.88





Operator: T. Termuende Station: Seattle, Wash. Profile scale: Icm = 10° Horizontal scale: 1:2500 South dip: positive North dip: negative Conductor axis \_\_\_\_

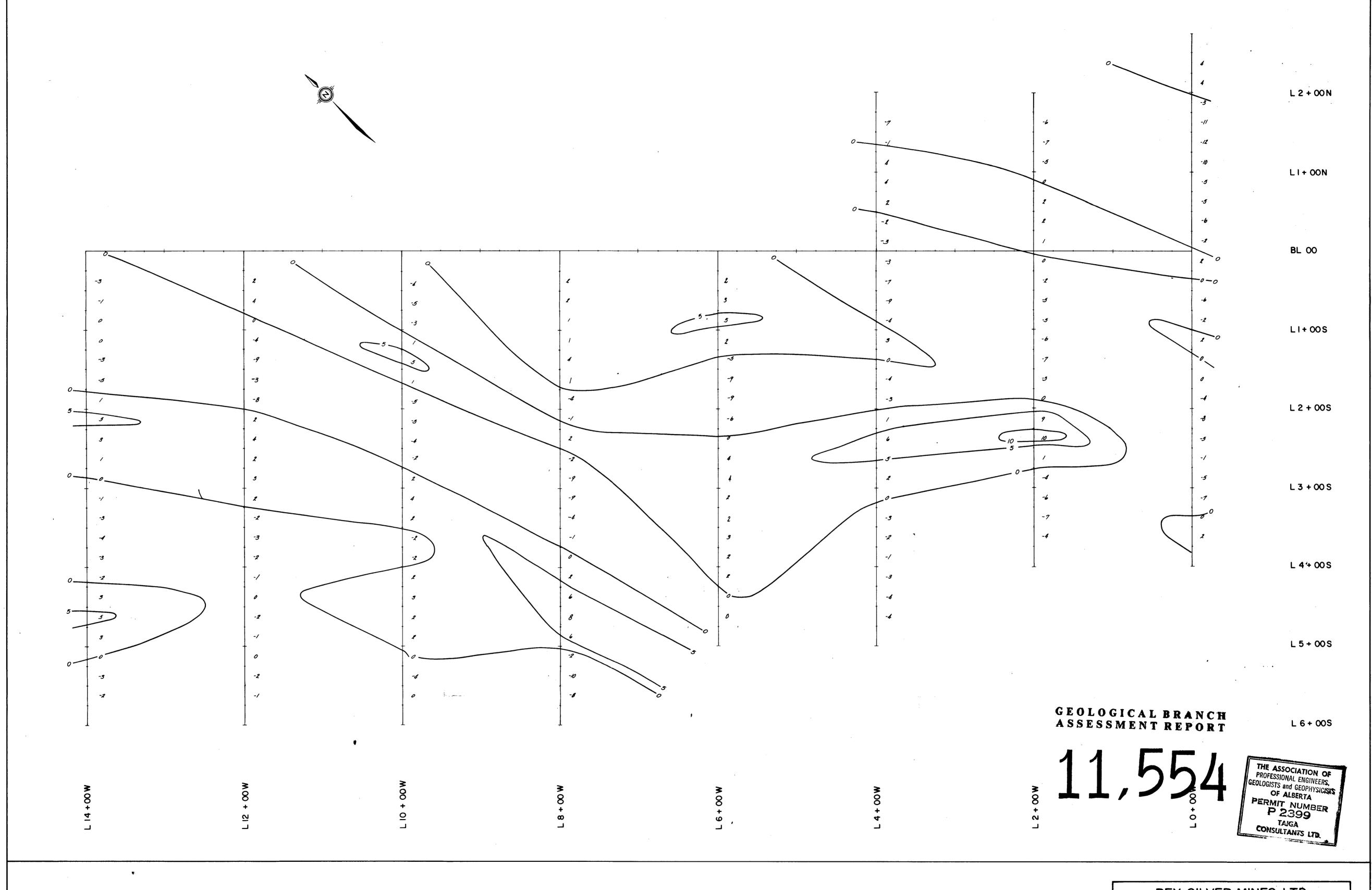


## REX SILVER MINES LTD.

B GRID - BIRD CLAIMS

VLF - EM PROFILES

TAIGA CONSULTANTS LTD MAP 2	
SCALE 1:2500	0 25 50 78 100
PROJECT BC-83-2	MAPPED/ DRAWN BY C. AUSSANT
DATE AUGUST, 1983	NTS 82F/6

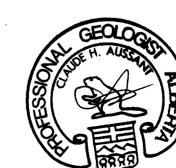


Instrument: Crone Radem VLF-EM

Operator: T. Termuende

Station: Seattle, Wash.

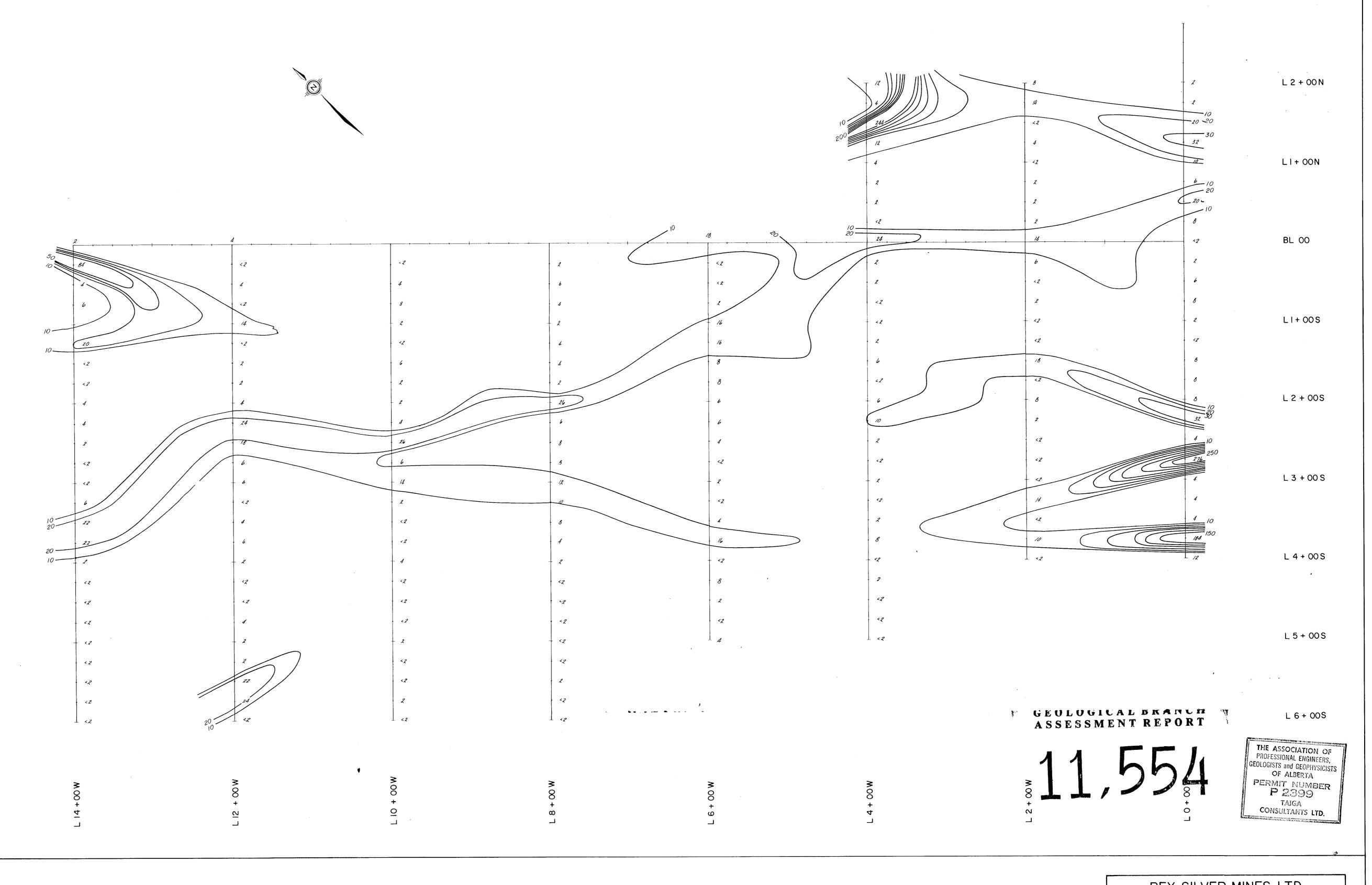
Contour interval: 5



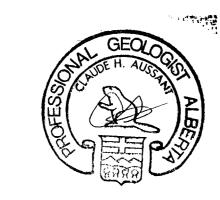
## REX SILVER MINES LTD.

B GRID - BIRD CLAIMS
FRASER FILTERED VLF-EM

SCALE 1.2300	METRES
SCALE 1:2500	0 25 50 75 100
PROJECT BC-83-2	MAPPED/ DRAWN BY C. AUSSANT
DATE AUGUST, 1983	NTS 82 F/6



Contour interval: 10, 20, 30, 50, 100, 150, 200, 250

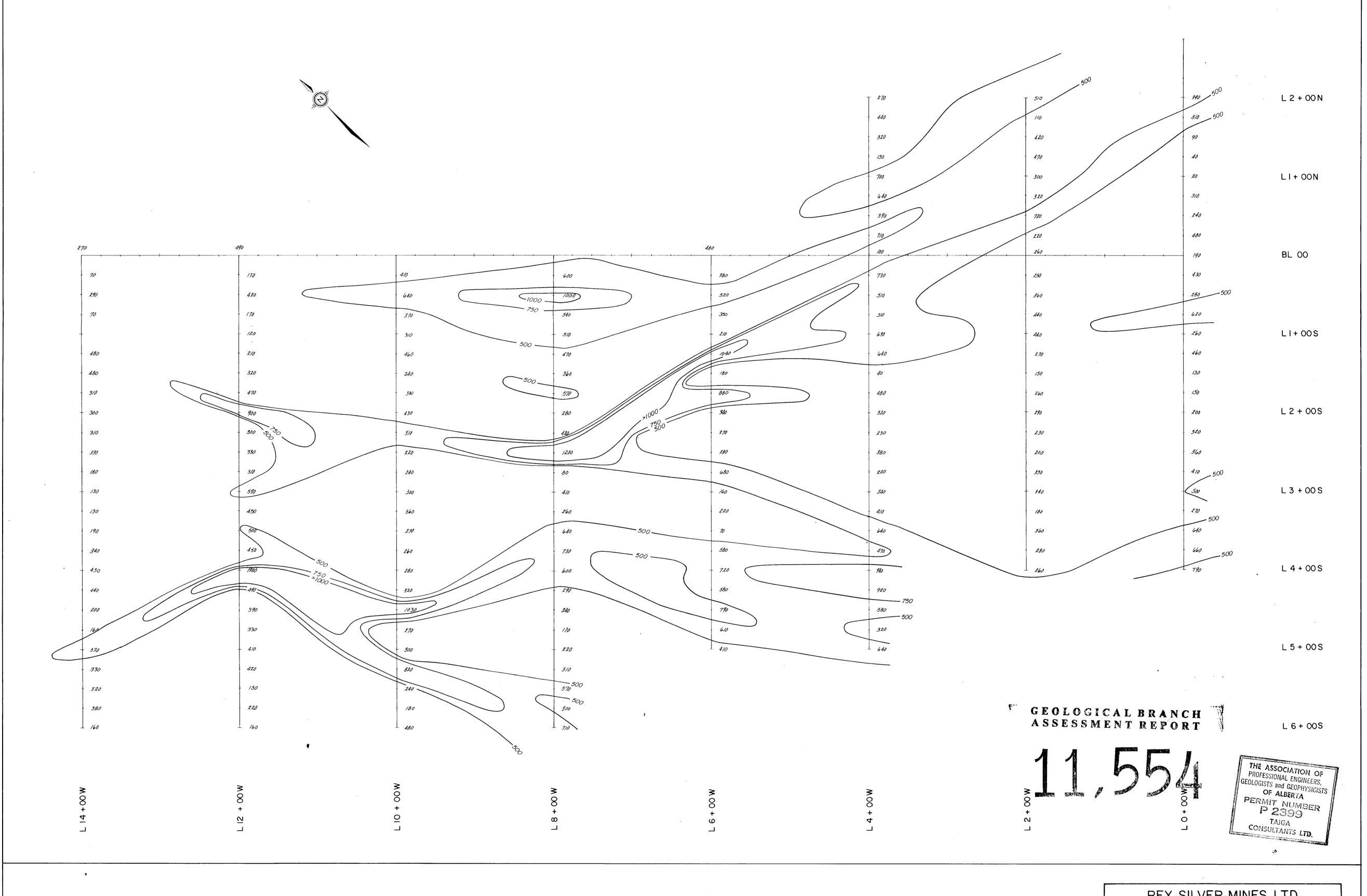


# REX SILVER MINES LTD.

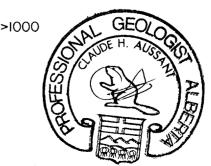
B GRID - BIRD CLAIMS

SOIL GEOCHEMISTRY Au (ppb)

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



Contour interval: 500, 750, >1000



# REX SILVER MINES LTD. B GRID - BIRD CLAIMS SOIL GEOCHEMISTRY

Ag (ppb)

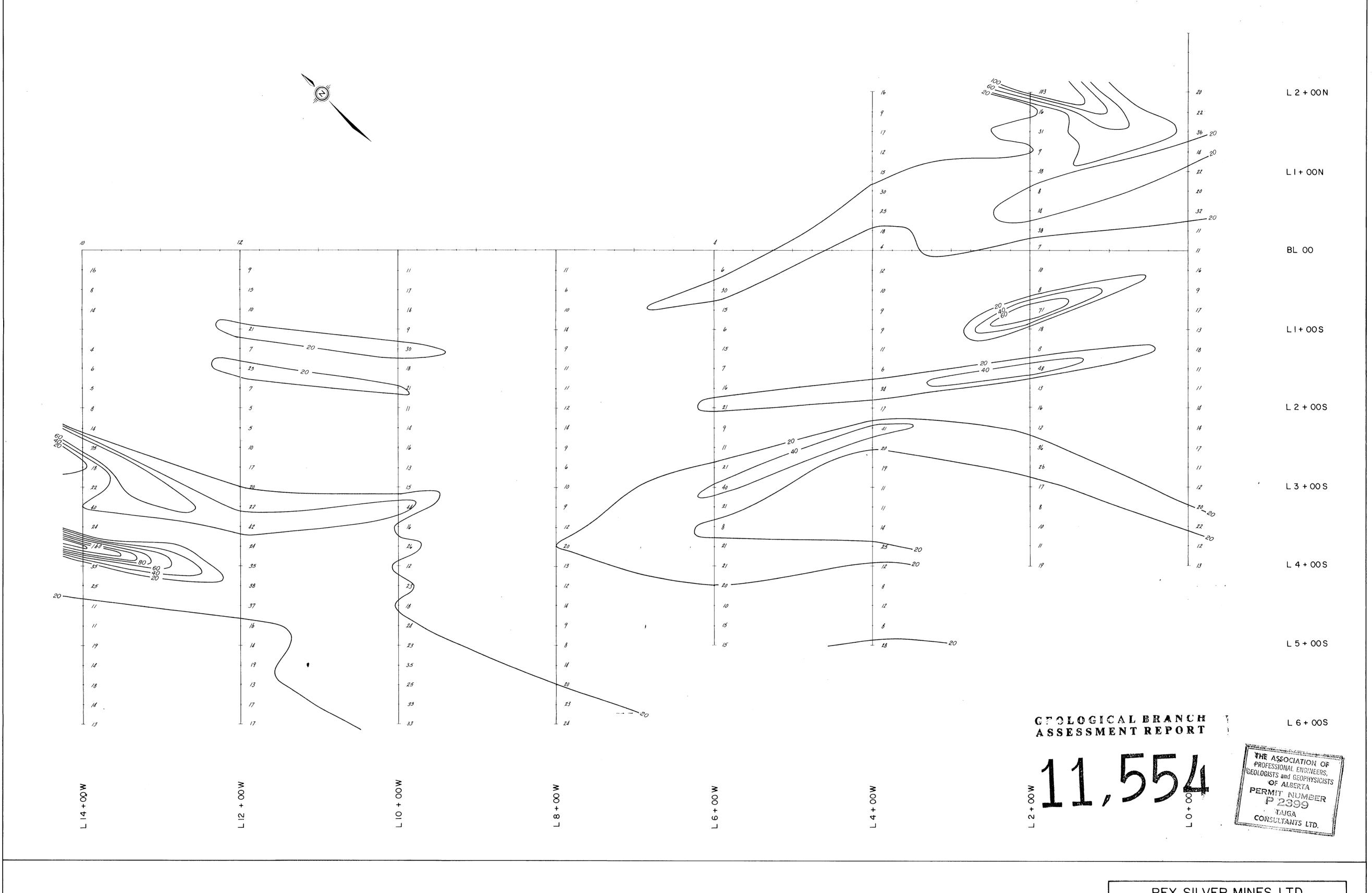
DATE AUGUST, 1983 NTS 82 F/6

PROJECT BC - 83 - 2 MAPPED/DRAWN BY C. AUSSANT

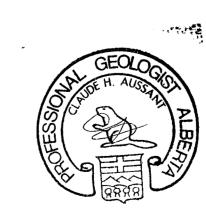
SCALE 1:2500 25 50 75 100

METRES

TAIGA CONSULTANTS LTD MAP 5



Contour interval: 20

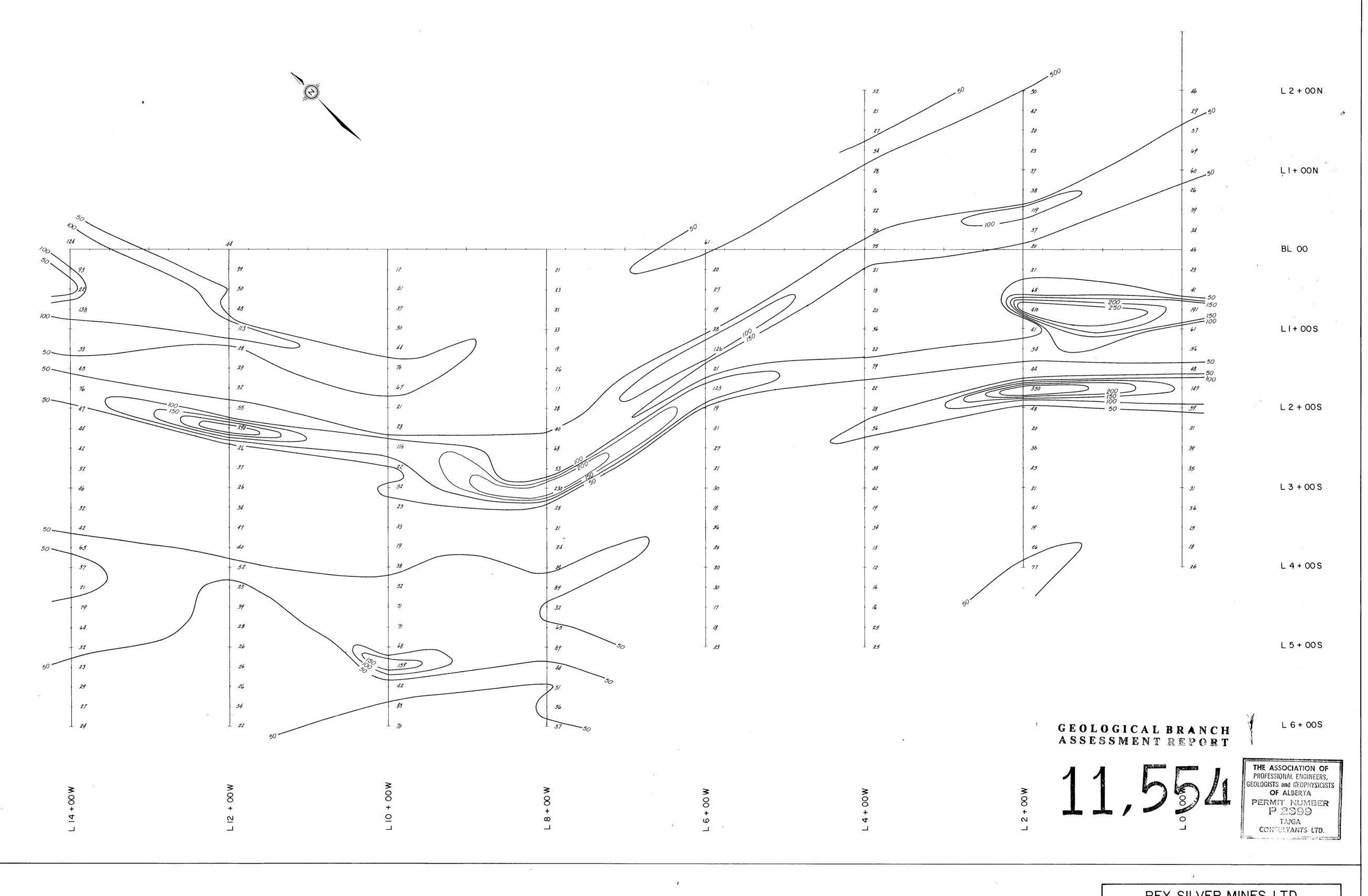


## REX SILVER MINES LTD.

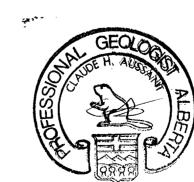
B GRID - BIRD CLAIMS

SOIL GEOCHEMISTRY Pb (ppm)

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



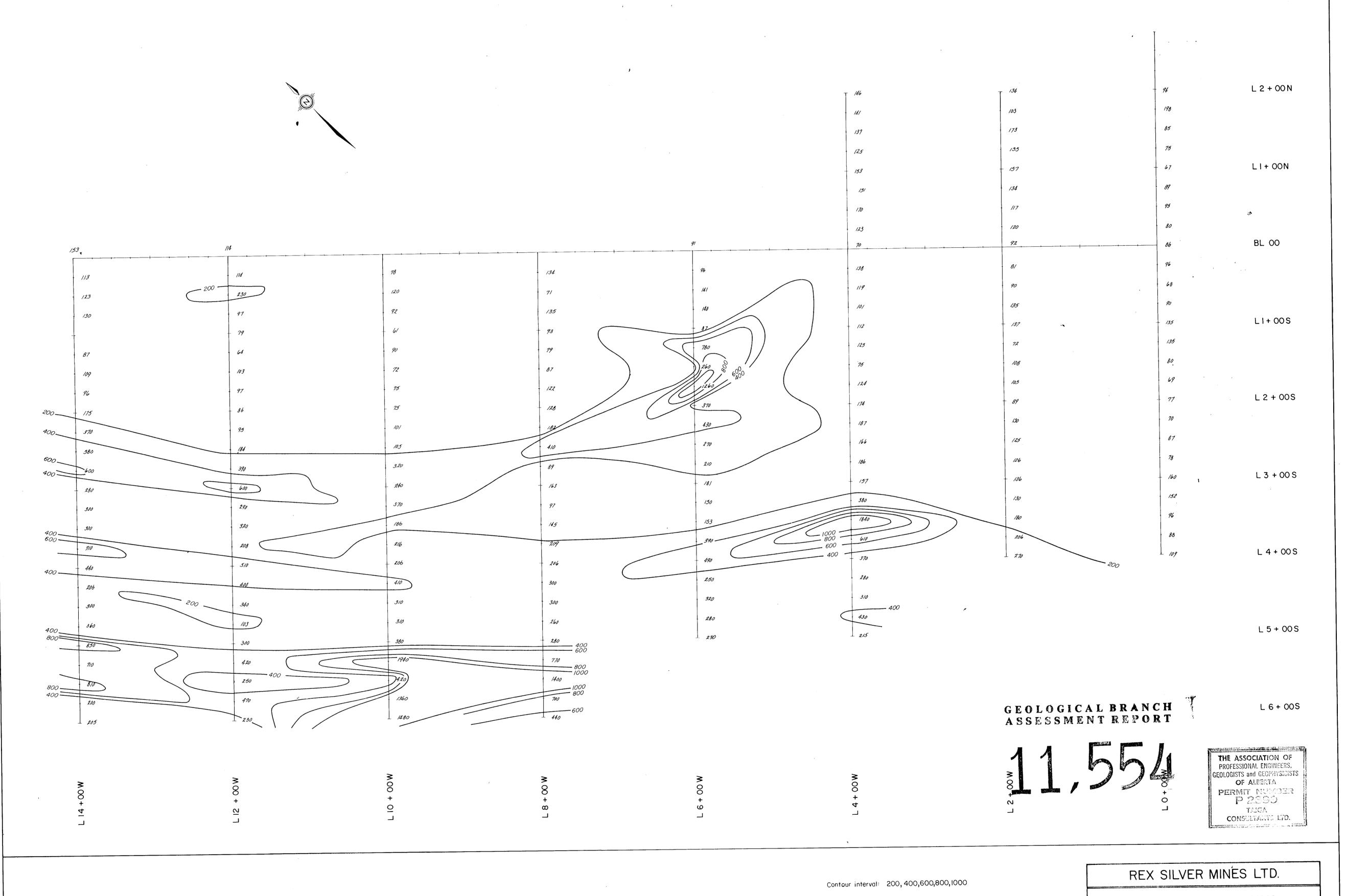
Contour interval: 50, 100, 150, 200,>250

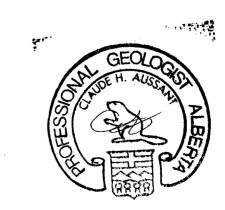


### REX SILVER MINES LTD.

B GRID - BIRD CLAIMS SOIL GEOCHEMISTRY Cu (ppm)

SCALE 1.2 JOU	METRES
SCALE 1:2500	0 25 50 75 100
PROJECT BC-83-2	MAPPED/ DRAWN BY C. AUSSANT
DATE AUGUST, 1983	NTS 82 F/6





B GRID - BIRD CLAIMS
SOIL GEOCHEMISTRY

Zn (ppm)

DATE AUGUST, 1983

PROJECT BC - 83 - 2

SCALE 1: 2500

NTS 82 F/6

MAPPED/
DRAWN BY

C. AUSSANT

O 25 50 75 100

METRES

TAIGA CONSULTANTS LTD MAP 8