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REPORT ON THE  
JOY 5 & 6 CLAIMS  
LIARD MINING DIVISION, BRITISH COLUMBIA

FOR

FLORIN RESOURCES INC.

and

CRIMSONSTAR RESOURCES LTD.

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GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,886

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## 1.0 SUMMARY

The primary focus of the 1990 field exploration program conducted on the Joy 5 and 6 mineral claims was to evaluate the structural lineaments located in the northwest corner of the Joy 5 claim, which were interpreted from orthographic photography, for economic mineral concentrations. A grid 1.5 kilometers long by 1.0 kilometers wide was established in this area, and geological mapping, soil sampling, a magnetometer survey, and a VLF-electromagnetic survey were conducted over the grid.

The remainder of the property was prospected and regionally mapped. Silt samples were taken where topography and silt concentrations permitted.

The magnetometer survey and geological mapping of the Joy Grid revealed a multiphase intrusive complex grading from granite through monzonite with possible syenite dyking, which was seen as float in the creeks.

The soil sampling coupled with thin section analysis revealed the monzonite body is host to rare earth metals at present of unknown grade or concentration. The anomalous rare earth metals content in soil samples requires further investigation

(ii)

to determine whether these minerals could provide an economic potential to the property.

It is proposed that during the 1991 field season, a more detailed exploration program be undertaken to determine the mineralogy of the rare earth metals, and to determine whether the overall grade of these metals in the rock is of economic significance.

## 2.0 INTRODUCTION

At the request of the Directors of Florin Resources Inc. and Crimsonstar Resources Ltd. the writers reviewed applicable geological reports on the area and on the property specifically. A program consisting of geological mapping, prospecting, geochemical and geophysical surveys was conducted on the property during the months of July and August 1990.

## 3.0 GEOGRAPHY

### 3.1 Location and Access

The JOY 5 & 6 claims lie within the NTS 104-B/10W map area, and are centred at latitude  $50^{\circ} 39'$  North and longitude  $130^{\circ} 52'$  West, in the western Iskut River Area within the eastern boundary of the Coast Range Mountains, (see Figures 1 and 2).

The Property is located approximately 110 air kilometres northwest of Stewart, B.C., 80 air kilometres east of Wrangell, Alaska, and 20 air kilometres east of the gravel air strip at Bronson Creek, B.C.

The property is accessible by air from Smithers, Terrace, Wrangell, or Stewart to the gravel air strip at Bronson Creek. From Bronson Creek to the property, it is necessary to travel via helicopter.

### 3.2 Topography

The topography on the property ranges from moderately flat to very steep, with elevations on the property ranging from 450 metres (1,500 feet) to 1,360 metres (4,500 feet) above sea level. Many of the creeks on the property cut

very steep gorges.

### 3.3 Climate

The climate is typical of the Coast Range physiographic region with annual precipitation in excess of 5 metres (16.5 feet). Temperatures range from + 25° - 40° Celsius.

### 3.4 Vegetation

The Joy 5 and 6 claims are situated in mountainous terrain. Lower slopes are covered with hemlock and spruce with an undergrowth of devils club and huckleberry. Dense slide alder growth covers open steep slopes with alpine vegetation found above treeline.

### 3.5 Water and Drainage

The northwest corner of the Joy 5 claims contains two small lakes, a small creek which runs north-south joins the two lakes. This creek is inferred to be structural controlled as it tends coincident with the lineaments as seen on the orthographic photos. The other major creek is McClymont creek which is on the eastern boundary of the Joy 6 claim and flows from the northwest to the southeast.

## 4.0 PROPERTY AND OWNERSHIP

The property consists of two contiguous claims totalling 40 units.

The claims are recorded at the British Columbia Ministry of Energy, Mines and Petroleum Resources as follows:

<u>Claim Name</u>	<u># of Units</u>	<u>Record Number</u>	<u>Record Date</u>	<u>Expiry Date</u>
Joy 5	20	3742	12/5/87	12/5/92
Joy 6	20	3743	12/5/87	12/5/92

The Joy 5 & 6 claims are registered in the name of Western Informational Services Ltd. The claims are optioned to Florin Resources Inc., whereby Florin Resources Inc. can acquire a 100% interest in the said claims by paying Western Informational Services Ltd. \$45,000.00, issuing them a total of 200,000 fully paid and non-assessable common shares of Florin Resources Ltd., and by incurring exploration expenditures on the Joy 5 & 6 claims of \$225,000.00

#### 5.0 HISTORY AND PREVIOUS WORK

The Iskut River area has been the subject of intense exploration activity during the past three years. Prior to 1987, there was only sporadic activity in the area.

The first recorded activity in the area was in the year 1907 when F.E. Bronson & Associates of Wrangell, Alaska staked nine claims on Bronson Creek. These claims are in the area of the Snip Project currently being developed by the Prime - Cominco joint venture.

In 1954, Hudson Bay Mining & Smelting located the Pickaxe showing on the slopes of Johnny Mountain. They performed limited exploration on the showing and subsequently allowed the claims to lapse. This showing is now part of the Skyline Reg property.

During the 1960's several airborne reconnaissance programs were conducted in the area with the intent of locating porphyry copper-molybdenum deposits. As a result of these programs several claims were staked by major mining



companies on Johnny Mountain and along Sulpherets Creek. These claims were investigated and subsequently allowed to lapse.

In 1969, Skyline Explorations Ltd. re-staked the Inel property. This property was investigated by Texas Gulf Inc. in 1974 for a potential porphyry copper deposit, and subsequently allowed to lapse.

Skyline Explorations Ltd. re-staked the Reg property in 1980, and in 1981 conducted a program of trenching along with a limited diamond drill program. In 1982, Skyline optioned the property to Placer Developments Ltd., which in turn formed a joint venture with Anaconda Canada Ltd. to explore the property. They explored the property during the 1982 - 1984 seasons. They did not choose to extend their option after the 1984 season, and the property reverted to Skyline. During the 1987 season, Skyline completed 13,655 (45,000 feet) metres of diamond drilling, 226 metres (750 feet) of underground raise development, and 552 metres (1,820 feet) of drifting on the property. This program confirmed the presence of a high grade gold deposit with good silver and copper values. The reported reserves were 1,087,875 tons grading 0.7 oz/ton Au, 1.0+ oz/ton Ag, and 1% Cu, with geologically possible reserves of 4,000,000 tons at similar grades. On the basis of these reserves Skyline constructed a mill capable of handling 500 tons per day, and subsequently went into production.

The success of the Skyline program prompted other mining companies, both major and junior, to begin exploration programs in the area. Notable successes within the general area of the Iskut River have been the discovery of the Snip deposit located at Bronson Creek, being developed by a Prime Resources - Cominco Joint Venture. They have reported reserves of 1,200,000 tons at 0.7 oz/ton gold and are currently proceeding with the construction of a mill capable of handling 500 tons per day while proceeding with the development of the underground mine.

## 6.0 GEOLOGY

### 6.1 Regional Geology

The following is excerpted directly from the "Report on the Joy 5 and 6 Mineral Claims" prepared by Sorbara Geological Consulting Ltd, February 16, 1990.

The Joy 5 & 6 claims lie within the western most part of the Intermontane Tectonic Belt. As a result of the proximity of this area to a regional tectonic boundary, geological relationships tend to be quite complex. The geology of this area has been studied by Kerr (1930, 1948), and by Grove (1986), and is represented in Geological Survey of Canada Maps 9-1957 and 1418A-1979.

The oldest rocks in the Iskut River area are complexly folded, metamorphosed schists and gneisses of probable mid-Paleozoic age. The metamorphism occurs within and adjacent to a plutonic system. The metamorphic rock is commonly overlain by a white to grey crystalline bioclastic limestone which is believed to belong to a Late Paleozoic sedimentary sequence that includes some minor greenstone units. This oceanic assemblage is part of the Stewart Complex, a tectonic unit which has been correlated with the Cache Creek Group.

The principal component of the Intermontane Tectonic Belt in the Iskut River area is an unconformable Mesozoic volcanic and sedimentary sequence. This volcano-sedimentary assemblage hosts the Stonehouse, Snip and Inel deposits. This was originally regarded as a Late Triassic sequence, relative with the time equivalent Stuhini Volcanics; a theory which is supported by the presence of *Monotis* fossils on the north slope of Snippaker Peak and to the west of Newmont Lake. Grove (1986), however, correlates this unit with the

### Middle Jurassic Unuk River Formation of the Stewart Complex.

On the north slopes of Johnny Mountain and Snippaker Peak, Paleozoic metasedimentary rocks are found to overlie the Mesozoic sequence. These apparently represent the upper plate of a regional, east-west trending thrust fault, which pushed up and over to the south in a manner similar to that of the King Salmon Thrust Fault.

In the Coast Crystalline Tectonic Belt, Paleozoic and Mesozoic sequences are commonly intruded by plutonic rocks of quartz monzonite to quartz diorite composition. These intrusions are Late Cretaceous to Early Tertiary in age. To the east of the main intrusive complex, smaller granitic plugs and stocks are prevalent. Porphyritic felsites of volcanic origin have been mapped by Souther (1971) in the More Creek area.

Quaternary flows and ash deposits of olivine basalt are the youngest rocks in the area. Hoodoo Mountain is underlain by these units, which also occur in parts of the valleys of the Iskut River and Snippaker Creek, due to dillational faults in which the amygdaloidal olivine basalt extruded into these valleys. (see Figure 3)

### 6.2 PROPERTY GEOLOGY

The Joy 5 and 6 claims are underlain by a multiphase felsic intrusive complex, in which the composition ranges from granite through quartz diorite to monzonite with indicated late phase intrusions of syenite.

The granitic unit underlies the southern, eastern and northeastern portions of the claim groups. It is a phaneritic, equigranular unit of text book compositional granite. Limited alteration was noted around secondary

fractures and minor quartz calcite veinlets and fracture fillings.

The eastern portion of the Joy 6 claim group which lies on the eastern side of McClymont creek is underlain by a phaneritic equigranular granodiorite which has been intruded by aphanitic mafic dykes which vary in width from 0.5 meter to 1.0 meter with limited strike length, up to 6 meters. They tend to pinch out fairly quickly along strike and have a strong magnetic signal. The most prominent alteration are epidote envelopes encompassing these dykes.

The western and northwestern portions of the Joy 5 claim is underlain by a multiphase felsic intrusive complex which grades from granite to monzonite as distinct and separate intrusive events; most probably controlled by major northeasterly trending structures.

Alteration was noted at the contacts of the intrusives, primarily potassic alteration. The alteration is intense at the monzonite-granite contact with decreasing intensity further from the contacts.

Within the monzonite body primarily between lines 2+00s and 5+00s trending northeasterly is an inferred syenite dyke, the phaneritic syenite was not seen in outcrop but occurs as float within the creek and 95% of all float in the creek is syenite and intense potassically altered syenite.

Contacts of the intrusive units (granite-monzonite, monzonite-syenite) were not seen due to overburden cover, therefore their nature, (chilled margins?) is unknown. (see Figure 4)

#### **7.0 1990 EXPLORATION PROGRAM**

Based on the favourable results obtained in the 1989 exploration program, it

was determined that further evaluation of the property was required.

A program was designed to test the potential of the strong linear structures interpreted from orthographic photography.

A grid with a north-south baseline of 1.5 kilometers was established on the northwest corner of the Joy 5 claim. Crosslines 1.0 kilometer in length (500 meters east and 500 meters west) were established. The separation of the crosslines was 100 meters. Stations were established on the crosslines every 25 meters. (see Figure 5)

The following surveys were conducted over the grid:

Geological Mapping

Soil Sampling

Magnetometer

VLF-Electromagnetometer

The remainder of the property was prospected and mapped on a regional scale with silt sediment samples taken where silt accumulation and topography permitted.

#### 7.1 GEOLOGICAL MAPPING

Due to the heavy overburden and dense undergrowth in the area of the grid, only limited geological mapping could be undertaken and still remain within the budget restrictions of the program. Outcrops which were seen within the limits of the grid conformed to the overall property geology. No noticeable deviations to the property geology were noted.

#### 7.2 GEOCHEMISTRY

The Joy Grid, which lies in the northwest corner of the Joy 5 claim was soil

sampled and rock sampled. A total of 337 soil samples were taken from the Joy Grid and analysed by Acme Analytical Laboratories of Vancouver, British Columbia.

The 337 soil and rock samples were analyzed by a 32 element ICP with Atomic Absorption finish for gold and silver.

The results of the 32 element ICP with emphasis on gold, silver and base metal concentrates were discouraging. No anomalous values were returned.

However, within the 32 element package the samples were analysed for zirconium and niobium. These two elements, which fall into the category of rare earth elements, returned anomalous values for all soil samples submitted. A 17 element rare earth package offered by Acme was performed on the soil samples with the intention of understanding and locating the source of the anomalous rare earths.

The highest returned values for the rare earth package appears to correlate with the irregular monzonite body discovered during mapping and interpretation of the magnetometer data. (see Figure 6)

### 7.3 PROPERTY GEOPHYSICS

The 1990 geophysical exploration program consisted of a VLF-electromagnetometer survey and a magnetometer survey, which investigated the subsurface areas underlying the Joy grid.

#### Magnetometer

The magnetometer survey was run using the GEM GSM-8 proton precession magnetometer as the portable field instrument while the recording base

station used the Scintrex proton precision magnetometer that records the diurnal variations in the earth's magnetic field every 2.5 minutes. Both the GEM GSM-8 portable model and the Scintrex recording base station have a sensitivity of 1 gamma.

The magnetic readings taken in the field were corrected for diurnal variations using the data recorded by the continuously recording base station. This is required, as the earth's magnetic field is not constant but fluctuates, These fluctuations are caused by external interference such as sun spot activity and can create large fluctuations in the range of a thousand gammas. A general rule in Cordilleran geology and geophysical interpretation is that a corrected anomalous value of the earth's magnetic field will be in the order of 200 gammas.

The magnetometer proved to be the most effective geophysical tool in interpreting the geology underlying the Joy Grid.

The magnetometer delineated, with a high level of confidence, the magnetic signals of the two principal rock units mapped. The medium grained granite had a magnetic signal from 57,500 gammas to 58,400 gammas. The monzonite showed a magnetic signal from 57,500 gammas to 57,050 gammas, the monzonite displayed, on average, a magnetic signal of 500 gammas lower than the granite. The contact between two units displayed a signal in the 57,500 gamma range.

The contact between the two units (geophysically interpreted and inferred) is a sharp irregular contact formed by the monzonite being injected subsequent to the granite. (see Figure 7)

## VLF Electromagnetometer

The VLF electromagnetometer survey incorporated a Sabre model 27 VLF-EM receiver. The Transmitter station used on the survey was Seattle, Washington which transmits @ 24.8 KHZ

A VLF-EM survey is designed to delineate sub-surface conductors. This is seen in conductivity contrasts in the earth which create secondary magnetic fields which produce a vertical component and changes in the field strength or amplitude.

It is the purpose of the VLF electromagnetometer to evaluate the conductive areas by measuring the parameters of the electromagnetic field.

The components the receiver measures is: (1) the dip angle of the resultant electromagnetic field and (2) the field strength of the horizontal and vertical components of the field.

In designing the program; the grid's baseline ran parallel to the direction of the lineament with the crosslines running perpendicular to the indicated trend.

For the most part the VLF-electromagnetometer displayed no clear trends. This is thought to be due to the multiple lineaments which produced a high static response generated by overlapping individual signals. (see Figure 7)

## 8.0 MINERALIZATION

Anomalous concentrations of metals returned from the 1990 field exploration season on the Joy 5 claim are those of the rare earth family; a group of



industrial metals which can form during the latest phase of a maturing granitic body. The development of an epi-granitic system can lead to the concentration of the rare earth metals.

Production from deposits of this type are hampered by inherent metallurgical problems. If these metals form within alumino-silicates, the deposits are rendered uneconomic unless the grade is very high. Most production occurs from the oxide minerals of rare earth metal family.

Discussions were held with D.L. Trueman, Ph.d., P.Eng., P.Geol. an associate of Keewatin Engineering Inc.. Dr. Trueman stated that in the maturation of epi-granitic systems, many of the rare earth metals can form as oxides. Two niobium minerals that can form in an epi-granitic system are pyrochlore and columbite. They both have essentially the same niobium oxide ratio but certain varying amounts of minor rare earths greatly affect their price. Pyrochlore and columbite on private contracts can return \$1.00/pound and \$4.50/pound respectively.

D. Taylor, P.Eng. was engaged to evaluate the economic potential of the rare earth's soil samples and his evaluation of deposit models and economics can be found in Appendix III.

## 9.0 DISCUSSION AND CONCLUSIONS

The anomalous concentrations of rare earth metals discovered during the 1990 field season requires further evaluation as to their origin and nature of emplacement.

The soil samples revealed anomalous levels of zirconium and niobium with high concentrations of most of the other rare earth metals. In addition, the

lighter elements, primarily the lanthanum series displays a marked concentration, principally cerium and praseodymium.

The association of the rare earths to a large monzonite mass which intruded a granitic host rock reflects the maturation of an epi-granitic system. This matches one of the known deposit models for rare earths.

As rare earth minerals, upon breaking down to their elemental constituents, are not known to be chemically mobile, plus the fact that the host rocks match a known model for rare earth deposition, one can draw the conclusion that the source of the rare earths is near at hand.

#### 10.0 RECOMMENDATIONS

The following exploration program is proposed for the 1991 field season to evaluate the economic potential of the rare earth metals found in the geochemical analysis of soil samples taken during the 1990 field season.

The program will consist of 8 days of field examination, with emphasis being placed on identifying rock types and the source of the degraded rare earth metals found in soil samples.

Rocks will be sent to C. Leitch, Ph.D of the Geological Survey of Canada for thin and polished section analysis to evaluate whether the host rocks contain rare earth minerals, and have economic potential.

## BUDGET 1991 EXPLORATION SEASON

Evaluation of the Joy 5 and Joy 6 claims for  
Economic Concentrations of Rare Earth Metals.

Mobilization and Demobilization		\$10,000
Personnel:		
Engineer	4 days @ \$400/day	1,600
Senior Geologist	8 days @ \$350/day	2,800
Field Geologist	8 days @ \$300/day	2,400
Field Assistants	16 days @ \$250/day	4,000
Support - 36 man days @ \$125/man day		4,500
Thin Section Polished Sections		
50 samples @ \$100/sample		5,000
Geochemical Analysis		
100 samples @ \$50/sample		5,000
Helicopter - 9 hours @ \$750/hour		6,750
Report		<u>5,000</u>
	Subtotal	47,050
Management @ 5%		<u>2,350</u>
	Subtotal	49,400
Allowance for G.S.T. (7%)		<u>2,600</u>
	TOTAL	\$ 52,000 =====

**APPENDIX I**  
**BIBLIOGRAPHY**

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**APPENDIX II**  
**ASSAY CERTIFICATES**

GEOCHEMICAL ANALYSIS CERTIFICATE

Krause & Associates Inc. PROJECT FLORIN [5] File # 90-3262 Page 1

500 - 543 Granville St., Vancouver BC V6C 1X8 Submitted by: R. KRAUSE

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Zr	Y	Nb	Au*	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppb
JL 0+00S 5+00W	9	10	23	53	.5	3	1	175	7.61	6	11	ND	5	4	.2	2	2	39	.03	.039	39	16	.07	16	.34	2	2.60	.04	.08	1	119	22	84	2	
JL 0+00S 4+75W	8	11	21	70	.6	2	1	199	7.62	13	16	ND	13	5	.2	2	2	31	.04	.041	32	14	.09	21	.26	2	4.55	.05	.07	1	387	17	95	2	
JL 0+00S 4+50W	6	6	34	80	.6	4	1	201	9.60	23	21	ND	16	4	.3	2	2	23	.04	.052	35	14	.05	29	.19	2	5.46	.03	.06	1	490	16	110	3	
JL 0+00S 4+25W	7	5	22	48	.7	2	1	203	8.01	12	5	ND	5	6	.2	2	2	55	.04	.048	22	14	.06	27	.26	2	3.02	.02	.04	1	99	8	83	12	
JL 0+00S 3+75W	16	19	17	176	.5	10	15	4379	4.89	21	5	ND	1	13	.2	2	2	31	.21	.129	56	16	.17	110	.11	2	5.97	.05	.07	1	25	60	31	3	
JL 0+00S 3+50W	39	12	17	146	.5	7	9	3859	6.33	17	19	ND	1	31	.6	2	2	46	.36	.100	74	15	.12	191	.24	2	2.44	.03	.09	1	16	48	29	2	
JL 0+00S 3+25W	40	11	22	160	.2	8	5	2672	6.25	15	9	ND	1	37	.3	2	2	40	.57	.100	90	18	.18	186	.16	4	3.99	.03	.07	1	21	73	38	2	
JL 0+00S 3+00W	21	16	22	138	.6	7	8	2497	5.43	16	5	ND	1	17	.2	2	2	48	.20	.093	51	15	.21	90	.19	2	3.54	.05	.09	1	17	38	30	1	
JL 0+00S 2+75W	25	21	17	229	.1	12	8	1729	4.50	18	14	ND	1	29	.3	2	2	33	.44	.155	110	16	.25	180	.10	3	5.59	.04	.07	1	23	106	33	3	
JL 0+00S 0+75W	17	10	24	69	.3	3	1	266	9.77	16	9	ND	5	6	.2	2	2	44	.04	.052	27	12	.05	26	.28	2	1.94	.03	.05	1	90	12	96	7	
JL 0+00S 0+50W	90	7	25	79	.6	2	1	217	7.35	20	24	ND	7	3	.2	2	2	20	.03	.059	35	13	.05	30	.19	2	5.45	.04	.06	2	219	18	102	3	
JL 0+00S 0+25W	166	2	24	106	.5	3	4	503	4.91	10	11	ND	3	30	.2	2	2	35	.22	.054	30	13	.09	63	.32	2	3.20	.05	.09	8	56	14	74	4	
JL 0+00S 0+00	56	10	2	56	.2	5	2	39	.61	2	5	ND	1	339	.6	2	2	6	2.47	.096	6	2	.04	196	.02	3	.47	.02	.02	1	5	7	3	1	
JL 0+00S 0+50E	64	13	12	70	.1	5	1	91	.92	10	39	ND	1	112	.6	2	2	19	1.07	.125	70	9	.10	248	.07	3	2.55	.04	.04	5	36	59	37	2	
JL 0+00S 0+75E	56	15	8	89	.1	7	2	399	1.12	8	80	ND	1	300	.6	2	2	16	1.70	.161	57	12	.08	371	.03	3	1.49	.04	.04	3	15	61	14	3	
JL 0+00S 1+00E	116	14	21	135	.1	7	7	1408	5.29	21	55	ND	1	24	.2	2	2	38	.20	.111	85	14	.21	85	.18	2	4.02	.06	.08	3	28	73	41	1	
JL 0+00S 1+25E	20	4	20	67	.7	6	2	190	8.96	2	7	ND	5	13	.5	2	2	82	.07	.037	29	14	.08	52	.45	2	1.94	.02	.04	1	66	8	80	6	
JL 0+00S 1+50E	20	8	28	84	.6	2	1	191	11.10	16	16	ND	12	7	.3	2	2	58	.05	.041	32	14	.06	23	.44	2	2.30	.03	.06	1	273	13	120	3	
JL 0+00S 1+75E	27	9	19	66	.9	4	3	184	7.99	20	9	ND	9	13	.2	2	2	48	.09	.049	22	15	.11	39	.20	2	3.43	.03	.06	1	188	11	79	1	
JL 0+00S 2+00E	22	11	17	77	.9	4	1	121	6.25	18	7	ND	5	16	.2	4	2	32	.19	.078	22	15	.05	46	.18	2	5.44	.02	.05	1	142	10	81	1	
JL 0+00S 2+50E	9	4	4	101	.1	9	8	200	2.82	4	5	ND	1	93	.2	2	2	51	.56	.084	9	11	.42	149	.36	2	1.36	.13	.07	1	26	9	7	1	
JL 0+00S 3+25E	46	9	12	49	.4	4	3	140	6.55	3	5	ND	3	20	.2	2	2	66	.12	.049	11	15	.17	42	.17	2	2.09	.01	.03	3	22	5	39	8	
JL 0+00S 3+50E	10	4	22	48	.2	2	2	121	5.92	2	5	ND	4	10	.2	2	4	62	.07	.036	16	13	.11	33	.25	2	3.02	.02	.02	4	96	8	50	1	
JL 0+00S 3+75E	9	8	20	76	.4	4	2	250	10.65	10	10	ND	10	8	.4	2	2	68	.06	.040	20	14	.16	26	.45	2	2.45	.04	.09	1	188	9	76	5	
JL 0+00S 4+00E	7	3	13	34	.1	2	1	90	1.51	2	5	ND	1	6	.2	2	3	41	.02	.026	23	6	.04	38	.33	2	.62	.01	.04	1	10	4	24	8	
JL 0+00S 4+25E	22	10	17	71	.5	8	2	107	6.18	11	5	ND	2	20	.2	2	2	37	.13	.095	21	9	.04	232	.23	2	1.27	.03	.07	1	72	7	86	4	
JL 0+00S 5+00E	8	8	26	69	1.3	4	2	240	7.49	10	10	ND	8	4	.2	4	2	29	.04	.064	24	18	.09	19	.16	2	6.27	.02	.03	1	239	14	74	1	
JL 1+00S 1+00W	9	2	23	60	.5	2	1	193	12.62	6	11	ND	8	4	.5	2	2	29	.03	.049	25	13	.05	22	.23	2	2.75	.03	.06	1	200	10	115	6	
JL 1+00S 0+75W	28	7	24	63	.3	3	1	274	9.69	11	11	ND	6	5	.2	2	2	35	.04	.047	30	16	.08	16	.30	2	2.53	.06	.09	1	114	13	93	2	
JL 1+00S 0+50W	35	12	22	68	1.1	3	2	251	7.76	15	13	ND	6	7	.2	2	3	30	.06	.066	29	14	.08	17	.25	2	3.69	.04	.07	1	157	16	91	4	
JL 1+00S 0+25W	7	13	19	86	.4	8	5	560	5.94	24	5	ND	4	19	.2	2	2	33	.16	.073	21	16	.28	42	.15	2	3.63	.04	.05	2	84	13	58	2	
JL 1+00S 0+00	19	21	19	88	.1	5	9	2791	4.84	5	5	ND	2	6	.2	2	2	29	.07	.106	56	13	.14	45	.17	2	6.05	.05	.07	1	45	54	41	6	
JL 1+00S 0+50E	20	11	19	68	.1	3	1	258	9.55	17	9	ND	3	4	.3	2	2	34	.03	.052	59	11	.07	24	.28	2	3.00	.03	.07	1	66	36	88	2	
JL 1+00S 0+75E	10	7	21	54	.5	4	2	195	8.43	9	5	ND	5	14	.2	2	2	43	.09	.048	25	11	.05	54	.23	2	2.48	.03	.05	1	83	8	88	4	
JL 1+00S 1+00E	6	11	13	40	.7	4	2	179	4.90	2	5	ND	2	22	.2	2	2	50	.10	.048	18	11	.07	50	.15	2	2.08	.02	.04	1	23	6	48	4	
JL 1+00S 1+25E	17	13	24	44	.4	2	1	175	7.26	14	10	ND	6	3	.2	2	2	24	.03	.043	39	10	.03	19	.27	2	3.65	.03	.05	1	168	15	102	4	
STANDARD C/AU-S	18	57	38	132	7.1	73	31	1048	3.94	42	16	7	39	52	18.5	16	19	58	.58	.094	39	60	.89	182	.09	34	1.89	.06	.14	12	2	8	2	47	

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: Soil -80 Mesh AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: AUG 8 1990

DATE REPORT MAILED:

*Aug 15/90*

SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED P. C. ASSAYERS

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
JL 1+00S 1+50E	154	22	21	186	.2	8	9	3470	4.54	10	120	ND	4	38	.8	4	3	30	.35	.182	101	13	.19	101	.10	2	5.79	.03	.06	2	3
JL 1+00S 1+75E	7	14	11	62	.1	5	3	208	5.45	10	5	ND	6	18	.2	4	2	46	.12	.051	20	12	.32	38	.14	2	4.34	.02	.04	2	6
JL 1+00S 2+00E	7	14	20	62	.1	5	2	206	9.08	13	5	ND	10	5	.4	4	2	26	.04	.036	18	13	.11	19	.22	2	4.05	.03	.05	2	1
JL 1+00S 2+25E	212	14	26	84	.2	3	2	182	6.13	10	26	ND	4	53	.2	2	2	45	.45	.041	59	8	.08	135	.40	2	1.91	.03	.05	2	3
JL 1+00S 2+50E	11	8	7	53	.4	3	2	86	1.32	5	6	ND	1	26	.2	2	4	37	.16	.023	7	4	.12	44	.06	2	1.05	.02	.05	2	3
JL 1+00S 2+75E	26	10	33	43	.4	3	2	146	5.83	14	5	ND	9	16	.2	2	3	59	.11	.030	21	11	.14	32	.33	2	1.96	.04	.06	8	2
JL 1+00S 3+00E	59	20	20	159	.5	8	17	2390	3.20	9	55	ND	3	88	1.0	6	4	29	.97	.144	41	10	.22	231	.12	2	5.80	.04	.08	2	6
JL 1+00S 3+25E	22	18	14	87	.1	3	2	282	9.66	9	5	ND	5	7	.6	2	2	58	.06	.038	29	12	.06	16	.40	2	2.29	.04	.07	1	3
JL 1+00S 3+50E	37	14	23	80	.7	6	3	165	5.48	8	6	ND	4	9	.2	2	2	48	.07	.052	20	12	.13	32	.25	2	1.89	.04	.07	2	2
JL 1+00S 4+00E	15	26	27	53	2.6	7	3	64	3.53	7	5	ND	1	13	.2	3	3	38	.07	.086	8	10	.18	36	.18	2	1.97	.03	.06	2	2
JL 1+00S 4+25E	7	14	10	49	.7	6	5	170	5.20	7	5	ND	3	33	.2	2	4	87	.23	.053	6	13	.35	31	.30	2	1.19	.05	.05	2	2
JL 1+00S 4+50E	12	12	18	66	.2	2	1	431	8.47	13	5	ND	7	5	.2	2	2	29	.06	.034	28	8	.05	13	.27	3	1.97	.12	.10	1	2
JL 1+00S 4+75E	17	14	27	68	.1	3	1	212	7.92	16	5	ND	15	5	.2	3	2	17	.03	.043	27	10	.03	16	.21	2	4.13	.05	.06	2	3
JL 1+00S 5+00E	8	24	25	96	1.3	5	2	149	11.44	12	5	ND	7	7	.6	4	2	48	.05	.199	27	16	.01	25	.26	2	3.44	.03	.05	1	1
JL 2+00S 5+00W	6	8	25	32	.5	3	1	104	1.79	10	5	ND	2	6	.3	2	3	29	.03	.030	26	5	.03	18	.23	2	1.14	.02	.04	1	4
JL 2+00S 4+50W	2	20	16	48	.1	5	3	32	1.18	6	45	ND	1	6	.3	7	2	21	.05	.266	270	11	.15	29	.07	4	5.65	.02	.05	2	1
JL 2+00S 4+25W	12	11	17	75	.1	3	1	265	8.78	15	5	ND	6	3	.5	2	2	45	.02	.034	41	10	.04	9	.34	2	1.89	.06	.08	1	3
JL 2+00S 4+00W	3	9	16	28	.3	4	2	76	2.43	8	5	ND	1	20	.2	2	2	49	.14	.035	8	10	.18	36	.14	2	1.22	.02	.04	1	1
JL 2+00S 3+75W	42	25	26	125	.8	7	6	2698	5.47	15	60	ND	5	21	.7	2	6	28	.23	.096	141	12	.14	166	.16	2	4.26	.05	.07	3	3
JL 2+00S 3+50W	34	19	18	184	.1	7	5	1645	4.31	24	105	ND	2	113	.6	3	3	38	1.25	.125	141	18	.21	620	.13	4	4.61	.04	.08	7	2
JL 2+00S 3+25W	39	25	17	223	.1	14	10	2426	3.47	14	115	ND	2	105	.8	5	2	38	1.03	.108	93	17	.47	522	.09	3	3.77	.03	.06	4	4
JL 2+00S 3+00W	65	21	14	197	.1	10	7	1273	3.60	12	120	ND	2	90	.6	4	2	32	.87	.122	113	14	.33	396	.10	3	3.47	.03	.06	4	1
JL 2+00S 2+75W	10	15	17	47	.3	4	2	195	6.18	16	5	ND	4	10	.2	4	5	44	.08	.046	24	14	.17	35	.14	2	3.48	.02	.04	2	3
JL 2+00S 2+50W	34	15	18	103	.1	6	2	116	2.17	10	185	ND	2	13	.2	2	2	27	.13	.116	142	13	.24	118	.14	3	3.45	.06	.07	3	1
JL 2+00S 2+25W	2	10	7	63	.5	8	7	197	2.54	6	7	ND	1	46	.2	2	4	38	.41	.112	11	9	.54	38	.26	2	1.03	.12	.08	1	2
JL 2+00S 2+00W	5	11	14	53	.6	6	2	132	2.54	7	8	ND	2	13	.2	2	4	32	.10	.052	19	11	.18	29	.18	2	1.05	.06	.08	1	2
JL 2+00S 1+50W	15	14	13	65	.1	2	1	243	8.87	14	5	ND	4	8	.3	2	2	53	.05	.038	19	8	.05	18	.40	2	1.29	.03	.05	1	1
JL 2+00S 1+25W	1	10	9	57	.1	6	2	89	1.23	6	50	ND	4	15	.2	2	2	50	.17	.074	84	16	.34	50	.95	2	1.73	.04	.05	1	1
JL 2+00S 1+00W	8	10	24	50	.1	2	1	170	8.72	16	5	ND	14	6	.3	3	2	26	.05	.033	29	11	.04	30	.23	2	3.27	.06	.06	2	2
JL 2+00S 0+75W	8	11	17	45	.5	4	1	195	5.67	10	5	ND	4	10	.2	2	3	33	.05	.044	23	10	.07	26	.24	2	1.66	.03	.05	1	1
JL 2+00S 0+50W	6	10	16	40	.5	5	2	118	7.18	11	5	ND	3	20	.2	2	7	79	.12	.035	15	15	.20	27	.24	2	1.78	.02	.04	5	2
JL 2+00S 0+25W	10	16	20	48	.1	5	1	139	10.24	13	5	ND	7	9	.6	2	4	56	.05	.042	21	10	.03	19	.40	2	1.76	.03	.05	2	4
JL 2+00S 0+00	8	11	10	83	.2	3	1	85	7.97	9	5	ND	4	5	.3	2	4	57	.03	.040	23	8	.02	17	.34	2	1.43	.03	.05	1	3
JL 2+00S 0+25E	3	13	15	62	.3	6	4	175	4.33	11	5	ND	3	23	.2	3	8	37	.16	.059	13	12	.24	46	.20	3	2.27	.05	.06	1	1
JL 2+00S 0+50E	133	21	21	75	.1	4	7	1996	3.69	9	55	ND	3	14	.2	4	4	21	.08	.106	78	10	.14	50	.15	2	5.99	.04	.06	1	1
JL 2+00S 0+75E	15	15	26	71	.1	2	1	164	10.72	14	5	ND	12	3	.6	3	2	41	.02	.034	45	10	.01	14	.37	2	3.32	.03	.06	1	1
STANDARD C/AU-S	18	60	39	131	7.0	71	32	1046	3.95	39	21	7	38	52	18.4	15	19	55	.52	.089	37	56	.89	182	.09	34	1.84	.06	.14	10	49



SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
JL 2+00S 1+00E	8	6	27	59	.1	2	1	199	7.81	27	20	ND	18	3	.2	6	2	24	.03	.029	25	13	.04	22	.23	2	5.06	.04	.05	.1	1
JL 2+00S 1+25E	39	16	25	69	.1	2	1	268	8.88	34	5	ND	14	5	.2	6	2	16	.06	.043	39	12	.06	18	.21	4	4.25	.06	.07	.1	1
JL 2+00S 1+50E	10	5	20	58	.4	3	1	268	4.72	8	5	ND	2	8	.2	3	3	35	.05	.060	26	11	.09	21	.29	4	2.38	.06	.07	.1	2
JL 2+00S 1+75E	14	11	17	75	.4	3	2	588	6.86	21	5	ND	7	6	.2	3	2	25	.06	.066	38	12	.08	37	.23	5	3.39	.06	.08	.1	3
JL 2+00S 2+00E	26	8	21	80	.2	3	1	303	7.50	20	5	ND	4	7	.2	2	2	27	.04	.057	31	9	.06	26	.27	4	2.23	.06	.07	.1	1
JL 2+00S 2+25E	20	12	15	93	.1	3	1	284	8.72	22	5	ND	4	4	.2	3	2	53	.03	.035	35	11	.04	13	.41	5	2.41	.05	.06	.1	1
JL 2+00S 2+50E	8	11	18	63	.1	2	1	166	8.17	35	9	ND	11	4	.2	4	2	16	.04	.044	26	12	.03	24	.17	3	4.89	.06	.05	.1	1
JL 2+00S 2+75E	13	10	19	65	.1	4	2	186	8.51	15	5	ND	5	8	.2	3	2	56	.05	.041	18	12	.06	27	.39	4	1.99	.04	.04	.1	7
JL 2+00S 3+25E	23	8	15	56	.1	3	1	133	12.89	20	5	ND	6	5	.6	3	2	126	.03	.036	25	17	.05	25	.68	6	3.12	.03	.03	.1	1
JL 2+00S 3+50E	9	15	17	69	.2	3	2	113	9.66	9	5	ND	3	9	.2	2	2	58	.05	.051	19	10	.03	27	.34	3	1.74	.03	.04	.1	1
JL 2+00S 3+75E	17	12	15	49	.1	3	1	66	3.67	8	5	ND	1	11	.2	2	2	23	.08	.068	26	11	.05	29	.14	4	2.76	.04	.05	.1	2
JL 2+00S 4+00E	2	11	12	59	.1	6	3	86	2.42	2	5	ND	1	10	.2	2	3	47	.09	.101	31	14	.20	32	.32	6	3.04	.03	.04	.1	1
JL 2+00S 4+25E	3	8	22	53	1.5	4	1	38	1.55	7	5	ND	1	8	.2	2	2	21	.06	.105	23	11	.08	32	.12	3	3.35	.03	.03	.1	4
JL 2+00S 4+50E	15	4	20	99	.1	3	1	419	10.49	22	5	ND	7	5	.5	2	2	34	.05	.038	26	13	.06	18	.30	5	2.29	.07	.07	.1	1
JL 3+00S 5+00W	12	2	22	71	.1	3	1	226	9.36	28	6	ND	14	2	.2	4	2	29	.02	.033	48	11	.06	11	.32	5	2.64	.06	.07	.1	1
JL 3+00S 4+75W	11	9	18	68	.1	2	1	216	11.41	22	5	ND	9	3	.3	2	2	42	.02	.035	24	14	.05	13	.35	5	2.87	.03	.05	.1	3
JL 3+00S 4+50W	6	13	16	59	.1	7	4	230	8.01	21	5	ND	5	13	.2	4	2	44	.10	.049	22	16	.32	39	.18	6	3.30	.02	.03	.1	2
JL 3+00S 4+25W	4	10	11	83	.2	9	8	766	2.93	2	5	ND	1	54	.2	2	2	40	.34	.099	23	8	.39	110	.11	4	1.92	.08	.08	.1	2
JL 3+00S 4+00W	6	3	11	55	.3	2	3	179	3.10	2	5	ND	1	10	.2	2	2	35	.05	.077	15	4	.06	150	.01	3	2.45	.01	.06	.1	1
JL 3+00S 3+75W	5	23	13	55	.1	6	4	200	5.19	11	5	ND	2	12	.2	3	3	58	.09	.045	12	18	.31	47	.07	5	2.90	.02	.04	.1	1
JL 3+00S 3+50W	9	9	20	53	.3	3	2	790	6.57	13	5	ND	4	6	.2	3	2	32	.04	.048	21	10	.07	37	.19	4	2.75	.04	.04	.1	1
JL 3+00S 3+25W	9	11	25	47	.1	3	1	167	9.26	21	5	ND	7	7	.3	3	2	69	.04	.036	18	13	.06	33	.31	5	2.80	.03	.02	.1	1
JL 3+00S 3+00W	4	8	23	40	.1	4	2	123	10.60	28	5	ND	10	12	.4	3	2	46	.05	.044	15	19	.09	21	.19	5	3.70	.02	.02	.1	1
JL 3+00S 2+75W	7	4	16	56	.5	3	2	144	7.23	23	5	ND	8	12	.3	2	2	44	.11	.046	23	12	.07	71	.19	4	3.86	.04	.05	.1	4
JL 3+00S 2+50W	6	1	35	31	.1	2	4	802	1.11	2	5	ND	1	17	.2	2	3	38	.21	.027	24	5	.06	181	.22	2	1.16	.02	.05	.2	2
JL 3+00S 2+25W	9	11	17	51	.3	3	1	202	7.41	16	5	ND	5	6	.2	2	2	39	.04	.056	23	14	.07	22	.24	4	2.89	.02	.04	.1	2
JL 3+00S 2+00W	6	7	15	32	.2	6	2	106	4.16	2	5	ND	1	11	.2	2	2	52	.07	.034	14	22	.12	27	.27	3	1.49	.03	.02	.1	2
JL 3+00S 1+75W	9	10	24	48	.1	3	2	167	8.03	15	5	ND	4	5	.3	2	2	44	.04	.049	37	10	.05	20	.34	4	2.39	.03	.03	.1	2
JL 3+00S 1+50W	7	7	21	52	.1	2	1	204	7.07	28	7	ND	13	5	.2	4	2	26	.03	.039	22	10	.04	19	.20	3	4.63	.04	.04	.1	1
JL 3+00S 1+25W	7	3	23	51	.5	3	2	594	5.09	6	5	ND	2	11	.2	2	2	45	.08	.049	17	8	.07	18	.25	3	1.41	.05	.04	.1	3
JL 3+00S 1+00W	4	2	16	38	.5	4	2	198	2.42	2	5	ND	1	20	.2	2	2	48	.14	.047	12	11	.17	40	.24	3	1.35	.02	.03	.2	2
JL 3+00S 0+75W	6	4	23	49	.1	2	1	153	9.15	26	6	ND	10	4	.2	2	2	17	.03	.057	26	14	.02	30	.19	4	4.17	.04	.03	.1	1
JL 3+00S 0+50W	4	10	15	43	.1	5	4	204	6.12	23	5	ND	11	17	.2	2	2	56	.12	.038	10	18	.27	37	.19	2	3.42	.01	.02	.2	2
JL 3+00S 0+25W	5	8	10	67	.1	6	4	194	4.00	2	5	ND	1	26	.2	2	2	43	.17	.054	18	10	.24	43	.13	4	1.55	.03	.06	.1	2
JL 3+00S 0+00	6	5	22	51	.1	5	3	158	9.06	17	5	ND	5	14	.4	2	2	53	.12	.046	29	13	.16	26	.37	4	2.76	.06	.04	.1	2
JL 3+00S 0+25E	10	7	20	70	.1	2	2	212	9.80	12	5	ND	4	5	.6	2	2	35	.03	.053	40	11	.04	19	.25	3	2.73	.04	.06	.1	3
STANDARD C/AU-S	18	58	38	130	7.0	71	31	1047	3.92	39	23	7	40	53	18.4	15	21	57	.52	.094	38	59	.89	182	.09	36	1.89	.06	.13	11	51

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
JL 3+00S 0+50E	82	8	19	54	.2	3	1	208	5.75	8	5	ND	2	60	.2	2	2	54	.54	.040	21	9	.06	115	.39	2	1.23	.04	.07	.1	2
JL 3+00S 0+75E	90	15	25	142	.1	5	5	1675	5.39	13	45	ND	3	96	.4	2	2	26	.88	.083	73	9	.08	230	.19	2	3.97	.05	.07	.1	3
JL 3+00S 1+00E	18	15	10	62	.6	5	3	370	5.84	9	5	ND	3	22	.2	2	2	40	.23	.070	22	12	.18	66	.18	2	2.69	.03	.06	.1	9
JL 3+00S 1+25E	13	11	26	54	.2	4	2	185	4.85	7	5	ND	2	24	.2	2	2	71	.22	.039	15	11	.17	81	.31	2	1.68	.03	.05	.1	8
JL 3+00S 1+50E	4	7	31	34	.3	4	1	87	1.27	4	5	ND	1	17	.2	2	2	32	.20	.052	17	7	.10	56	.28	2	.94	.04	.07	.1	2
JL 3+00S 1+75E	1	17	4	70	.3	9	8	161	2.50	4	5	ND	1	56	.2	2	2	47	.49	.090	4	10	.49	84	.32	2	1.14	.13	.10	.1	2
JL 3+00S 2+00E	7	11	17	49	.2	3	1	143	6.01	8	5	ND	3	6	.2	2	5	46	.04	.040	31	8	.07	15	.31	2	2.19	.04	.06	.1	3
JL 3+00S 2+25E	5	10	18	58	.2	3	1	184	5.59	8	5	ND	14	3	.2	2	2	8	.04	.040	27	6	.01	31	.15	2	6.25	.06	.04	.1	3
JL 3+00S 2+50E	5	11	21	43	.1	3	1	161	7.85	6	5	ND	8	8	.2	2	4	49	.06	.033	16	11	.01	27	.27	2	3.19	.03	.03	.1	3
JL 3+00S 2+75E	163	17	10	65	.1	8	5	609	3.90	6	105	ND	3	59	.3	2	7	56	.39	.088	81	15	.45	67	.45	3	4.22	.06	.05	.1	2
JL 3+00S 3+00E	105	21	23	109	.1	6	5	695	5.05	11	70	ND	3	85	.3	2	2	32	.47	.107	71	11	.21	240	.15	2	3.69	.05	.08	.1	4
JL 3+00S 3+25E	62	22	22	120	.1	6	7	1347	4.14	12	60	ND	2	79	.2	3	5	32	.72	.099	73	12	.24	312	.12	2	3.20	.04	.06	.1	4
JL 3+00S 3+50E	29	9	18	50	.3	4	2	80	3.07	7	5	ND	2	19	.2	2	5	37	.16	.079	18	10	.07	81	.28	2	1.73	.06	.06	.1	15
JL 3+00S 3+75E	43	10	26	48	.2	3	1	151	5.96	13	5	ND	5	8	.2	2	2	57	.05	.057	31	8	.05	50	.42	2	1.40	.03	.06	.1	25
JL 3+00S 4+25E	25	19	13	104	.2	7	5	199	2.96	7	55	ND	1	104	.3	2	4	33	1.18	.138	48	13	.30	289	.11	2	2.71	.06	.06	.2	2
JL 3+00S 4+50E	52	18	20	100	.5	6	24	2770	3.72	5	20	ND	1	17	.5	2	3	33	.16	.128	35	10	.19	75	.08	2	3.84	.03	.06	.1	1
JL 3+00S 4+75E	18	8	8	33	.2	5	2	137	1.83	4	5	ND	1	26	.2	2	2	42	.23	.055	7	10	.17	67	.14	2	1.26	.03	.04	5	1
JL 3+00S 5+00E	7	28	18	65	.4	8	4	262	4.60	10	5	ND	2	15	.2	2	2	41	.14	.066	17	22	.39	41	.13	2	4.73	.02	.03	2	2
JL 4+00S 0+50W	43	14	24	80	.3	5	3	137	3.69	11	9	ND	1	30	.2	2	2	50	.24	.074	29	15	.26	123	.12	2	2.59	.05	.07	.1	8
JL 4+00S 0+25W	79	21	23	138	.1	8	8	1530	5.50	12	75	ND	2	27	.2	3	4	47	.19	.122	102	15	.33	133	.19	2	4.23	.05	.07	.1	5
JL 4+00S 0+00	74	19	16	201	.1	9	6	1859	4.59	11	105	ND	2	51	.6	2	3	37	.42	.128	153	14	.20	152	.18	2	5.20	.05	.05	.1	3
JL 4+00S 0+25E	158	21	17	135	.1	6	9	5943	6.43	11	39	ND	4	49	.4	2	2	34	.28	.114	135	13	.17	138	.14	2	3.64	.07	.09	.1	3
JL 4+00S 0+50E	67	14	20	82	.2	2	2	619	9.57	15	5	ND	7	37	.3	2	2	40	.20	.054	42	10	.01	108	.36	2	2.40	.05	.07	.1	1
JL 4+00S 0+75E	93	13	19	87	.1	4	4	587	10.04	15	5	ND	6	23	.4	2	2	39	.15	.056	48	9	.01	82	.34	2	2.28	.04	.06	.1	4
JL 4+00S 1+00E	34	16	27	65	.2	3	1	309	9.97	14	5	ND	7	7	.5	2	2	49	.04	.054	37	10	.01	43	.36	2	1.84	.04	.06	.1	2
JL 4+00S 1+25E	13	12	19	63	.3	3	2	227	7.05	10	5	ND	5	9	.2	2	2	34	.07	.061	31	7	.06	26	.27	2	1.95	.06	.07	.1	3
JL 4+00S 1+50E	6	19	7	48	.3	7	6	392	3.22	5	5	ND	1	31	.2	2	2	50	.28	.032	9	12	.56	64	.09	2	1.64	.04	.06	.1	8
JL 4+00S 1+75E	11	14	11	70	.3	10	6	578	4.32	7	5	ND	1	33	.2	2	2	46	.35	.108	12	14	.50	48	.16	2	2.20	.07	.08	.1	5
JL 4+00S 2+00E	58	24	19	79	.4	7	5	483	5.73	12	5	ND	5	18	.2	2	2	35	.14	.068	33	15	.18	96	.14	2	4.98	.03	.04	.2	6
JL 4+00S 2+25E	11	7	8	46	.1	4	2	98	1.30	2	5	ND	1	26	.2	2	5	38	.22	.043	8	6	.15	51	.13	2	1.05	.04	.07	.1	2
JL 4+00S 2+50E	39	25	19	136	.2	13	14	1636	4.64	4	26	ND	2	75	.2	2	2	57	.89	.093	36	17	.69	271	.23	5	2.89	.15	.11	.1	1
JL 4+00S 2+75E	48	16	18	71	.3	7	5	294	5.61	9	5	ND	3	34	.2	2	2	65	.25	.050	20	13	.28	96	.27	2	1.39	.06	.09	.1	5
JL 4+00S 3+00E	94	9	24	45	.2	4	2	87	3.84	3	5	ND	3	24	.2	2	2	76	.16	.033	17	9	.13	124	.44	2	1.31	.03	.05	.1	1
JL 4+00S 3+50E	26	10	18	65	.4	6	6	502	6.49	5	5	ND	1	76	.2	2	2	105	.25	.079	9	13	.31	201	.07	2	2.57	.02	.07	.1	3
JL 5+00S 0+00	8	15	17	49	.5	5	2	189	5.78	10	5	ND	2	11	.2	2	4	43	.08	.074	21	15	.11	37	.12	2	3.74	.03	.05	.2	2
JL 5+00S 0+15E	13	24	14	38	.3	6	4	160	8.60	12	5	ND	3	19	.2	2	2	70	.13	.043	15	20	.24	56	.12	2	3.05	.02	.03	.1	5
STANDARD C/AU-S	18	58	40	131	7.2	71	32	1046	3.95	41	21	7	38	50	17.9	15	17	56	.52	.092	36	55	.89	181	.09	34	1.90	.06	.14	12	48

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au ppm
JL 5+00S 0+50E	17	10	48	63	.1	1	8	146	15.94	10	10	ND	21	2	1.1	2	7	32	.01	.035	24	17	.02	9	.28	2	4.81	.03	.04	3	4
JL 5+00S 1+00E	11	5	13	49	.6	4	5	110	4.28	4	5	ND	3	18	.2	2	2	59	.15	.041	21	7	.10	20	.26	2	.95	.03	.04	1	2
JL 5+00S 1+25E	19	13	27	51	.4	3	4	193	6.17	3	5	ND	6	7	.2	2	2	24	.07	.057	25	12	.09	22	.11	2	5.01	.03	.04	2	22
JL 5+00S 1+50E	20	8	22	41	.3	4	5	147	8.34	3	5	ND	3	10	.5	2	5	62	.05	.065	20	11	.05	30	.30	4	1.45	.03	.05	1	2
JL 6+00S 4+75W	17	11	28	70	.2	1	5	1578	5.61	6	5	ND	4	8	.2	2	2	32	.08	.090	33	9	.06	42	.23	3	3.28	.04	.05	2	18
JL 6+00S 4+50W	379	16	18	148	.1	6	8	3054	5.12	11	103	ND	2	28	.6	3	2	37	.57	.090	56	12	.09	167	.20	2	2.75	.04	.06	2	1
JL 6+00S 4+00W	60	4	24	62	.3	4	4	198	5.67	9	5	ND	2	8	.2	2	7	54	.07	.060	38	10	.06	27	.28	3	1.78	.04	.07	2	1
JL 6+00S 3+75W	14	5	18	69	.1	8	3	195	6.12	6	5	ND	1	15	.2	2	2	22	.18	.068	22	6	.05	52	.15	4	1.41	.04	.05	1	1
JL 6+00S 3+50W	3	6	6	77	.1	4	4	219	2.04	2	5	ND	1	36	.2	2	2	34	.48	.090	6	8	.15	76	.15	6	.80	.04	.07	1	1
JL 6+00S 3+25W	14	5	16	51	.2	4	5	169	8.92	11	5	ND	4	11	.2	2	9	44	.07	.036	20	7	.03	42	.30	4	1.08	.02	.04	1	3
JL 6+00S 3+00W	10	5	14	78	.2	4	6	215	5.70	5	5	ND	3	22	.4	3	2	60	.16	.045	20	11	.21	30	.31	2	1.32	.04	.05	1	2
JL 6+00S 2+75W	14	6	22	80	.3	1	3	242	6.16	8	5	ND	10	4	.2	2	4	22	.04	.054	25	8	.05	28	.21	4	3.68	.06	.06	1	3
JL 6+00S 2+50W	8	11	25	68	.4	4	5	233	5.12	9	5	ND	10	13	.2	3	2	25	.12	.045	20	11	.18	39	.10	3	5.95	.04	.04	2	1
JL 6+00S 2+25W	10	12	27	66	.2	4	6	153	9.50	8	11	ND	12	3	.7	2	2	28	.03	.054	26	12	.03	22	.20	3	4.34	.04	.04	1	1
JL 6+00S 2+00W	7	4	38	63	.1	4	4	188	6.95	6	8	ND	11	2	.2	2	3	17	.03	.052	27	10	.04	19	.15	2	5.97	.04	.03	2	1
JL 6+00S 1+75W	15	12	26	60	.4	2	5	193	7.72	8	5	ND	12	5	.5	2	2	24	.04	.039	27	10	.05	24	.21	2	4.26	.04	.05	1	1
JL 6+00S 1+50W	7	5	21	40	.1	3	4	111	4.36	6	5	ND	4	13	.2	2	2	41	.09	.036	21	8	.07	24	.20	2	1.30	.04	.04	1	2
JL 6+00S 1+25W	16	7	24	64	.2	2	5	284	8.94	7	5	ND	3	8	.2	2	2	19	.09	.057	32	7	.08	17	.15	2	2.34	.07	.06	2	1
JL 6+00S 1+00W	40	3	23	56	.3	2	4	120	6.52	7	5	ND	4	7	.2	2	5	36	.05	.039	27	10	.05	45	.27	2	2.38	.03	.05	1	2
JL 6+00S 0+75W	24	3	15	25	.1	1	2	54	.74	2	5	ND	1	22	.2	2	2	38	.14	.017	9	4	.05	51	.21	2	1.00	.02	.05	1	1
JL 6+00S 0+50W	8	12	18	87	.4	8	8	298	6.79	2	5	ND	4	34	.2	3	3	40	.33	.050	9	18	.39	66	.10	3	1.87	.02	.04	1	1
JL 6+00S 0+25W	11	8	11	52	.3	7	5	539	3.90	3	5	ND	1	29	.2	2	2	110	.19	.034	8	12	.22	44	.12	2	1.93	.02	.03	2	2
JL 6+00S 0+00	70	17	23	105	.1	6	10	1344	5.15	9	43	ND	1	46	.2	2	4	52	.71	.097	48	14	.28	308	.12	2	2.99	.04	.07	6	2
JL 6+00S 0+25E	29	8	15	37	.3	5	7	251	6.52	6	5	ND	3	26	.2	2	5	55	.21	.035	13	12	.34	63	.15	2	1.83	.01	.03	2	13
JL 6+00S 0+50E	35	11	20	76	.1	1	5	249	8.56	8	5	ND	4	7	.2	2	5	24	.07	.058	28	9	.06	29	.20	2	3.33	.03	.05	2	1
JL 6+00S 0+75E	126	21	27	96	.1	8	12	2263	6.30	9	97	ND	3	24	.2	3	2	51	.21	.080	60	18	.37	316	.11	4	3.39	.03	.07	3	12
JL 6+00S 1+00E	16	17	13	56	.1	4	4	257	5.80	3	5	ND	3	13	.2	2	3	30	.11	.071	26	12	.19	37	.12	3	4.30	.03	.04	2	1
JL 6+00S 1+25E	3	10	3	87	.2	4	3	85	.86	2	5	ND	1	26	.2	2	2	11	.66	.102	3	5	.09	94	.03	2	.61	.02	.06	1	1
JL 6+00S 1+75E	36	26	17	46	.1	7	9	378	4.53	5	5	ND	2	24	.2	2	2	39	.23	.076	19	10	.41	149	.03	2	2.99	.01	.05	5	6
JL 7+00S 5+00W	8	9	7	40	.4	7	5	153	3.80	4	5	ND	1	28	.2	2	2	86	.19	.036	7	13	.28	46	.12	2	1.63	.02	.03	2	1
JL 7+00S 4+75W	19	5	19	60	.2	2	7	164	12.04	3	6	ND	4	6	.6	2	5	89	.07	.045	17	10	.03	24	.41	2	1.59	.02	.04	1	3
JL 7+00S 4+50W	12	7	20	50	.6	4	5	155	6.31	6	5	ND	4	11	.2	2	2	51	.07	.059	23	10	.08	33	.29	2	1.87	.03	.03	2	1
JL 7+00S 4+25W	6	11	19	62	.7	6	5	139	5.39	6	5	ND	3	27	.2	2	7	47	.19	.055	12	13	.07	98	.12	3	1.87	.02	.03	1	4
JL 7+00S 4+00W	9	8	16	57	.5	9	6	156	5.81	10	5	ND	3	23	.2	2	2	50	.22	.062	14	14	.22	43	.14	2	1.76	.02	.02	2	1
JL 7+00S 3+75W	55	24	23	291	.1	10	22	7223	4.16	21	94	ND	1	130	3.6	2	3	44	1.32	.140	106	16	.31	526	.04	2	2.74	.03	.08	3	1
JL 7+00S 3+50W	5	15	12	58	.4	5	8	421	4.38	6	5	ND	2	37	.2	2	2	60	.31	.055	10	14	.37	69	.15	2	1.92	.05	.04	1	1
STANDARD C/AU-S	17	57	39	131	6.9	69	32	1049	3.95	41	17	7	36	52	18.6	16	20	56	.51	.091	36	56	.91	180	.07	32	1.86	.06	.14	10	49

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
JL 7+00S 3+25W	11	5	19	67	.5	3	5	162	8.67	9	5	ND	5	7	.9	2	2	37	.02	.068	22	8	.02	19	.22	2	1.70	.05	.05	1	1
JL 7+00S 3+00W	18	15	15	94	.1	5	5	396	3.21	4	29	ND	1	45	.3	2	2	32	.48	.092	87	13	.27	254	.11	4	2.37	.08	.07	2	1
JL 7+00S 2+75W	10	2	16	66	.3	2	5	247	8.78	9	5	ND	4	7	.7	2	7	33	.06	.070	27	11	.06	25	.20	3	2.16	.06	.06	1	4
JL 7+00S 2+50W	15	20	18	97	.5	6	10	1677	4.52	2	7	ND	1	12	.4	2	4	32	.13	.108	111	15	.21	87	.14	2	5.05	.06	.07	1	2
JL 7+00S 2+25W	19	9	22	86	.4	7	7	362	5.92	6	8	ND	2	12	.7	2	5	47	.14	.071	46	15	.15	69	.29	6	2.69	.07	.07	1	3
JL 7+00S 2+00W	14	5	19	68	.4	1	5	628	7.16	10	5	ND	5	7	.6	2	4	30	.08	.038	25	8	.05	52	.22	5	1.86	.08	.07	1	2
JL 7+00S 1+75W	13	10	19	73	.7	8	7	220	7.06	9	5	ND	4	15	.5	2	6	40	.14	.071	18	8	.15	28	.25	5	1.44	.08	.07	1	3
JL 7+00S 1+50W	45	18	16	112	.1	7	16	5517	4.11	4	20	ND	1	60	.3	2	3	36	1.06	.148	143	12	.19	547	.10	4	3.22	.05	.06	2	5
JL 7+00S 1+25W	22	16	23	129	.1	6	9	2301	5.31	6	48	ND	1	21	.2	2	2	39	.24	.101	88	14	.22	305	.12	4	3.36	.05	.07	3	2
JL 7+00S 1+00W	25	4	17	75	.3	3	7	294	8.77	11	5	ND	6	9	.8	2	7	35	.06	.046	28	10	.06	42	.25	3	2.31	.05	.05	1	1
JL 7+00S 0+75W	11	7	27	64	.2	4	7	168	10.50	10	5	ND	6	14	.7	2	8	29	.08	.059	18	11	.06	32	.18	2	1.94	.04	.05	1	1
JL 7+00S 0+50W	7	11	10	68	.4	7	6	247	5.26	4	5	ND	2	28	.2	2	3	53	.23	.037	9	10	.33	72	.09	3	1.53	.02	.04	3	3
JL 7+00S 0+25W	5	3	9	39	.1	3	4	63	1.16	2	5	ND	1	34	.2	2	2	33	.24	.044	6	5	.11	87	.12	3	.62	.03	.03	1	1
JL 7+00S 0+00	55	13	27	98	.1	6	7	2066	7.31	8	53	ND	4	54	.6	2	2	41	.45	.050	85	12	.09	311	.31	4	2.75	.04	.07	1	6
JL 7+00S 0+25E	16	11	14	67	.2	8	7	329	5.34	10	16	ND	5	15	.3	3	5	35	.16	.042	21	15	.30	88	.15	3	2.74	.03	.04	1	2
JL 7+00S 0+50E	54	6	23	82	.1	2	6	268	8.78	11	5	ND	6	8	.8	2	4	36	.04	.041	33	9	.06	63	.22	5	2.10	.05	.07	1	2
JL 7+00S 0+75E	12	9	21	105	.3	4	5	263	2.72	7	5	ND	1	108	.2	2	2	60	1.09	.062	9	9	.28	764	.08	2	1.50	.03	.07	1	1
JL 7+00S 1+00E	47	9	12	69	.6	5	4	1708	2.90	2	5	ND	1	42	.2	2	2	57	.49	.049	11	6	.13	175	.07	2	1.31	.02	.06	1	2
JL 7+00S 1+25E	26	7	10	36	.3	1	4	213	3.23	4	5	ND	2	21	.2	2	7	82	.10	.035	9	9	.08	44	.17	4	1.43	.02	.03	1	5
JL 7+00S 1+50E	11	6	7	47	.1	4	2	71	1.26	2	5	ND	1	20	.2	2	2	45	.22	.026	8	7	.08	53	.11	2	.85	.02	.03	1	2
JL 7+00S 1+75E	10	5	14	68	.3	3	4	93	2.61	2	5	ND	1	18	.2	2	2	46	.09	.060	12	7	.07	41	.15	3	.95	.03	.04	1	3
JL 7+00S 2+00E	8	14	5	59	.3	6	7	241	4.39	2	5	ND	3	23	.2	2	2	71	.18	.059	9	13	.36	63	.25	4	2.50	.03	.03	1	3
JL 8+00S 5+00W	104	10	9	65	.1	5	5	152	4.21	10	41	ND	1	24	.2	2	2	38	.29	.071	39	11	.26	132	.08	3	2.25	.05	.04	1	1
JL 8+00S 4+75W	127	3	17	72	.7	2	6	248	9.82	8	5	ND	7	6	1.4	2	9	40	.05	.048	28	12	.04	35	.23	6	3.01	.04	.06	1	2
JL 8+00S 4+50W	8	4	8	26	.1	3	3	86	1.55	2	5	ND	1	19	.2	2	2	33	.14	.037	9	7	.14	34	.11	2	.88	.03	.03	1	1
JL 8+00S 4+25W	14	10	24	35	.5	4	4	147	1.69	2	5	ND	1	42	.2	2	2	39	.23	.086	8	7	.12	52	.16	2	.88	.04	.04	1	4
JL 8+00S 4+00W	21	12	16	140	.2	8	10	1467	6.16	8	6	ND	2	33	.2	2	2	39	.39	.070	36	15	.22	341	.17	6	2.67	.03	.09	2	1
JL 8+00S 3+75W	11	11	16	66	.2	6	6	231	7.08	10	5	ND	2	17	.2	2	2	38	.15	.053	19	10	.13	46	.22	4	1.46	.05	.05	1	2
JL 8+00S 3+50W	11	10	16	59	.9	5	5	190	5.76	6	5	ND	3	18	.2	2	2	44	.12	.045	17	10	.15	45	.16	2	1.96	.03	.04	1	27
JL 8+00S 3+25W	6	8	13	63	.1	4	7	178	8.07	9	5	ND	7	7	1.0	2	5	61	.08	.055	19	16	.15	18	.38	3	3.61	.05	.06	1	2
JL 8+00S 3+00W	11	5	15	74	.2	2	6	179	8.73	3	5	ND	3	5	.6	2	2	38	.03	.059	25	8	.04	14	.22	4	1.72	.03	.04	1	3
JL 8+00S 2+75W	9	13	21	60	.4	3	6	252	6.77	9	5	ND	4	7	.6	2	9	33	.07	.063	23	10	.10	28	.17	4	2.94	.05	.05	1	4
JL 8+00S 2+50W	4	14	6	99	.1	5	6	200	2.59	2	5	ND	1	26	.2	2	2	45	.20	.075	7	10	.15	66	.07	4	1.14	.04	.05	1	6
JL 8+00S 2+25W	8	11	10	61	.3	5	7	191	6.08	4	5	ND	5	19	.2	2	4	76	.14	.033	11	17	.26	49	.19	5	2.66	.02	.03	1	85
JL 8+00S 2+00W	10	8	4	65	.1	4	5	159	2.80	5	5	ND	1	18	.2	2	2	62	.07	.026	15	7	.05	89	.11	2	.92	.02	.04	1	3
JL 8+00S 1+75W	8	6	6	56	.1	5	6	153	4.68	3	5	ND	1	24	.2	2	2	65	.21	.040	11	12	.16	93	.17	2	1.30	.03	.03	1	1
STANDARD C/AU-S	19	57	37	131	6.9	70	31	1052	3.95	41	17	7	37	52	18.3	15	20	56	.52	.095	37	56	.89	180	.07	35	1.91	.06	.13	11	46

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
JL 8+00S 1+50W	10	5	22	70	.1	1	1	150	8.79	2	12	ND	2	6	.2	2	5	56	.04	.037	41	10	.04	58	.32	2	1.76	.05	.06	1	8
JL 8+00S 1+25W	8	28	13	87	.4	4	13	1429	3.65	4	5	ND	1	27	1.4	2	6	32	.24	.079	86	10	.27	105	.14	4	2.76	.16	.09	1	1
JL 8+00S 1+00W	5	23	19	164	.1	8	7	2108	5.14	9	5	ND	2	29	.9	2	2	37	.52	.104	87	16	.24	726	.10	2	3.70	.07	.09	1	2
JL 8+00S 0+75W	9	7	19	60	.3	2	1	161	4.84	2	10	ND	3	12	.8	2	3	50	.04	.043	21	7	.07	37	.20	6	2.12	.05	.05	1	18
JL 8+00S 0+50W	7	9	13	44	.2	3	1	112	3.70	3	5	ND	1	17	.6	2	3	75	.07	.032	17	7	.08	41	.34	4	1.47	.04	.04	2	6
JL 8+00S 0+25W	13	8	15	69	.2	1	1	352	8.66	2	7	ND	2	9	.2	2	3	56	.05	.038	22	11	.07	47	.29	2	1.46	.07	.06	1	1
JL 8+00S 0+00	10	9	17	79	.2	3	2	216	4.10	7	5	ND	1	32	.7	2	5	52	.23	.049	17	7	.14	175	.09	2	1.48	.05	.07	1	3
JL 8+00S 0+25E	7	11	11	86	.1	4	5	477	3.78	7	5	ND	1	54	.5	2	2	63	.28	.045	10	12	.35	245	.08	2	1.45	.05	.07	1	3
JL 8+00S 0+50E	16	7	20	88	.1	4	2	227	9.69	3	7	ND	4	27	.2	2	2	25	.31	.073	22	10	.06	74	.15	2	2.03	.08	.08	1	1
JL 8+00S 0+75E	2	6	13	76	.4	2	4	1277	2.86	2	5	ND	1	102	.5	2	3	68	.35	.057	8	5	.23	150	.08	10	1.80	.04	.06	1	1
JL 8+00S 1+00E	1	12	13	73	.4	12	17	1435	5.03	2	5	ND	1	91	.5	4	5	85	.71	.097	10	20	1.26	151	.37	5	1.72	.33	.12	1	2
JL 8+00S 1+25E	7	38	21	113	.3	10	12	1140	4.12	6	5	ND	2	57	.6	5	2	57	.35	.053	13	17	.70	184	.06	4	2.52	.05	.08	1	5
JL 9+00S 5+00W	6	12	14	58	.1	2	2	318	5.49	5	7	ND	7	8	.6	2	3	28	.05	.052	20	7	.09	37	.15	2	3.03	.06	.06	1	2
JL 9+00S 4+75W	5	18	8	75	.4	4	4	870	3.96	6	5	ND	3	17	.6	2	2	34	.11	.077	18	13	.38	56	.09	4	3.89	.06	.05	1	1
JL 9+00S 4+50W	5	14	15	52	.2	5	2	159	2.73	6	8	ND	1	20	.4	2	4	50	.09	.044	18	8	.13	76	.14	7	1.08	.05	.05	1	1
JL 9+00S 4+25W	7	4	11	48	.2	1	1	101	2.52	2	7	ND	1	10	.5	2	4	50	.04	.039	21	5	.05	27	.26	5	.62	.05	.05	1	1
JL 9+00S 4+00W	1	9	5	29	.2	3	3	85	1.21	2	6	ND	1	20	.3	2	2	34	.11	.032	7	8	.13	35	.03	5	.93	.03	.03	1	4
JL 9+00S 3+75W	4	14	12	64	.3	5	4	223	6.99	3	9	ND	1	17	.4	2	2	46	.09	.041	15	14	.27	58	.11	4	2.41	.04	.03	1	2
JL 9+00S 3+50W	7	22	22	82	.3	3	5	720	4.92	5	5	ND	1	10	.6	2	2	35	.09	.098	86	9	.15	79	.12	2	4.01	.05	.06	1	1
JL 9+00S 3+25W	2	8	19	108	.3	2	5	610	4.34	4	5	ND	1	65	.6	3	2	68	.28	.127	8	8	.42	96	.10	6	1.80	.03	.07	1	1
JL 9+00S 0+25W	12	8	21	68	.1	1	2	266	16.03	4	13	ND	6	12	.2	2	2	37	.05	.039	21	20	.04	42	.27	2	2.22	.06	.07	1	1
JL 9+00S 0+25E	8	26	14	77	.1	5	2	251	5.72	3	13	ND	1	10	.4	2	7	67	.11	.067	73	15	.26	26	.39	2	3.64	.08	.07	1	1
JL 9+00S 0+50E	8	8	13	68	.4	2	2	408	5.12	3	8	ND	1	8	.4	2	3	27	.04	.051	28	6	.08	22	.15	2	1.98	.09	.07	1	1
JL 9+00S 0+75E	6	19	10	68	.4	2	1	424	7.29	5	7	ND	3	6	.3	2	2	14	.04	.074	23	9	.04	28	.11	2	4.39	.07	.06	2	4
JL 9+00S 1+00E	9	12	22	79	.1	1	1	251	8.39	5	17	ND	4	3	.2	2	3	18	.02	.049	87	9	.07	18	.17	5	3.38	.09	.09	1	1
JL 9+00S 1+25E	7	11	14	68	.8	2	2	327	7.18	6	9	ND	2	12	.2	2	3	32	.06	.050	46	11	.15	34	.20	2	2.30	.05	.06	1	2
JL 9+00S 1+50E	7	11	16	70	.6	3	4	1448	6.04	3	5	ND	3	9	.4	2	5	31	.08	.064	47	9	.15	33	.21	4	2.71	.09	.08	1	4
JL 9+00S 1+75E	7	8	20	56	.8	2	2	166	3.97	2	9	ND	1	15	.3	2	4	48	.08	.051	25	8	.12	46	.32	2	1.66	.07	.07	1	4
JL 9+00S 2+00E	4	394	53	1023	1.8	6	6	438	4.58	181	8	ND	2	23	.7	4	7	70	.16	.066	10	11	.29	54	.25	9	2.11	.76	2.75	1	1
JL 9+00S 2+25E	6	62	20	95	.7	6	6	580	6.46	14	6	ND	5	20	.2	2	6	59	.14	.044	18	13	.33	35	.22	4	2.07	.06	.08	1	1
JL 9+00S 2+50E	8	56	24	84	.4	3	2	231	8.29	6	16	ND	3	9	.2	2	5	36	.05	.057	26	10	.07	25	.20	2	4.30	.05	.06	1	3
JL 9+00S 2+75E	10	40	26	68	.7	1	2	352	9.36	4	9	ND	3	6	.2	2	8	63	.03	.046	29	8	.05	24	.32	2	1.97	.04	.06	1	2
JL 10+00S 5+00W	15	34	27	61	.1	1	2	213	12.63	2	12	ND	7	4	.2	2	6	61	.02	.026	37	9	.04	23	.38	2	2.30	.04	.07	1	7
JL 10+00S 4+75W	4	35	12	71	.3	6	5	265	5.15	5	6	ND	5	22	.3	2	5	52	.13	.020	8	10	.36	71	.06	5	2.24	.02	.04	2	3
JL 10+00S 4+50W	5	22	33	41	.7	3	2	85	1.77	5	9	ND	2	19	.2	2	4	74	.09	.028	16	8	.09	45	.32	5	1.42	.03	.04	1	3
JL 10+00S 4+25W	4	18	23	44	.3	3	1	151	1.12	7	11	ND	1	15	.2	2	3	32	.10	.051	19	5	.05	47	.12	8	1.05	.03	.06	2	5
STANDARD C/AU-S	17	62	38	131	6.9	67	31	1047	3.96	37	17	7	40	52	18.0	16	20	56	.51	.087	39	56	.87	182	.08	36	1.87	.06	.14	13	53

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	Hg	Au*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	ppm	ppb
JL 10+00S 4+00W	6	12	2	61	.1	6	6	270	4.20	3	5	ND	1	16	.4	2	2	55	.15	.038	15	9	.13	77	.10	2	1.56	.04	.04	1	4
JL 10+00S 3+75W	10	5	20	67	.1	2	6	174	11.09	5	5	ND	8	5	.2	2	2	35	.05	.046	20	9	.03	16	.22	2	2.02	.04	.04	1	1
JL 10+00S 3+50W	9	7	23	65	.1	2	7	501	13.45	8	5	ND	11	5	1.1	2	2	53	.03	.083	23	14	.04	24	.27	2	3.31	.04	.04	1	1
JL 10+00S 3+25W	8	3	20	56	.1	2	6	193	12.34	7	5	ND	9	5	.9	2	12	29	.04	.051	21	11	.04	14	.22	2	3.02	.03	.04	1	1
JL 10+00S 3+00W	8	5	5	41	.2	5	3	85	4.62	4	5	ND	2	11	.7	2	2	52	.09	.038	19	8	.03	45	.26	2	.93	.01	.03	1	3
JL 10+00S 2+75W	5	12	11	32	.2	4	2	60	2.39	4	5	ND	3	14	.5	2	3	57	.07	.024	16	7	.04	53	.27	2	.76	.02	.03	1	11
JL 10+00S 2+50W	6	7	31	52	.1	1	5	170	8.79	3	5	ND	17	5	.8	2	2	24	.03	.038	16	12	.07	9	.15	2	7.49	.03	.03	2	2
JL 10+00S 2+25W	11	8	19	60	.1	5	6	202	9.19	11	5	ND	10	7	.4	2	2	32	.05	.040	31	9	.07	29	.25	2	2.84	.04	.06	1	1
JL 10+00S 2+00W	13	9	29	66	.1	5	6	199	12.66	7	6	ND	21	2	.4	2	2	27	.02	.048	20	15	.03	5	.19	2	6.08	.04	.04	2	2
JL 10+00S 1+75W	9	11	19	83	.2	1	5	320	10.54	6	6	ND	16	3	.9	2	2	24	.03	.047	25	12	.05	14	.18	2	5.05	.05	.06	1	2
JL 10+00S 1+50W	6	8	12	48	.1	5	7	217	5.44	4	5	ND	2	30	.2	3	2	96	.16	.041	8	21	.28	76	.08	2	2.10	.02	.02	1	2
JL 10+00S 1+25W	9	12	22	73	.1	3	3	260	5.32	2	7	ND	6	6	.7	2	3	23	.08	.060	47	8	.07	37	.17	2	5.28	.08	.06	1	1
JL 10+00S 1+00W	14	7	19	70	.1	2	6	174	7.47	6	5	ND	8	4	.5	2	2	38	.03	.039	49	9	.05	19	.32	2	2.65	.03	.06	1	2
JL 10+00S 0+75W	11	12	23	81	.2	4	8	1012	5.81	5	6	ND	5	7	.5	2	4	34	.06	.081	29	13	.11	35	.21	2	4.09	.05	.07	1	2
JL 10+00S 0+50W	7	14	13	61	.1	8	8	334	7.48	5	5	ND	2	20	.4	2	2	72	.22	.064	15	15	.37	83	.13	2	2.27	.05	.05	1	101
JL 10+00S 0+25W	14	3	9	57	.1	1	5	148	10.92	4	5	ND	5	3	.2	2	2	68	.02	.036	18	9	.03	15	.35	2	1.95	.02	.03	1	3
JL 10+00S 0+25W A	13	3	15	92	.2	3	7	229	12.92	9	5	ND	9	3	.7	2	2	47	.02	.038	24	12	.06	18	.26	2	2.46	.03	.04	1	2
JL 10+00S 0+00	10	3	20	68	.2	4	6	151	8.39	4	5	ND	9	6	.4	2	2	30	.03	.039	23	10	.06	20	.19	2	2.75	.03	.04	1	2
JL 10+00S 0+25E	11	8	26	70	.2	3	5	342	9.98	6	7	ND	14	2	.6	2	2	19	.02	.066	32	11	.05	21	.14	2	6.17	.04	.05	1	1
JL 10+00S 0+50E	17	5	7	66	.1	2	7	267	13.58	8	5	ND	6	3	.5	2	2	42	.02	.043	20	14	.06	9	.28	2	2.73	.04	.06	1	1
JL 10+00S 0+75E	12	17	9	58	.2	6	6	204	8.17	4	5	ND	3	14	.6	2	2	71	.07	.065	14	14	.18	47	.16	2	2.93	.02	.03	1	1
JL 10+00S 1+00E	10	13	18	64	.5	4	6	326	4.84	7	5	ND	3	9	.7	2	4	33	.08	.075	46	10	.13	38	.20	2	3.29	.05	.07	1	3
JL 10+00S 1+50E	11	13	17	61	.7	9	7	185	7.95	12	5	ND	3	16	.2	2	2	67	.12	.102	19	11	.18	46	.19	2	1.72	.03	.04	1	1
JL 10+00S 1+75E	4	22	8	127	5.0	8	41	1975	3.14	2	5	ND	1	23	1.0	2	4	31	.22	.107	50	9	.24	43	.12	2	2.94	.09	.08	1	1
JL 10+00S 2+00E	5	11	22	93	.1	8	8	416	4.96	6	5	ND	2	22	.7	2	2	56	.19	.056	34	14	.41	55	.30	2	2.40	.08	.07	1	4
JL 10+00S 2+25E	5	11	11	67	.1	7	7	1492	3.58	2	5	ND	1	11	.2	2	3	21	.13	.115	36	8	.17	75	.08	2	2.94	.10	.08	1	2
JL 10+00S 2+50E	3	24	11	88	.2	8	6	294	2.61	2	5	ND	1	24	.8	2	2	28	.26	.153	93	9	.32	45	.10	2	4.22	.10	.08	1	1
JL 11+00S 5+00W	11	17	13	84	.1	5	20	4876	4.04	2	5	ND	1	14	1.4	2	2	31	.18	.225	58	8	.12	129	.06	2	3.53	.04	.05	1	1
JL 11+00S 4+75W	18	13	12	39	.1	7	6	268	4.47	5	5	ND	1	22	.5	2	2	83	.13	.035	9	15	.25	57	.07	2	2.35	.03	.03	1	1
JL 11+00S 4+50W	23	14	20	64	.2	2	7	314	11.94	17	5	ND	6	6	1.0	4	2	76	.02	.046	30	14	.05	45	.42	2	2.02	.02	.03	2	3
JL 11+00S 4+25W	9	8	22	57	.1	4	8	195	13.40	11	8	ND	13	5	1.1	2	2	47	.04	.059	21	19	.12	16	.20	2	4.49	.02	.03	1	1
JL 11+00S 4+00W	11	14	30	55	.3	1	6	222	12.78	7	7	ND	16	3	1.6	2	2	30	.03	.045	18	14	.05	5	.23	2	5.44	.03	.04	1	2
JL 11+00S 3+75W	6	18	13	41	.1	5	7	267	5.89	7	5	ND	5	16	.5	3	2	68	.13	.053	8	16	.33	54	.07	2	2.95	.01	.02	1	1
JL 11+00S 3+50W	12	7	12	40	.1	7	4	121	5.32	7	5	ND	3	12	.5	2	3	55	.05	.048	22	6	.03	38	.30	2	1.02	.02	.03	1	1
JL 11+00S 3+25W	10	14	21	61	.3	2	5	276	7.76	5	5	ND	9	4	.8	2	2	26	.04	.059	26	10	.06	15	.16	2	5.18	.04	.05	1	1
JL 11+00S 2+75W	8	15	21	57	.3	6	5	220	7.57	6	6	ND	11	5	.4	2	2	41	.04	.065	22	14	.09	15	.23	2	4.99	.03	.04	1	1
STANDARD C/AU-S	18	58	38	131	6.7	71	31	1050	3.95	41	19	7	37	52	18.5	15	22	55	.51	.091	36	57	.89	183	.07	31	1.87	.06	.14	11	52

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au ppb
JL 11+00S 2+50W	8	11	18	57	.2	3	4	188	6.38	4	5	ND	2	11	.2	2	2	43	.08	.042	28	9	.07	34	.25	2	1.84	.06	.06	1	6
JL 11+00S 2+25W	5	6	22	39	.3	6	4	118	4.55	6	5	ND	2	20	1.1	2	2	106	.13	.046	13	12	.12	57	.55	2	1.06	.03	.03	1	4
JL 11+00S 2+00W	10	11	16	60	.3	2	5	380	7.02	10	5	ND	4	7	.5	4	2	49	.07	.063	20	14	.07	40	.30	2	2.44	.04	.04	1	1
JL 11+00S 1+75W	12	9	20	71	.3	2	6	194	12.16	8	5	ND	6	6	1.1	3	2	56	.04	.053	22	11	.03	32	.29	2	1.80	.02	.04	1	1
JL 11+00S 1+50W	8	8	22	65	.3	4	5	161	7.91	8	5	ND	5	12	.3	4	2	52	.08	.034	17	15	.16	58	.19	2	2.42	.02	.03	1	5
JL 11+00S 1+25W	6	6	13	61	.1	4	4	133	3.08	7	5	ND	1	20	.8	2	2	84	.14	.044	18	10	.18	37	.43	2	.83	.04	.05	1	5
JL 11+00S 1+00W	12	12	21	64	.7	3	4	137	8.74	4	5	ND	7	6	.6	2	2	40	.04	.062	23	11	.04	31	.27	3	2.69	.03	.04	1	2
JL 11+00S 0+75W	9	20	23	73	.6	2	5	306	6.21	2	5	ND	4	4	.2	2	4	21	.05	.091	32	14	.06	28	.11	2	5.15	.04	.05	1	7
JL 11+00S 0+50W	11	14	19	75	.4	2	6	228	8.02	14	5	ND	3	10	.3	3	2	97	.06	.068	18	17	.14	35	.21	2	1.95	.02	.02	2	6
JL 11+00S 0+00	11	10	19	78	.3	4	6	294	7.57	8	5	ND	5	9	.3	3	4	57	.07	.053	16	16	.20	26	.20	2	2.41	.02	.04	1	1
JL 11+00S 0+25E	14	12	28	81	.1	2	5	257	10.27	2	5	ND	19	1	.4	4	2	36	.02	.047	30	13	.03	17	.20	2	5.08	.05	.06	1	6
JL 11+00S 0+50E	10	9	24	66	.1	2	5	159	10.87	2	5	ND	13	4	1.2	5	2	37	.04	.059	23	14	.05	16	.25	2	5.01	.03	.04	1	5
JL 11+00S 0+75E	11	8	17	75	.1	2	5	270	10.27	6	5	ND	5	7	.7	4	2	63	.04	.040	30	9	.04	29	.33	2	2.02	.07	.07	1	3
JL 11+00S 1+00E	13	4	13	62	.1	2	6	205	12.98	4	5	ND	6	3	.4	2	2	66	.02	.041	23	9	.03	18	.30	2	1.78	.03	.04	1	3
JL 11+00S 1+25E	9	9	21	79	.2	1	3	413	7.24	4	5	ND	6	2	.2	2	2	22	.03	.045	24	7	.04	19	.16	2	3.41	.08	.06	2	5
JL 11+00S 1+50E	1	9	2	65	.1	8	8	238	2.76	2	5	ND	1	47	.2	2	2	50	.48	.063	6	9	.39	47	.22	3	.99	.12	.07	1	2
JL 11+00S 1+75E	6	13	16	69	.5	6	7	413	4.50	3	5	ND	1	22	.2	2	3	41	.21	.066	48	12	.22	72	.26	2	1.85	.06	.07	1	5
JL 11+00S 2+00E	8	7	24	80	.4	4	8	945	4.83	8	5	ND	2	10	.2	2	2	40	.09	.048	28	12	.17	58	.24	2	1.87	.07	.08	1	1
JL 11+00S 2+25E	8	14	20	76	.4	2	4	238	6.84	7	5	ND	3	5	.2	2	2	37	.05	.053	37	12	.12	26	.21	2	2.74	.07	.07	1	1
JL 11+00S 2+50E	7	12	19	65	.5	3	5	401	5.64	5	5	ND	1	9	.2	2	2	38	.07	.063	30	12	.13	24	.18	2	2.25	.06	.06	1	2
JL 11+00S 2+75E	9	11	18	78	.4	5	6	599	5.70	5	5	ND	6	5	.2	2	2	17	.06	.055	30	10	.15	60	.11	2	4.29	.10	.08	1	1
JL 11+00S 3+00E	6	11	19	79	.1	6	7	360	7.88	7	5	ND	3	14	.2	2	2	66	.10	.058	15	22	.20	58	.23	2	3.46	.03	.04	1	4
JL 12+00S 4+25W	6	11	18	63	.2	1	4	215	5.50	8	5	ND	2	23	.2	2	3	41	.18	.227	15	8	.06	80	.07	2	2.04	.02	.05	1	3
JL 12+00S 4+00W	8	10	22	47	.2	2	4	264	6.98	7	5	ND	4	16	.2	2	2	58	.11	.070	15	15	.12	33	.10	2	3.15	.02	.03	1	4
JL 12+00S 3+75W	3	10	2	33	.8	4	7	196	5.54	39	5	8	7	5	.8	38	2	19	.04	.070	13	15	.03	12	.09	15	2.15	.02	.02	1	6
JL 12+00S 3+50W	9	8	23	41	.2	1	4	146	6.94	11	5	ND	6	7	.2	2	2	48	.04	.047	25	14	.06	20	.22	2	3.20	.02	.03	1	7
JL 12+00S 3+25W	15	19	24	48	.3	3	6	243	12.15	6	5	ND	2	7	.9	2	2	55	.04	.083	24	11	.05	28	.21	2	1.50	.02	.03	2	4
JL 12+00S 3+00W	10	10	20	60	.3	2	6	318	8.02	8	5	ND	6	8	.3	3	2	38	.09	.067	22	10	.10	40	.24	3	3.04	.04	.04	1	3
JL 12+00S 2+50W	2	16	10	62	.3	3	4	121	1.96	7	5	ND	1	36	.2	2	4	31	.37	.060	11	8	.14	131	.13	2	.90	.05	.06	1	2
JL 12+00S 2+00W	5	11	9	49	.2	5	5	299	4.36	7	5	ND	1	14	.2	2	2	54	.14	.076	15	13	.23	34	.10	2	1.75	.02	.03	1	3
JL 12+00S 1+75W	6	11	16	48	.5	2	3	468	3.76	7	5	ND	1	12	.2	2	2	41	.06	.051	17	11	.08	50	.11	2	1.44	.03	.04	1	5
JL 12+00S 1+50W	17	8	30	45	.1	1	4	107	8.18	2	5	ND	4	4	.3	3	2	87	.02	.028	31	7	.02	36	.47	4	1.09	.01	.03	1	6
JL 12+00S 1+25W	13	8	20	63	.2	3	5	178	10.58	4	5	ND	6	12	1.4	2	2	51	.10	.041	24	9	.05	41	.32	2	2.11	.03	.04	1	7
JL 12+00S 1+00W	4	7	19	58	.3	3	4	161	5.34	5	5	ND	2	17	.2	3	2	73	.14	.044	16	10	.10	79	.23	2	1.81	.02	.04	1	7
JL 12+00S 0+75W	1	10	9	55	.1	6	5	182	2.11	5	5	ND	1	45	.2	2	3	50	.23	.031	11	6	.25	112	.07	2	1.60	.04	.03	1	5
JL 12+00S 0+50W	2	9	13	47	.1	3	4	363	3.51	4	5	ND	2	14	.2	2	2	70	.12	.126	10	14	.17	28	.37	4	2.04	.05	.04	1	2
STANDARD C/AU-S	18	57	41	131	6.9	68	31	1051	3.95	40	18	7	36	52	18.3	15	21	55	.51	.090	37	56	.89	180	.07	36	1.89	.06	.14	11	46

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
JL 12+00S 0+25W	4	9	23	40	.1	2	2	77	1.49	2	5	ND	1	9	.2	2	2	65	.06	.017	15	7	.05	32	.20	3	1.21	.01	.03	1	6
JL 12+00S 0+00	7	8	40	78	.1	1	1	240	11.12	13	14	ND	16	1	.6	2	2	15	.03	.040	23	13	.02	8	.15	2	5.24	.04	.03	1	4
JL 12+00S 0+25E	8	10	23	68	.2	3	2	237	4.51	5	5	ND	1	7	.6	2	2	32	.06	.040	33	8	.13	18	.21	2	1.60	.07	.08	1	5
JL 12+00S 0+50E	9	12	27	55	.3	2	2	209	9.93	10	13	ND	6	7	.7	2	2	55	.03	.043	23	12	.05	72	.16	3	2.88	.02	.03	1	3
JL 12+00S 0+75E	6	30	22	102	.6	4	5	450	3.11	4	5	ND	1	9	.4	2	3	24	.10	.162	65	8	.11	58	.09	2	4.67	.04	.05	1	1
JL 12+00S 1+00E	7	14	24	61	.4	3	2	218	7.02	9	7	ND	5	8	.2	2	2	57	.06	.043	24	14	.13	26	.28	2	2.38	.02	.03	1	3
JL 12+00S 1+25E	11	17	26	70	.1	2	1	224	6.93	9	10	ND	9	4	.5	2	2	54	.03	.057	27	10	.05	17	.40	2	3.33	.03	.04	1	3
JL 12+00S 1+75E	5	10	41	72	.1	1	1	209	6.48	18	14	ND	21	1	.3	3	4	8	.03	.040	21	11	.03	12	.10	2	7.27	.04	.05	1	3
JL 12+00S 2+00E	7	12	25	69	.2	4	2	160	7.08	8	5	ND	7	7	.4	2	2	62	.06	.039	14	13	.06	20	.29	2	3.41	.03	.04	1	1
JL 12+00S 2+25E	9	16	30	64	.1	2	2	276	9.22	13	10	ND	7	3	.2	2	2	38	.02	.042	40	15	.06	13	.25	2	3.43	.02	.03	1	2
JL 12+00S 2+50E	7	14	24	78	.4	4	4	1287	4.99	6	5	ND	2	16	.8	2	2	43	.40	.049	42	15	.13	322	.33	2	2.24	.05	.06	1	3
JL 12+00S 2+75E	12	19	20	78	.4	2	1	319	9.94	13	15	ND	4	3	.3	2	2	41	.03	.056	91	11	.06	21	.24	5	3.10	.05	.07	1	2
JL 12+00S 3+00E	8	12	28	67	.3	4	2	342	10.19	13	11	ND	7	3	.5	2	2	43	.03	.075	25	14	.06	31	.24	2	3.19	.03	.04	1	2
JL 12+00S 3+25E	9	12	23	74	.2	5	2	236	8.01	8	6	ND	3	9	.2	2	2	51	.05	.058	27	13	.07	41	.29	3	2.27	.03	.04	1	2
JL 12+00S 3+50E	7	10	25	100	.2	3	1	295	6.43	15	7	ND	5	14	.6	2	2	18	.14	.061	30	7	.07	55	.12	3	4.66	.06	.07	2	1
STANDARD C/AU-S	18	60	40	132	7.1	72	32	1050	3.96	40	22	7	37	52	18.9	15	21	56	.50	.090	38	61	.88	181	.07	35	1.89	.06	.14	11	53

Note: All samples have anomalies on Er, Y, & Nb.  
 Values printed on page one for your reference.  
 Er, Y, Nb also interfere w reading to a  
 certain degree.



## WHOLE ROCK ICP-MS ANALYSIS

Krause &amp; Associates Inc. PROJECT FLORIN [5] File # 90-3262 Page 1

500 - 543 Granville St., Vancouver BC V6C 1X8

SAMPLE#	Y PPM	La PPM	Ce PPM	Pr PPM	Nd PPM	Sm PPM	Eu PPM	Gd PPM	Tb PPM	Dy PPM	Ho PPM	Er PPM	Tm PPM	Yb PPM	Lu PPM	ZR ppm	NB ppm
JL 0+00S 5+00W	45	55	121	7	52	8	1	4	1	6	1	3	1	5	1	557	208
JL 0+00S 4+75W	43	50	96	7	51	8	1	5	1	6	1	3	1	4	1	704	171
JL 0+00S 4+59W	39	43	90	6	44	8	1	4	1	5	1	2	1	4	1	919	237
JL 0+00S 4+25W	30	33	64	4	32	5	1	2	1	4	1	2	1	4	1	481	174
JL 0+00S 3+75W	65	65	308	10	76	15	2	7	1	9	2	4	1	6	1	549	109
JL 0+00S 3+50W	57	76	154	8	59	10	2	5	1	7	1	3	1	5	1	460	164
JL 0+00S 3+25W	75	89	143	11	85	14	2	6	1	10	2	5	1	7	1	549	160
JL 0+00S 3+00W	50	61	132	7	56	9	1	5	1	6	1	3	1	5	1	428	120
JL 0+00S 2+75W	96	107	242	14	103	19	2	10	2	11	3	5	1	8	1	477	92
JL 0+00S 0+75W	42	48	88	6	42	7	1	4	1	5	1	2	1	4	1	577	245
JL 0+00S 0+50W	35	48	95	6	47	8	1	4	1	5	1	2	1	3	1	918	178
JL 0+00S 0+25W	30	45	83	5	41	6	1	3	1	4	1	2	1	2	1	559	202
JL 0+00S 0+00	6	7	12	1	6	1	1	1	1	1	1	1	1	1	1	4	5
JL 0+00S 0+50E	46	63	88	7	59	11	2	5	1	5	1	2	1	3	1	294	65
JL 0+00S 0+75E	55	63	57	7	58	8	1	4	1	6	1	3	1	5	1	86	12
JL 0+00S 1+00E	78	91	165	12	99	15	3	8	1	9	2	5	1	7	1	463	104
JL 0+00S 1+25E	47	45	90	6	45	7	1	4	1	6	1	3	1	6	1	373	202
JL 0+00S 1+50E	45	51	103	7	52	8	1	4	1	6	1	3	1	6	1	812	282
JL 0+00S 1+75E	24	32	62	4	29	4	1	2	1	3	1	2	1	3	1	487	110
JL 0+00S 2+00E	19	29	53	4	29	5	1	2	1	3	1	2	1	2	1	504	105
JL 0+00S 2+50E	12	12	23	2	14	3	1	1	1	2	1	1	1	1	1	29	5
JL 0+00S 3+25E	19	25	41	3	20	3	1	2	1	2	1	1	1	3	1	187	64
JL 0+00S 3+50E	28	32	62	4	29	4	1	2	1	4	1	2	1	3	1	380	119
JL 0+00S 3+75E	32	34	70	5	37	5	1	3	1	4	1	2	1	4	1	567	144
JL 0+00S 4+00E	39	34	67	4	32	6	1	3	1	4	1	3	1	4	1	286	122
JL 0+00S 4+25E	26	30	58	4	30	5	1	3	1	3	1	2	1	3	1	229	67
JL 0+00S 5+00E	25	33	62	4	31	6	1	3	1	4	1	2	1	3	1	787	101
JL 1+00S 1+00W	28	34	68	4	33	5	1	3	1	4	1	2	1	3	1	778	208
JL 1+00S 0+75W	31	39	74	5	42	6	1	3	1	4	1	2	1	3	1	842	202
JL 1+00S 0+50W	30	34	74	5	39	6	1	3	1	4	1	2	1	3	1	829	136
JL 1+00S 0+25W	24	29	61	4	29	6	1	3	1	3	1	1	1	3	1	540	80
JL 1+00S 0+00	59	66	198	10	79	13	2	7	1	9	2	4	1	6	1	771	94
JL 1+00S 0+50E	46	57	121	8	64	11	2	5	1	6	2	3	1	5	1	695	201
JL 1+00S 0+75E	35	39	73	5	32	5	1	4	1	4	1	2	1	4	1	530	160
JL 1+00S 1+00E	23	25	50	3	24	4	1	2	1	3	1	1	1	3	1	307	90
JL 1+00S 1+25E	36	51	96	6	45	6	1	4	1	5	1	2	1	3	1	850	172
STANDARD SY-3	715	1320	2200	121	781	106	15	56	11	83	20	51	8	69	9	-	-

.100 GRAM SAMPLE FUSED WITH .6 GM LIBO2 AND IS DISSOLVED AND DILUTED TO 50 ML WITH 5% HNO3.  
ANALYSIS BY ICP MASS SPECTROMETER  
- SAMPLE TYPE: SOIL PULP

DATE RECEIVED: AUG 8 1990 DATE REPORT MAILED: *Sept 5/90* SIGNED BY: *C. Leong* D. TOYE OR C. LEONG, CERTIFIED B.C. ASSAYERS

SAMPLE#	Y PPM	La PPM	Ce PPM	Pr PPM	Nd PPM	Sm PPM	Eu PPM	Gd PPM	Tb PPM	Dy PPM	Ho PPM	Er PPM	Tm PPM	Yb PPM	Lu PPM	ZR ppm	NB ppm
JL 1+00S 1+50E	96	110	220	14	110	17	3	9	2	10	2	5	1	8	1	432	68
JL 1+00S 1+75E	24	24	53	3	24	5	1	2	1	4	1	1	1	3	1	474	50
JL 1+00S 2+00E	26	28	56	4	29	5	1	2	1	3	1	2	1	3	1	762	114
JL 1+00S 2+25E	67	77	132	9	69	13	2	5	1	6	2	5	1	6	1	377	162
JL 1+00S 2+50E	15	12	24	2	13	2	1	1	1	1	1	1	1	2	1	87	22
JL 1+00S 2+75E	30	35	65	4	32	6	1	2	1	3	1	2	1	4	1	313	76
JL 1+00S 3+00E	46	52	143	7	53	9	1	4	1	5	1	3	1	5	1	271	34
JL 1+00S 3+25E	43	44	89	6	46	7	1	4	1	5	1	3	1	4	1	628	145
JL 1+00S 3+50E	30	31	63	4	31	4	1	2	1	3	1	2	1	3	1	390	107
JL 1+00S 4+00E	9	11	20	1	10	2	1	1	1	1	1	1	1	1	1	47	7
JL 1+00S 4+25E	19	14	30	2	18	4	1	2	1	2	1	1	1	2	1	129	41
JL 1+00S 4+50E	34	40	77	5	39	6	1	3	1	4	1	2	1	4	1	725	161
JL 1+00S 4+75E	33	40	77	5	40	6	1	3	1	4	1	2	1	3	1	995	161
JL 1+00S 5+00E	33	37	70	5	35	6	1	2	1	4	1	2	1	4	1	664	155
JL 2+00S 5+00W	32	34	64	4	32	6	1	2	1	4	1	2	1	3	1	324	139
JL 2+00S 4+50W	176	220	583	89	836	154	17	50	10	59	11	25	4	31	4	80	7
JL 2+00S 4+25W	42	51	89	6	48	8	1	3	1	5	1	3	1	5	1	777	244
JL 2+00S 4+00W	18	11	25	2	15	2	1	1	1	2	1	1	1	2	1	118	30
JL 2+00S 3+75W	121	132	209	18	143	22	3	9	2	13	3	7	1	9	1	757	108
JL 2+00S 3+50W	187	132	176	18	143	22	4	9	2	15	4	9	1	13	2	675	89
JL 2+00S 3+25W	90	92	187	11	89	17	2	6	1	9	2	5	1	7	1	342	46
JL 2+00S 3+00W	94	99	143	12	97	14	2	6	1	9	2	5	1	7	1	465	64
JL 2+00S 2+75W	23	24	48	3	24	4	1	2	1	3	1	2	1	3	1	505	93
JL 2+00S 2+50W	78	95	143	12	95	13	2	6	1	7	2	4	1	5	1	542	78
JL 2+00S 2+25W	14	12	26	2	14	3	1	1	1	2	1	1	1	2	1	121	23
JL 2+00S 2+00W	28	30	61	4	29	4	1	2	1	3	1	1	1	3	1	450	86
JL 2+00S 1+50W	29	26	53	3	26	4	1	2	1	3	1	2	1	3	1	473	191
JL 2+00S 1+25W	40	89	110	9	64	9	1	4	1	5	1	2	1	3	1	190	31
JL 2+00S 1+00W	32	39	76	5	36	6	1	2	1	4	1	2	1	3	1	939	154
JL 2+00S 0+75W	32	29	61	4	31	4	1	2	1	4	1	2	1	4	1	475	160
JL 2+00S 0+50W	25	22	44	3	23	3	1	1	1	3	1	1	1	3	1	193	71
JL 2+00S 0+25W	39	41	77	5	40	6	1	2	1	5	1	3	1	4	1	514	178
JL 2+00S 0+00	33	35	67	4	32	6	1	2	1	3	1	2	1	4	1	430	152
JL 2+00S 0+25E	19	20	42	2	22	4	1	2	1	2	1	1	1	2	1	321	41
JL 2+00S 0+50E	77	76	176	13	107	19	2	8	2	11	2	6	1	8	1	644	83
JL 2+00S 0+75E	44	52	97	6	48	8	1	4	1	5	1	2	1	4	1	750	193
STANDARD SY-3	715	1320	2200	121	781	101	14	50	11	79	21	48	8	66	8	-	-

SAMPLE#	Y PPM	La PPM	Ce PPM	Pr PPM	Nd PPM	Sm PPM	Eu PPM	Gd PPM	Tb PPM	Dy PPM	Ho PPM	Er PPM	Tm PPM	Yb PPM	Lu PPM	ZR ppm	NB ppm
JL 2+00S 1+00E	38	42	78	5	38	7	1	3	1	5	1	2	1	4	1	1038	295
JL 2+00S 1+25E	36	52	96	6	49	7	1	4	1	5	1	3	1	4	1	780	245
JL 2+00S 1+50E	34	39	77	5	39	7	1	3	1	4	1	2	1	4	1	498	207
JL 2+00S 1+75E	41	48	100	6	45	9	1	4	1	5	1	2	1	4	1	730	208
JL 2+00S 2+00E	37	46	87	5	42	6	1	4	1	5	1	3	1	4	1	699	272
JL 2+00S 2+25E	43	48	91	6	49	9	1	4	1	6	1	3	1	4	1	528	286
JL 2+00S 2+50E	21	32	61	4	28	5	1	2	1	3	1	2	1	2	1	798	165
JL 2+00S 2+75E	31	32	61	4	31	5	1	3	1	4	1	2	1	4	1	414	218
JL 2+00S 3+25E	26	31	60	4	31	4	1	3	1	4	1	2	1	3	1	363	185
JL 2+00S 3+50E	31	30	50	3	26	4	1	3	1	4	1	2	1	3	1	306	265
JL 2+00S 3+75E	24	31	60	4	27	6	1	2	1	4	1	2	1	3	1	352	115
JL 2+00S 4+00E	12	27	45	3	19	4	1	2	1	2	1	1	1	1	1	31	9
JL 2+00S 4+25E	10	20	35	2	16	3	1	2	1	2	1	1	1	1	1	30	5
JL 2+00S 4+50E	24	30	62	4	30	5	1	2	1	3	1	1	1	3	1	760	232
JL 3+00S 5+00W	55	54	120	11	79	13	1	6	1	8	2	4	1	4	1	861	282
JL 3+00S 4+75W	27	29	56	4	28	5	1	3	1	3	1	2	1	3	1	635	258
JL 3+00S 4+50W	18	22	41	3	22	3	1	2	1	3	1	1	1	3	1	374	105
JL 3+00S 4+25W	13	23	40	3	20	3	1	2	1	2	1	1	1	2	1	118	32
JL 3+00S 4+00W	7	15	28	2	11	2	1	1	1	1	1	1	1	1	1	56	7
JL 3+00S 3+75W	13	14	37	2	15	4	1	2	1	2	1	1	1	2	1	239	48
JL 3+00S 3+75W	21	28	56	3	28	4	1	2	1	3	1	1	1	3	1	558	158
JL 3+00S 3+25W	23	22	44	3	22	4	1	2	1	3	1	2	1	3	1	424	166
JL 3+00S 3+00W	14	17	36	3	18	5	1	2	1	2	1	1	1	1	1	533	134
JL 3+00S 2+75W	20	25	49	3	24	3	1	2	1	3	1	1	1	1	1	513	133
JL 3+00S 2+50W	18	25	43	3	19	3	1	1	1	2	1	1	1	2	1	144	74
JL 3+00S 2+25W	23	28	56	4	26	5	1	2	1	2	1	2	1	2	1	555	159
JL 3+00S 2+00W	22	23	42	3	23	4	1	2	1	3	1	1	1	3	1	312	133
JL 3+00S 1+75W	31	43	75	5	38	4	1	3	1	4	1	1	1	3	1	528	193
JL 3+00S 1+50W	24	31	61	4	31	6	1	3	1	3	1	2	1	3	1	802	150
JL 3+00S 1+25W	22	26	48	3	27	4	1	2	1	3	1	1	1	2	1	326	138
JL 3+00S 1+00W	17	17	34	3	18	3	1	1	1	2	1	1	1	2	1	203	83
JL 3+00S 0+75W	14	27	50	3	23	4	1	2	1	2	1	1	1	2	1	800	117
JL 3+00S 0+50W	11	13	35	2	14	3	1	1	1	2	1	1	1	1	1	285	39
JL 3+00S 0+25W	14	20	34	2	15	4	1	1	1	2	1	1	1	2	1	124	41
JL 3+00S 0+00	26	33	62	4	31	5	1	2	1	4	1	2	1	3	1	500	171
JL 3+00S 0+25E	32	43	77	5	37	7	1	4	1	4	1	3	1	3	1	546	160
STANDARD SY-3	730	1300	2200	120	800	100	13	56	11	79	21	49	8	65	8	-	-

SAMPLE#	Y PPM	La PPM	Ce PPM	Pr PPM	Nd PPM	Sm PPM	Eu PPM	Gd PPM	Tb PPM	Dy PPM	Ho PPM	Er PPM	Tm PPM	Yb PPM	Lu PPM	ZR ppm	NB ppm
JL 3+00S 0+50E	28	34	67	4	33	4	1	2	1	3	1	2	1	3	1	386	121
JL 3+00S 0+75E	79	80	176	11	87	15	2	8	1	9	2	4	1	8	1	620	112
JL 3+00S 1+00E	23	30	53	3	29	6	1	2	1	3	1	2	1	2	325	76	
JL 3+00S 1+25E	24	26	51	3	24	3	1	1	1	2	1	1	1	3	205	65	
JL 3+00S 1+50E	24	29	53	3	25	6	1	2	1	3	1	2	1	2	276	95	
JL 3+00S 1+75E	8	9	18	1	11	1	1	1	1	1	1	1	1	1	41	5	
JL 3+00S 2+00E	42	48	88	6	42	6	1	2	1	4	1	2	1	3	517	127	
JL 3+00S 2+25E	26	36	73	4	40	7	1	2	1	4	1	2	1	2	1063	106	
JL 3+00S 2+50E	25	28	53	3	29	4	1	2	1	3	1	2	1	2	520	105	
JL 3+00S 2+75E	74	97	143	12	107	19	2	7	1	10	2	4	1	6	302	33	
JL 3+00S 3+00E	76	75	121	10	70	11	2	6	1	8	2	3	1	7	554	88	
JL 3+00S 3+25E	74	84	102	9	73	12	2	6	1	7	2	3	1	6	406	67	
JL 3+00S 3+50E	23	31	55	3	29	4	1	1	1	3	1	2	1	3	382	81	
JL 3+00S 3+75E	37	44	79	6	41	6	1	3	1	4	1	2	1	4	461	171	
JL 3+00S 4+25E	36	53	70	7	52	9	2	4	1	6	1	2	1	3	218	36	
JL 3+00S 4+50E	39	40	95	6	48	8	1	3	1	6	1	2	1	3	217	38	
JL 3+00S 4+75E	18	20	34	2	18	2	1	1	1	2	1	1	1	2	125	36	
JL 3+00S 5+00E	17	21	35	2	20	3	1	2	1	2	1	1	1	1	185	22	
JL 4+00S 0+50W	25	33	61	4	34	7	1	2	1	3	1	2	1	2	313	67	
JL 4+00S 0+25W	68	97	121	11	96	15	2	7	1	9	2	4	1	6	418	71	
JL 4+00S 0+00	94	121	198	15	121	19	2	9	1	11	2	6	1	8	502	72	
JL 4+00S 0+25E	100	121	297	15	110	19	2	9	1	12	2	7	1	9	680	116	
JL 4+00S 0+50E	40	52	94	7	50	9	1	3	1	6	1	3	1	4	659	192	
JL 4+00S 0+75E	47	59	110	7	56	10	1	4	1	6	1	3	1	4	615	184	
JL 4+00S 1+00E	43	50	95	6	46	9	1	3	1	4	1	3	1	4	624	195	
JL 4+00S 1+25E	30	42	78	6	37	7	1	3	1	3	1	2	1	3	589	141	
JL 4+00S 1+50E	14	15	29	2	15	2	1	1	1	1	1	1	1	1	45	7	
JL 4+00S 1+75E	15	15	32	2	18	3	1	1	1	2	1	1	1	1	236	39	
JL 4+00S 2+00E	36	41	76	4	39	7	1	3	1	4	1	2	1	3	527	84	
JL 4+00S 2+25E	14	15	30	1	13	2	1	1	1	1	1	1	1	2	93	26	
JL 4+00S 2+50E	43	44	88	7	46	8	1	3	1	4	1	2	1	4	259	39	
JL 4+00S 2+75E	26	29	55	3	28	3	1	2	1	3	1	2	1	3	255	85	
JL 4+00S 3+00E	25	34	65	3	31	4	1	2	1	3	1	2	1	3	199	59	
JL 4+00S 3+50E	15	23	42	2	21	3	1	2	1	2	1	1	1	2	54	11	
JL 5+00S 0+00	20	29	53	3	29	6	1	2	1	3	1	1	1	1	447	71	
JL 5+00S 0+15E	19	33	42	2	23	3	1	2	1	2	1	1	1	2	257	51	
STANDARD SY-3	880	1650	2640	143	946	121	17	62	12	95	24	62	10	80	10	-	-

SAMPLE#	Y PPM	La PPM	Ce PPM	Pr PPM	Nd PPM	Sm PPM	Eu PPM	Gd PPM	Tb PPM	Dy PPM	Ho PPM	Er PPM	Tm PPM	Yb PPM	Lu PPM	ZR ppm	NB ppm
JL 5+00S 0+50E	36	42	87	6	36	8	1	4	1	5	1	3	1	5	1	1301	240
JL 5+00S 1+00E	46	39	75	4	33	5	1	3	1	5	1	3	1	5	1	455	146
JL 5+00S 1+25E	31	41	79	5	32	6	1	3	1	4	1	2	1	3	1	818	91
JL 5+00S 1+50E	35	36	72	4	31	6	1	3	1	3	1	2	1	4	1	502	171
JL 6+00S 4+75W	45	55	108	6	46	7	1	4	1	6	1	3	1	5	1	867	170
JL 6+00S 4+50W	103	85	121	9	58	12	2	6	1	9	2	5	1	9	1	703	148
JL 6+00S 4+00W	42	55	103	7	45	8	1	4	1	5	1	3	1	5	1	718	191
JL 6+00S 3+75W	33	36	64	4	29	5	1	2	1	3	1	2	1	4	1	574	129
JL 6+00S 3+50W	11	10	21	1	8	1	1	1	1	1	1	1	1	1	1	69	13
JL 6+00S 3+25W	45	41	76	5	34	7	1	3	1	4	1	3	1	5	1	567	217
JL 6+00S 3+00W	44	35	70	5	32	5	1	3	1	4	1	3	1	6	1	462	172
JL 6+00S 2+75W	39	43	87	6	36	8	1	4	1	5	1	3	1	5	1	997	158
JL 6+00S 2+50W	26	33	67	4	29	6	1	3	1	4	1	2	1	3	1	659	68
JL 6+00S 2+25W	35	43	80	5	36	6	1	3	1	5	1	3	1	4	1	974	153
JL 6+00S 2+00W	30	37	76	5	34	6	1	4	1	5	1	2	1	3	1	957	119
JL 6+00S 1+75W	35	47	88	5	35	6	1	4	1	4	1	3	1	4	1	1020	150
JL 6+00S 1+50W	36	46	75	5	29	5	1	3	1	4	1	2	1	4	1	589	144
JL 6+00S 1+25W	37	51	90	6	37	7	1	3	1	5	1	2	1	5	1	830	145
JL 6+00S 1+00W	36	42	80	6	34	5	1	3	1	4	1	2	1	5	1	625	215
JL 6+00S 0+75W	15	18	33	2	14	2	1	1	1	2	1	1	1	3	1	92	23
JL 6+00S 0+50W	14	13	28	2	13	3	1	1	1	1	1	1	1	2	1	275	47
JL 6+00S 0+25W	15	15	29	2	12	1	1	1	1	2	1	1	1	2	1	87	22
JL 6+00S 0+00	52	56	83	7	42	8	2	4	1	6	2	3	1	5	1	341	61
JL 6+00S 0+25E	21	20	40	3	19	3	1	1	1	2	1	1	1	2	1	206	55
JL 6+00S 0+50E	32	37	73	5	31	6	1	2	1	3	1	2	1	4	1	809	164
JL 6+00S 0+75E	89	62	85	9	56	12	3	7	1	10	2	6	1	8	1	375	75
JL 6+00S 1+00E	23	32	65	4	29	5	1	3	1	3	1	2	1	3	1	676	81
JL 6+00S 1+25E	5	6	10	1	5	1	1	1	1	1	1	1	1	1	1	6	8
JL 6+00S 1+75E	20	26	45	3	20	5	1	2	1	1	1	1	1	1	1	84	8
JL 7+00S 5+00W	18	12	40	1	15	1	1	1	1	2	1	1	1	2	1	70	10
JL 7+00S 4+75W	40	33	65	4	31	5	1	3	1	4	1	3	1	6	1	626	300
JL 7+00S 4+50W	46	48	91	6	41	6	1	4	1	5	1	3	1	5	1	523	139
JL 7+00S 4+25W	10	8	19	1	9	2	1	1	1	1	1	1	1	1	1	363	62
JL 7+00S 4+00W	15	14	34	2	15	2	1	1	1	2	1	1	1	2	1	367	74
JL 7+00S 3+75W	46	79	66	8	42	10	2	4	1	5	1	3	1	4	1	187	18
JL 7+00S 3+50W	13	14	29	2	13	3	1	1	1	1	1	1	1	1	1	102	16
STANDARD SY-3	825	1540	2420	132	891	110	15	63	13	88	22	58	9	76	9	-	-

SAMPLE#	Y PPM	La PPM	Ce PPM	Pr PPM	Nd PPM	Sm PPM	Eu PPM	Gd PPM	Tb PPM	Dy PPM	Ho PPM	Er PPM	Tm PPM	Yb PPM	Lu PPM	ZR ppm	NB ppm
JL 7+00S 3+25W	46	43	83	5	35	7	1	3	1	5	1	3	1	4	1	588	193
JL 7+00S 3+00W	86	91	85	11	56	13	2	7	1	8	2	4	1	5	1	298	54
JL 7+00S 2+75W	41	42	80	5	33	6	1	3	1	4	1	2	1	4	1	576	146
JL 7+00S 2+50W	95	121	209	13	87	17	2	8	2	10	2	5	1	7	1	458	79
JL 7+00S 2+25W	65	61	154	8	61	11	1	5	1	7	2	4	1	5	1	460	90
JL 7+00S 2+00W	46	46	86	5	36	7	1	3	1	4	1	2	1	4	1	619	157
JL 7+00S 1+75W	36	35	66	4	30	5	1	2	1	4	1	2	1	3	1	475	132
JL 7+00S 1+50W	99	143	209	17	103	21	3	10	2	10	2	5	1	6	1	333	51
JL 7+00S 1+25W	96	106	154	12	73	13	2	8	1	9	2	5	1	7	1	531	93
JL 7+00S 1+00W	44	46	83	6	36	6	1	3	1	4	1	2	1	4	1	713	166
JL 7+00S 0+75W	29	30	58	4	24	4	1	2	1	2	1	1	1	2	1	660	140
JL 7+00S 0+50W	19	20	36	2	14	3	1	1	1	2	1	1	1	2	1	111	30
JL 7+00S 0+25W	17	14	28	2	11	2	1	1	1	1	1	1	1	2	1	72	22
JL 7+00S 0+00	97	105	308	13	107	17	2	7	2	10	2	5	1	7	1	665	122
JL 7+00S 0+25E	30	30	102	4	33	4	1	3	1	4	1	1	1	3	1	434	53
JL 7+00S 0+50E	45	50	102	6	41	7	1	4	1	5	1	2	1	5	1	687	162
JL 7+00S 0+75E	19	19	36	2	17	3	1	1	1	2	1	1	1	1	1	123	31
JL 7+00S 1+00E	23	28	51	3	20	4	1	2	1	2	1	2	1	2	1	110	29
JL 7+00S 1+25E	22	20	39	3	17	3	1	2	1	2	1	2	1	2	1	99	31
JL 7+00S 1+50E	22	22	43	3	18	2	1	1	1	2	1	1	1	2	1	144	37
JL 7+00S 1+75E	23	23	45	3	20	4	1	2	1	2	1	1	1	2	1	199	63
JL 7+00S 2+00E	19	20	37	3	17	3	1	1	1	2	1	1	1	2	1	121	22
JL 8+00S 5+00W	50	54	85	6	40	9	1	4	1	5	1	3	1	4	1	249	45
JL 8+00S 4+75W	36	44	83	5	34	7	1	3	1	4	1	2	1	4	1	799	177
JL 8+00S 4+50W	20	18	36	2	17	3	1	2	1	2	1	1	1	3	1	127	32
JL 8+00S 4+25W	26	24	47	3	20	3	1	2	1	3	1	1	1	3	1	138	35
JL 8+00S 4+00W	53	57	121	8	54	8	2	5	1	7	2	4	1	6	1	527	126
JL 8+00S 3+75W	35	41	76	5	33	7	1	3	1	4	1	2	1	4	1	479	130
JL 8+00S 3+50W	26	29	54	4	23	6	1	3	1	3	1	1	1	2	1	290	77
JL 8+00S 3+25W	36	40	75	5	32	5	1	3	1	4	1	2	1	3	1	545	127
JL 8+00S 3+00W	42	43	80	5	34	6	1	3	1	4	1	3	1	4	1	555	203
JL 8+00S 2+75W	32	39	74	5	31	6	1	3	1	4	1	2	1	3	1	635	121
JL 8+00S 2+50W	14	13	26	2	11	2	1	1	1	1	1	1	1	1	1	71	13
JL 8+00S 2+25W	20	23	42	3	18	3	1	2	1	2	1	1	1	2	1	168	45
JL 8+00S 2+00W	34	29	56	4	24	4	1	2	1	3	1	2	1	3	1	235	70
JL 8+00S 1+75W	21	22	41	3	18	3	1	2	1	2	1	1	1	2	1	185	54
STANDARD SY-3	869	1540	2420	132	880	108	15	62	13	88	22	54	9	73	9	-	-

SAMPLE#	Y PPM	La PPM	Ce PPM	Pr PPM	Nd PPM	Sm PPM	Eu PPM	Gd PPM	Tb PPM	Dy PPM	Ho PPM	Er PPM	Tm PPM	Yb PPM	Lu PPM	ZR ppm	NB ppm
JL 8+00S 1+50W	50	61	98	7	44	8	1	4	1	6	1	3	1	5	1	471	185
JL 8+00S 1+25W	61	95	187	10	74	12	2	6	1	8	2	4	1	5	1	294	65
JL 8+00S 1+00W	95	105	176	13	79	17	3	8	2	10	2	6	1	8	1	519	90
JL 8+00S 0+75W	33	36	69	4	32	6	1	3	1	4	1	2	1	3	1	364	122
JL 8+00S 0+50W	29	31	58	4	23	5	1	2	1	4	1	2	1	3	1	235	73
JL 8+00S 0+25W	36	39	87	5	34	7	1	3	1	4	1	3	1	4	1	363	128
JL 8+00S 0+00	29	31	59	4	24	5	1	2	1	3	1	2	1	3	1	247	81
JL 8+00S 0+25E	20	21	54	3	20	3	1	2	1	2	1	1	1	2	1	111	35
JL 8+00S 0+50E	30	37	70	4	30	5	1	3	1	3	1	2	1	3	1	530	130
JL 8+00S 0+75E	18	19	37	3	15	3	1	2	1	2	1	1	1	2	1	57	14
JL 8+00S 1+00E	22	23	50	3	21	5	2	2	1	2	1	2	1	2	1	114	16
JL 8+00S 1+25E	23	23	51	3	20	4	1	2	1	2	1	1	1	3	1	65	9
JL 9+00S 5+00W	30	35	74	5	30	6	1	3	1	3	1	2	1	3	1	574	104
JL 9+00S 4+75W	26	29	57	4	25	5	1	3	1	3	1	2	1	3	1	443	51
JL 9+00S 4+50W	30	31	59	4	25	5	1	2	1	4	1	2	1	3	1	240	97
JL 9+00S 4+25W	37	37	70	5	31	6	1	3	1	4	1	3	1	4	1	290	120
JL 9+00S 4+00W	21	17	31	2	14	2	1	1	1	2	1	2	1	2	1	95	27
JL 9+00S 3+75W	21	24	42	3	19	3	1	2	1	2	1	2	1	2	1	227	54
JL 9+00S 3+50W	69	103	209	13	85	14	3	8	2	9	2	5	1	6	1	428	88
JL 9+00S 3+25W	17	19	35	2	15	3	1	2	1	2	1	1	1	2	1	51	8
JL 9+00S 0+25W	40	43	83	5	35	6	1	3	1	5	1	3	1	4	1	488	206
JL 9+00S 0+25E	96	99	275	21	132	33	4	15	3	20	4	9	1	12	2	333	55
JL 9+00S 0+50E	41	52	98	6	42	8	1	4	1	5	1	3	1	4	1	615	127
JL 9+00S 0+75E	28	35	66	4	28	6	1	2	1	3	1	2	1	3	1	760	91
JL 9+00S 1+00E	98	109	242	19	121	25	3	12	2	17	4	8	1	12	2	918	173
JL 9+00S 1+25E	47	70	121	8	51	9	1	4	1	5	1	3	1	5	1	503	134
JL 9+00S 1+50E	55	73	121	9	56	10	2	6	1	7	2	4	1	6	1	612	121
JL 9+00S 1+75E	40	44	85	6	36	7	1	3	1	5	1	2	1	5	1	383	126
JL 9+00S 2+00E	21	24	47	3	20	3	1	2	1	2	1	1	1	2	1	196	45
JL 9+00S 2+25E	34	40	79	5	35	6	1	3	1	5	1	2	1	4	1	372	70
JL 9+00S 2+50E	31	40	78	5	32	7	1	4	1	4	1	2	1	3	1	599	112
JL 9+00S 2+75E	48	51	98	6	42	8	2	4	1	5	1	3	1	6	1	509	204
JL 10+00S 5+00W	57	62	121	7	51	9	2	5	1	7	1	4	1	7	1	562	226
JL 10+00S 4+75W	18	18	35	2	14	3	1	2	1	2	1	1	1	3	1	244	39
JL 10+00S 4+50W	32	31	57	4	25	4	1	3	1	4	1	2	1	3	1	228	93
JL 10+00S 4+25W	32	36	68	4	28	5	1	3	1	4	1	2	1	4	1	297	99
STANDARD SY-3	880	1650	2750	154	979	121	18	74	14	99	25	64	10	86	11	-	-

SAMPLE#	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	ZR	NB
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	ppm	ppm
JL 10+00S 4+00W	30	33	62	4	24	5	1	3	1	3	1	2	1	3	1	223	71
JL 10+00S 3+75W	37	37	73	5	31	7	1	3	1	5	1	2	1	4	1	709	197
JL 10+00S 3+50W	44	47	90	6	37	6	1	3	1	5	1	3	1	5	1	676	211
JL 10+00S 3+25W	35	40	76	5	34	7	1	2	1	4	1	2	1	4	1	661	177
JL 10+00S 3+00W	39	37	70	4	29	5	1	3	1	4	1	3	1	5	1	392	165
JL 10+00S 2+75W	35	34	64	4	29	5	1	2	1	3	1	2	1	4	1	293	108
JL 10+00S 2+50W	32	35	74	4	32	6	1	2	1	4	1	2	1	4	1	1068	141
JL 10+00S 2+25W	44	51	94	6	40	8	1	3	1	5	1	3	1	5	1	652	174
JL 10+00S 2+00W	35	40	78	5	34	6	1	4	1	5	1	3	1	3	1	1311	190
JL 10+00S 1+75W	42	50	91	6	40	8	1	3	1	6	1	3	1	5	1	1006	161
JL 10+00S 1+50W	18	15	31	2	14	2	1	1	1	2	1	1	1	3	1	81	27
JL 10+00S 1+25W	48	65	121	9	58	11	2	5	1	8	2	3	1	5	1	859	125
JL 10+00S 1+00W	59	68	132	8	53	11	2	5	1	6	2	4	1	6	1	753	207
JL 10+00S 0+75W	39	46	94	6	41	6	1	3	1	5	1	3	1	5	1	691	131
JL 10+00S 0+50W	23	25	47	3	22	4	1	2	1	3	1	2	1	2	1	226	50
JL 10+00S 0+25W	44	39	72	4	32	6	1	3	1	5	2	3	1	6	1	576	256
JL 10+00S 0+25WA	35	44	79	5	35	7	1	3	1	5	1	3	1	5	1	734	191
JL 10+00S 0+00	30	41	75	5	32	6	1	3	1	4	1	3	1	4	1	846	157
JL 10+00S 0+25E	43	54	110	7	50	10	1	5	1	7	1	3	1	7	1	1170	161
JL 10+00S 0+50E	35	36	72	5	32	7	1	3	1	5	1	4	1	5	1	626	222
JL 10+00S 0+75E	21	23	46	3	20	4	1	1	1	2	1	1	1	2	1	230	70
JL 10+00S 1+00E	41	55	110	7	47	10	1	3	1	6	1	3	1	4	1	521	106
JL 10+00S 1+50E	33	31	66	4	26	7	1	2	1	4	1	2	1	4	1	343	136
JL 10+00S 1+75E	33	51	92	6	40	7	1	5	1	5	1	2	1	3	1	182	27
JL 10+00S 2+00E	36	50	85	6	37	8	1	3	1	4	1	3	1	4	1	312	79
JL 10+00S 2+25E	37	50	99	7	45	10	2	4	1	5	1	3	1	4	1	575	96
JL 10+00S 2+50E	45	97	154	10	70	13	2	7	1	8	2	2	1	6	1	219	29
JL 11+00S 5+00W	41	68	110	7	48	10	1	5	1	6	1	4	1	4	1	352	71
JL 11+00S 4+75W	15	13	29	2	14	1	1	1	1	1	1	1	1	2	1	76	13
JL 11+00S 4+50W	42	47	95	6	42	6	1	3	1	6	1	3	1	5	1	493	188
JL 11+00S 4+25W	31	31	66	4	29	6	1	3	1	5	1	3	1	3	1	617	142
JL 11+00S 4+00W	40	41	86	6	37	8	1	4	1	6	1	3	1	4	1	928	219
JL 11+00S 3+75W	17	15	31	2	13	1	1	2	1	2	1	1	1	1	1	99	21
JL 11+00S 3+50W	41	42	77	5	35	5	1	3	1	6	1	4	1	6	1	494	244
JL 11+00S 3+25W	31	40	83	5	37	6	1	3	1	5	1	2	1	6	1	1000	147
JL 11+00S 2+75W	30	37	73	4	32	5	1	3	1	6	1	3	1	3	1	760	114
STANDARD SY-3	781	1430	2420	132	880	110	15	59	12	86	23	56	9	73	10	-	-



SAMPLE#	Y PPM	La PPM	Ce PPM	Pr PPM	Nd PPM	Sm PPM	Eu PPM	Gd PPM	Tb PPM	Dy PPM	Ho PPM	Er PPM	Tm PPM	Yb PPM	Lu PPM	ZR ppm	NB ppm
JL 11+00S 2+25W	39	47	88	6	37	6	2	4	1	5	1	2	1	4	1	477	161
JL 11+00S 2+25W	26	30	55	4	24	4	1	2	1	3	1	2	1	3	1	229	81
JL 11+00S 2+00W	32	77	77	5	32	5	1	3	1	4	1	2	1	4	1	581	127
JL 11+00S 1+75W	41	40	77	5	32	6	1	3	1	4	1	3	1	4	1	562	202
JL 11+00S 1+50W	28	33	61	4	25	4	1	2	1	4	1	2	1	2	1	380	105
JL 11+00S 1+25W	39	35	72	4	30	6	1	3	1	4	1	2	1	4	1	308	128
JL 11+00S 1+00W	37	44	83	5	34	6	1	3	1	4	1	2	1	4	1	631	177
JL 11+00S 0+75W	36	53	94	6	41	7	1	4	1	5	1	3	1	3	1	828	114
JL 11+00S 0+50W	32	30	59	4	25	4	1	3	1	4	1	2	1	3	1	313	117
JL 11+00S 0+00	29	32	62	4	25	4	1	2	1	3	1	2	1	3	1	476	115
JL 11+00S 0+25E	39	50	97	6	42	7	1	4	1	5	1	2	1	4	1	1219	162
JL 11+00S 0+50E	40	44	94	6	39	6	1	4	1	5	1	3	1	4	1	836	180
JL 11+00S 0+75E	42	50	90	6	37	6	1	3	1	5	1	3	1	4	1	512	178
JL 11+00S 1+00E	51	44	88	6	37	7	1	4	1	5	1	3	1	5	1	672	275
JL 11+00S 1+25E	37	48	96	6	40	8	1	4	1	5	1	2	1	4	1	984	142
JL 11+00S 1+50E	19	15	35	2	15	3	1	2	1	2	1	1	1	2	1	107	10
JL 11+00S 1+75E	46	62	121	7	47	9	1	4	1	5	1	3	1	4	1	327	86
JL 11+00S 2+00E	40	50	98	6	41	8	1	3	1	5	1	2	1	4	1	574	143
JL 11+00S 2+25E	42	54	106	6	45	8	1	4	1	5	1	3	1	4	1	689	140
JL 11+00S 2+50E	35	47	86	5	36	6	1	3	1	5	1	3	1	4	1	514	125
JL 11+00S 2+75E	36	50	98	6	40	7	1	4	1	5	1	2	1	4	1	905	100
JL 11+00S 3+00E	22	28	53	3	22	4	1	2	1	3	1	1	1	3	1	335	63
JL 12+00S 4+25W	23	26	51	3	22	4	1	2	1	3	1	2	1	2	1	324	74
JL 12+00S 4+00W	24	26	51	3	21	4	1	2	1	2	1	2	1	3	1	339	84
JL 12+00S 3+75W	35	42	84	5	35	7	1	3	1	4	1	2	1	3	1	914	175
JL 12+00S 3+50W	35	44	80	5	33	6	1	3	1	4	1	2	1	4	1	591	138
JL 12+00S 3+25W	48	45	86	6	36	7	1	3	1	5	1	3	1	5	1	529	280
JL 12+00S 3+00W	32	43	80	5	34	5	1	3	1	4	1	2	1	3	1	789	143
JL 12+00S 2+50W	20	21	41	2	17	3	1	1	1	2	1	1	1	2	1	142	26
JL 12+00S 2+00W	26	30	57	4	24	4	1	2	1	3	1	2	1	3	1	285	68
JL 12+00S 1+75W	29	32	63	4	26	5	1	3	1	3	1	2	1	3	1	351	95
JL 12+00S 1+50W	65	59	110	7	47	8	1	4	1	7	2	4	1	7	1	565	325
JL 12+00S 1+25W	42	46	87	6	35	6	1	3	1	5	1	3	1	5	1	469	183
JL 12+00S 1+00W	24	31	58	4	23	4	1	2	1	3	1	1	1	2	1	199	66
JL 12+00S 0+75W	19	29	50	3	20	3	1	2	1	2	1	1	1	2	1	86	14
JL 12+00S 0+50W	21	29	52	3	21	3	1	2	1	3	1	1	1	2	1	297	36
STANDARD SY-3	858	1540	2530	132	902	110	15	62	12	92	23	58	9	73	9	-	-

SAMPLE#	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Zr	Nb
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	ppm	ppm
JL 12+00S 0+25W	29	29	48	3	24	4	1	2	1	3	1	2	1	3	1	246	81
JL 12+00S 0+00	30	39	72	5	36	6	1	4	1	4	1	2	1	4	1	978	123
JL 12+00S 0+25E	39	50	94	6	45	7	1	4	1	5	1	2	1	3	1	659	158
JL 12+00S 0+50E	29	36	65	4	32	4	1	3	1	3	1	2	1	4	1	545	145
JL 12+00S 0+75E	39	61	107	7	54	10	1	5	1	5	1	2	1	4	1	425	56
JL 12+00S 1+00E	36	42	74	4	36	5	1	3	1	4	1	3	1	4	1	509	134
JL 12+00S 1+25E	40	43	92	6	48	6	1	4	1	5	1	2	1	4	1	827	159
JL 12+00S 1+75E	35	40	87	5	44	8	1	5	1	6	1	2	1	4	1	1683	131
JL 12+00S 2+00E	28	26	55	3	24	4	1	2	1	3	1	2	1	2	1	693	129
JL 12+00S 2+25E	45	58	105	7	50	7	1	4	1	6	1	3	1	5	1	843	176
JL 12+00S 2+50E	46	55	106	7	55	9	1	4	1	5	1	3	1	6	1	584	135
JL 12+00S 2+75E	70	97	165	11	89	13	2	7	1	9	2	4	1	8	1	810	168
JL 12+00S 3+00E	35	41	80	5	39	5	1	3	1	4	1	2	1	4	1	865	168
JL 12+00S 3+25E	34	42	80	5	41	6	1	3	1	4	1	3	1	4	1	616	159
JL 12+00S 3+50E	37	42	84	6	41	8	1	3	1	5	1	2	1	4	1	1002	121
STANDARD SY-3	748	1320	2200	121	825	101	15	61	11	84	21	53	9	70	8	-	-

**APPENDIX III**

**RARE EARTH EVALUATION**

D. Taylor, P.Eng.

D. P. TAYLOR, P.Eng.

254 E 27th Street,  
North Vancouver, B.C.  
V7N 1B6

Krause & Associates Inc.  
500-543 Granville Street,  
Vancouver, B.C.  
V6C 1X8

September 18th, 1990

RE: RESULTS OF RARE EARTH METALS ANALYSIS OF MATERIALS FROM FLORIN  
PROJECT: WHOLE ROCK ICP-MS ANALYSIS OF SOIL SAMPLES  
ACME ANALYTICAL LABORATORIES FILE NO. 90-3262

#### INTRODUCTION

At the request of Messrs. Krause and Timmins, the results of rare earth content of soil pulps from the Florin Project have been assessed in light of currently available data concerning extractive technology and economic parameters of the said Rare Earth values. The main sources of information have been the U.S.B.M., Mineral Facts and Problems volumes of 1969 and 1986 and the E.M.J.

#### SUPPLIES

The world's major suppliers of Rare Earths and Zirconium ( $ZrO_2$ ) are currently the US, Southern Africa, Australia, Brazil and India. The U.S. sources are primarily Florida Beach Sands and a hardrock plant in Mountain Pass, San Bernadino County, California.

Generally the supplies come in the form of monazite derived as a by-product of ilmenite and rutile production from black sands. "Primary" production is from Mountain Pass which is a carbonatite type related deposit of 8-10% grade monazite or from pegmatitic crystal formations in Southern Africa.

Chemical companies requiring concentrates generally specify monazite concentrates containing at least 55% rare earth oxide (REO) content; U.S. at strategic stockpiles require a minimum of 50% REO.

#### EXTRACTION

The REO material is normally subject to grinding and a variety of acidisation, fractional distillation and/or crystallisation, resin extraction and salt and chlorate separation processes. The extraction processes are generally multiferous and complex and beyond the detailed scope of this review. (See U.S.B.M., 1986).

#### PRICES

The latest quote for REO available is 1986 when it varied from U.S. \$0.80 to \$1.10 per pound. The latest quote for  $ZrO_2$  sand is U.S. \$450-\$650/ton 66%  $ZrO_2$  f.o.b. as of August 1990.

Indications on the 1986 price for monazite was a lowering of price due to an increase in titanium production from black sands.

#### RESULTS OF FLORIN PROJECT

Although the results from the Florin Project analyses appear at first to be remarkably high, in the worldwide market relativity they are about 10% of necessary grade.

It must be said that although the grades encountered on the Florin ground are remarkably high for the Cordillera, most rare earths come from Shield areas or placers, this relatively high value is of only academic, and not presently economic, interest.

In reference to the Petrographic Report on Sample 61147 by Dr. C.H.B. Leitch, P.Eng. on the Quartz Monzonite sample, it should be noted that the identified minerals that could be associated with REO's are apatite, allanite (orthite) and sphene, which, together comprise approximately 3% of the rock.

CONCLUSION

Given the current world markets in REO's and the location and grade of the Florin claims, there is no justification to expect the area to be of any economic interest for the production or development of the rare earth potential of this ground.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "D. P. Taylor". The signature is fluid and cursive, with a long horizontal stroke at the end.

D. P. Taylor, P.Eng.

North Vancouver, B.C.  
18 September, 1990

**APPENDIX IV**  
**THIN SECTION ANALYSIS**

C. Leitch, PhD

PETROGRAPHIC REPORT ON TWO THIN SECTIONS FROM SAMPLE 61147

Report for: R.G. Krause  
500-543 Granville Street  
Vancouver, B.C.  
V6C 1X8.

Invoice attached

August 29, 1990

Sample 61147: CHLORITE-EPIDOTE-SERICITE-PYRITE ALTERED,  
ALLANITE-BEARING, HORNBLLENDE-BIOTITE QUARTZ MONZONITE

This is a light grey-green, medium-grained granitic rock cut by thin chloritic and pyritic fractures. The rock is not magnetic and does not react to cold dilute HCl. Both the thin sections supplied look to be the same, so only one will be described. In thin section, the modal mineralogy is approximately:

Plagioclase (albitized)	30%
Quartz	25%
K-feldspar	10%
Epidote	10%
Sericite	10%
Chlorite	10%
Opaque (pyrite)	2%
Sphene	2%
Rutile	<1%
Apatite	<1%
Allanite	tr

This rock was composed of about 45% plagioclase, 25% quartz, 10% K-feldspar plus 15% hornblende and 5% biotite before alteration. The plagioclase has been altered to sericite and epidote, while the mafics have been altered to chlorite, epidote, and opaques.

Plagioclase has a refractive index less than quartz and displays vague or no twinning; it is albite, probably around An<sub>0-5</sub>, although this is a product of alteration rather than a primary composition. It formed subhedral to euhedral tablets up to 4 mm long, that have mostly been replaced by irregular-shaped anhedral secondary albite grains up to 1 mm across. They are also flecked by fine epidote grains and chlorite and sericite (muscovite) flakes up to 0.025 mm long. Rare euhedral prisms of apatite are also found in the plagioclase (they may be primary accessory minerals).

Quartz forms anhedral grains up to 4 mm across that are mainly interstitial to the plagioclase. Most of these are composite grains, composed of smaller sub-domains of 0.5 mm diameter with sutured boundaries and undulose extinction indicative of strain.

There is also interstitial K-feldspar (perthitic) as anhedral grains up to 1 mm across. It is dusted by very fine clay and hematite particles of a few microns diameter,



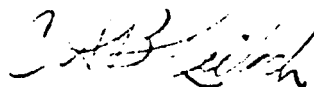
and less altered than the plagioclase. It is probably primary in origin.

The shapes of the altered mafic relics show that both hornblende and biotite were originally present. The hornblende was subhedral and up to 3 mm long, while the biotite was subhedral and up to 1.5 mm in diameter. The hornblende is now pseudomorphed by fine-grained chlorite, epidote and minor opaques and quartz. The chlorite and epidote both have weak pleochroism, indicating moderate Fe contents. Euhedral grains of sphene up to 0.5 mm long are common in this rock, often associated with the altered mafic sites; minor apatite up to 0.3 mm long is also present.

One 1 mm diameter grain of a dark brown, euhedral mineral with strong concentric growth zoning and overgrowths of epidote is probably allanite (orthite), a cerium- and rare earth-bearing variety of epidote. This rock may be radioactive if this identification is correct; it should be checked by scintillometer.

Pyrite appears to be the chief opaque, forming subhedral grains up to 0.4 mm diameter that both replace mafics and are found along microfractures. The pyrite is mildly altered to limonite. The fractures contain all the alteration minerals seen in the rock: chlorite, epidote, sericite, and pyrite.

This was a fairly typical hornblende-biotite quartz monzonite before mild chlorite-sericite-epidote alteration.



Craig H.B. Leitch, Ph.D, P.Eng.

(604) 921-8780 or 666-4902

**APPENDIX V**

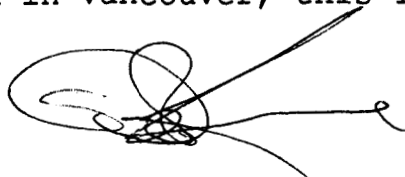
**STATEMENT OF QUALIFICATIONS**

CERTIFICATE

I, Robert G. Krause with offices at #500 - 543 Granville Street, Vancouver, British Columbia, hereby certify:

- 1). That I am a graduate of the University of British Columbia (1985) and hold a B.Sc. degree in Geology.
- 2). That I have practised my profession for 5 years, and have worked in mineral exploration for 11 years.
- 3). That I have practised my profession in South America, Central America, United States and Canada.
- 4). This report is based upon a thorough review of published printed maps and reports on the subject property and surrounding area.
- 5). This report is based upon my supervision of the exploration program which was conducted during the months of July and August, 1990.
- 6). That I have no interest either direct nor indirect, nor do I expect to receive any interest in the property, or the securities of Florin Resources Inc. or Crimson Star Resources Ltd.
- 7). I hereby consent to the use of this report by the Companies in connection with a Prospectus or a Statement of Material Facts related to the raising of funds for this project.

Dated in Vancouver, this 15th day of February, 1991.



Robert G. Krause, B.Sc.  
Geologist

**APPENDIX VI**  
**ENGINEER'S CERTIFICATE**

## Engineer's Certificate

I, William A.C. Jackson of the Municipality of North Vancouver in the Province of British Columbia, do hereby certify:

That I am a consulting engineer with offices at 500 - 543 Granville Street, Vancouver, British Columbia, V6C 1X8.

I further certify that:

1. I am a graduate of the University of Alberta and hold a B.Sc. degree in Mineral Engineering (1978) and an M.B.A. (1979).
2. I have been practising my profession for the past twelve years, and have been employed in the mining industry for the past twenty five years.
3. I am registered with the Association of Professional Engineers of the Province of British Columbia, and with the Association of Professional Engineers of the Province of Ontario.
4. The information for the accompanying report was compiled from a study of reports pertaining to the Joy 5 and 6 Claims and the surrounding area.
5. I personally visited the claims during the period: July 16 - 20, 1990.
6. I have no direct nor indirect interest whatsoever in the share capital of Florin Resources Inc. or Crimsonstar Resources Ltd. and do not expect to receive any interest therein.
7. I hereby consent to the use of this report by the Companies in connection with a Prospectus or a Statement of Material Facts related to the raising of funds for this project.

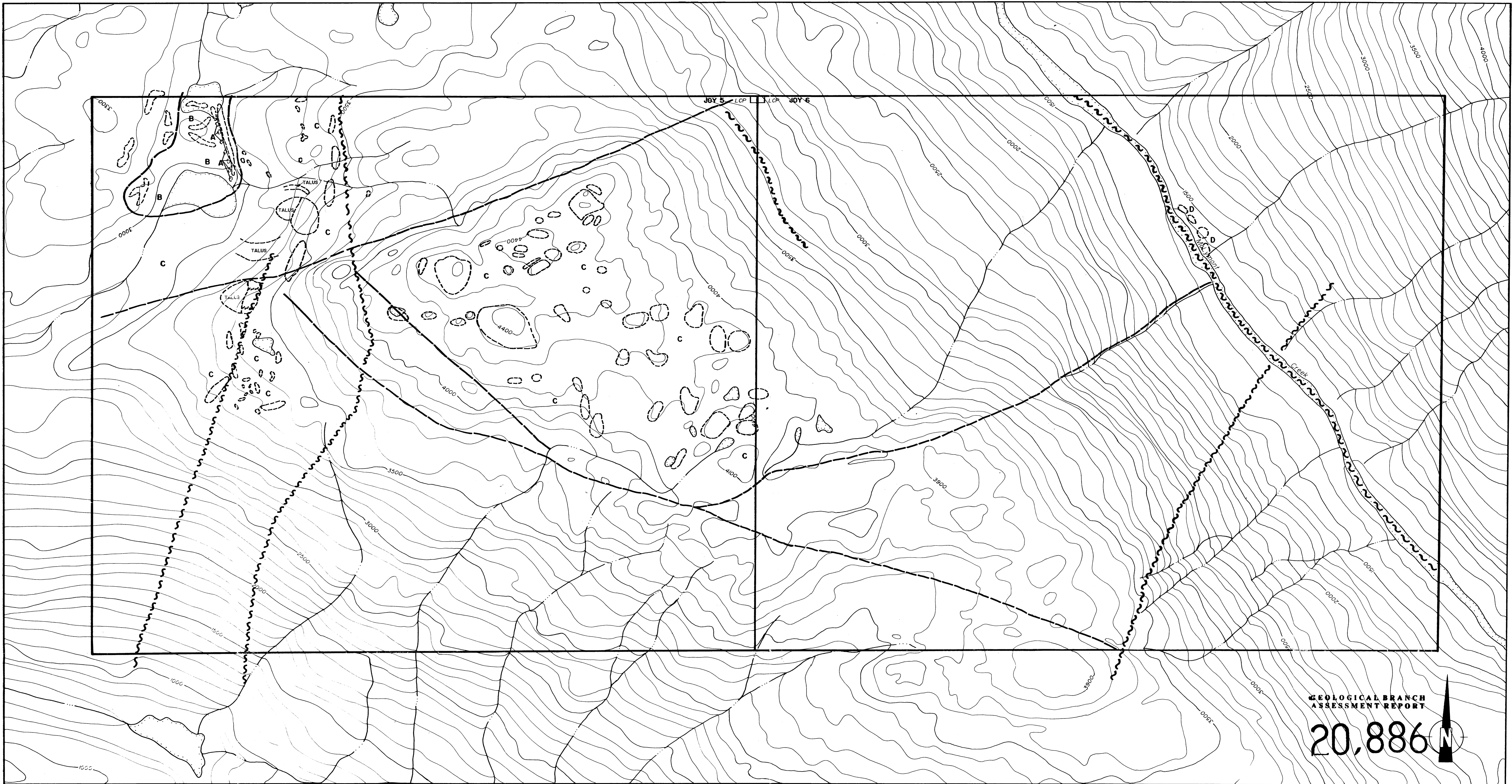
Dated in Vancouver, B.C. this 15th day of February, 1991

**STATEMENT OF COSTS**

**RE: 1990 EXPLORATION PROGRAM  
JOY 5 & 6 CLAIMS  
LIARD M.D.  
ISKUT RIVER AREA  
B.C.**

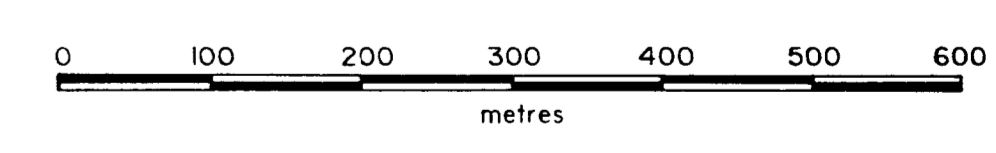
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<b>Mobilization &amp; Demobilization</b>		<b>\$ 5,000.00</b>
<b>Personal Costs</b>		<b>11,710.00</b>
<b>Helicopter</b>	<b>12.75 hrs @ \$575.00</b>	<b>7,331.25</b>
<b>fuel</b>	<b>12.75 hrs @ \$147.50</b>	<b>1,880.62</b>
<b>Camp Costs</b>	<b>41 man days @ \$125.00/day</b>	<b>5,125.00</b>
<b>Geophysics</b>	<b>VLF-EM</b>	<b>1,980.00</b>
	<b>Magnetometer</b>	<b>1,980.00</b>
<b>Analytical Costs</b>		<b>10,500.00</b>
<b>Thin Section</b>		<b><u>213.00</u></b>
		<b>45,719.87</b>
<b>Expenditures Applied To Assessment Requirements</b>		<b>36,000.00</b>



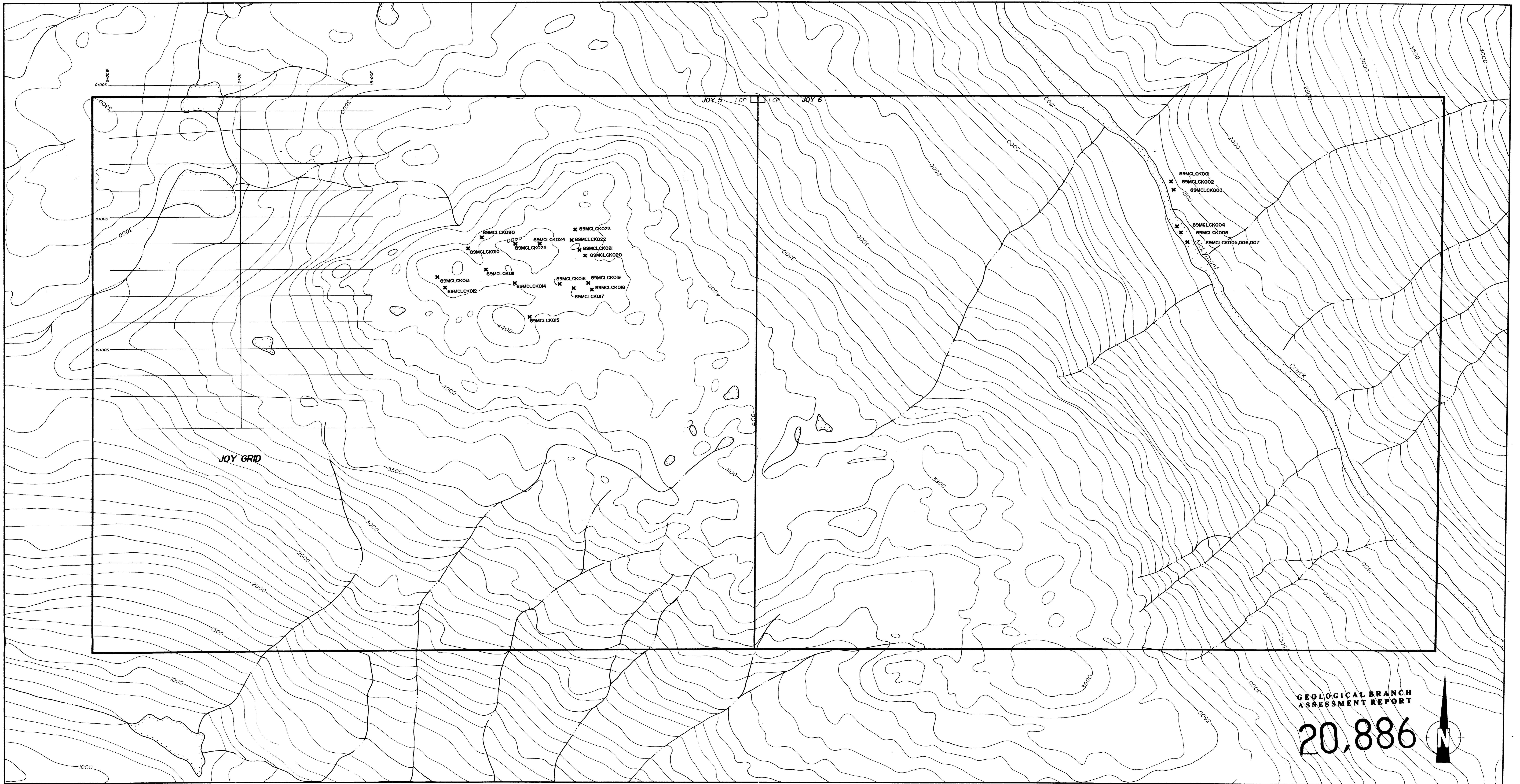
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,886



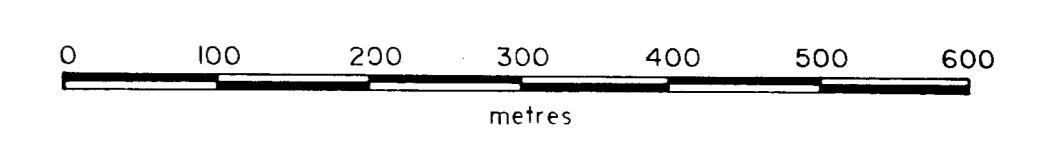
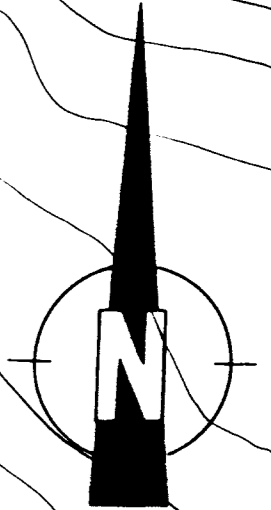
LEGEND			
<b>A</b>	syenite (float)		contour (100ft interval)
<b>B</b>	monzonite		creek
<b>C</b>	granite		creek/lake/river
<b>D</b>	grano diorite		claim boundary
			contact
			fault

FLORIN RESOURCES INC. CRIMSONSTAR RESOURCES LTD.			
<b>JOY 5 &amp; 6 CLAIMS</b>			
<small>LIARD MINING DIVISION, B.C.</small>			
<b>PROPERTY GEOLOGY</b>			
<small>Scale</small> 1:5000	<small>Date</small> Aug 90	<small>Drawn</small> B.D.S.	<small>N.T.S.</small> 104B/10W
<small>KRAUSE &amp; ASSOCIATES INC.</small>			<small>Figure</small> 4


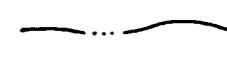





GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,886

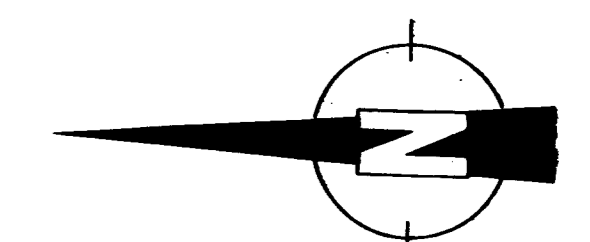


**LEGEND**

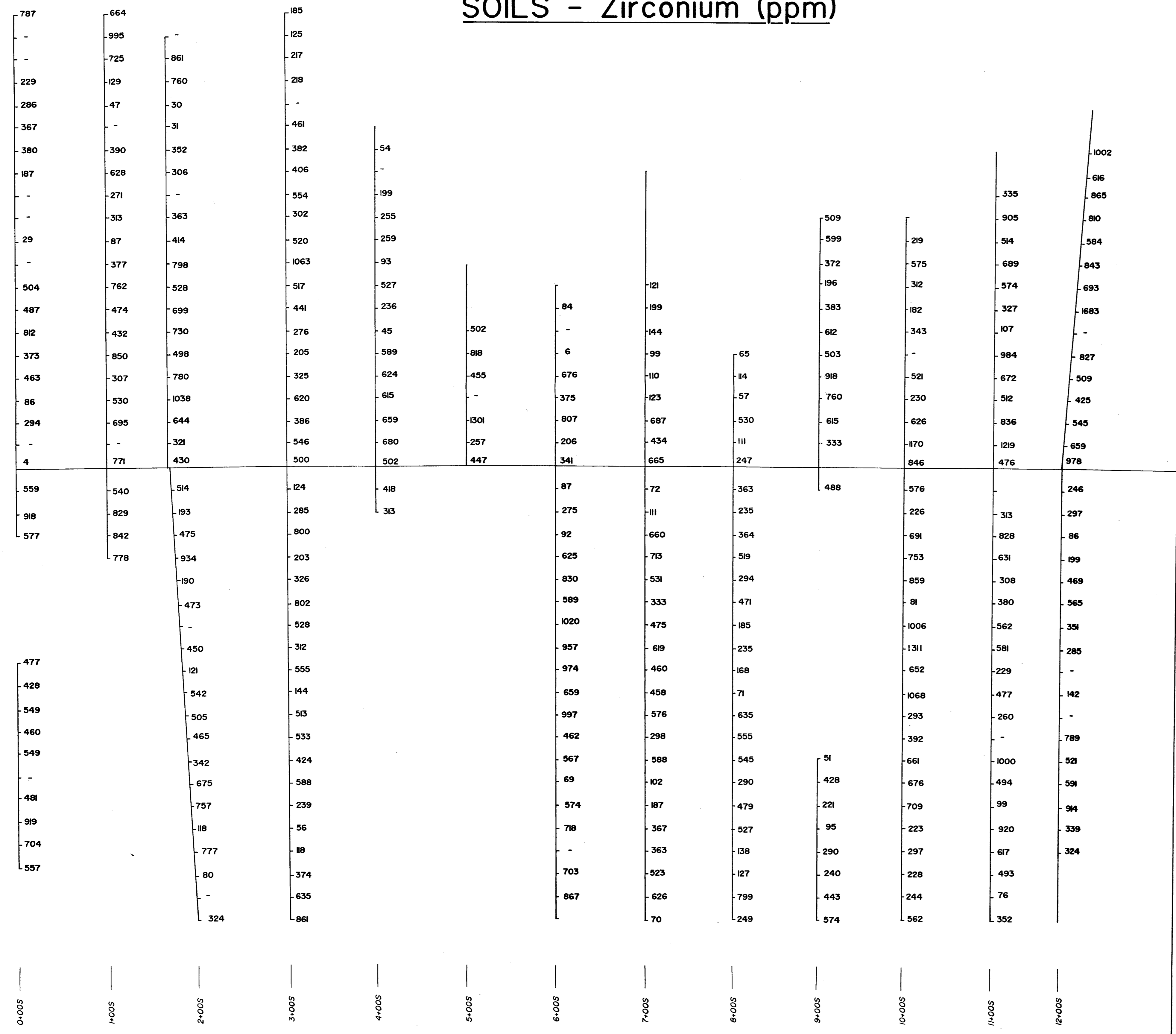
-  contour (100ft interval)
-  creek
-  creek/lake/river
-  claim boundary
-  rock sample

FLORIN RESOURCES INC. CRIMSONSTAR RESOURCES LTD.			
<b>JOY 5 &amp; 6 CLAIMS</b>			
<small>LIARD MINING DIVISION, B.C.</small>			
<b>GRID &amp; SAMPLE LOCATIONS</b>			
Scale	Date	Drawn	N.T.S.
1:2500	Dec. '90	B.D.S.	1048/10W
KRAUSE & ASSOCIATES INC.			Figure 5

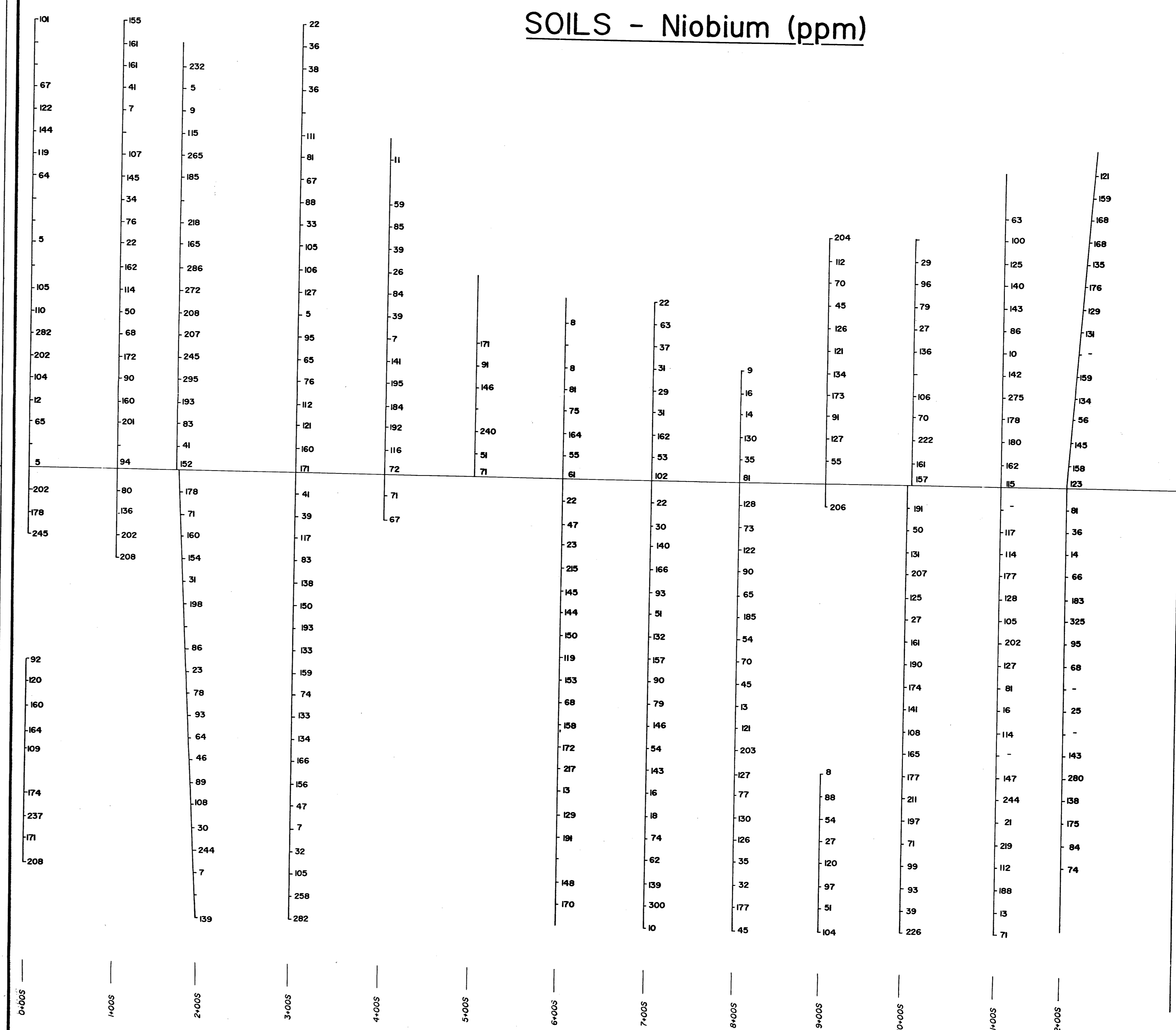




### SOILS - Zirconium (ppm)



### SOILS - Niobium (ppm)



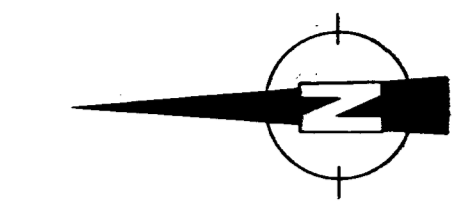
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

# 20,886

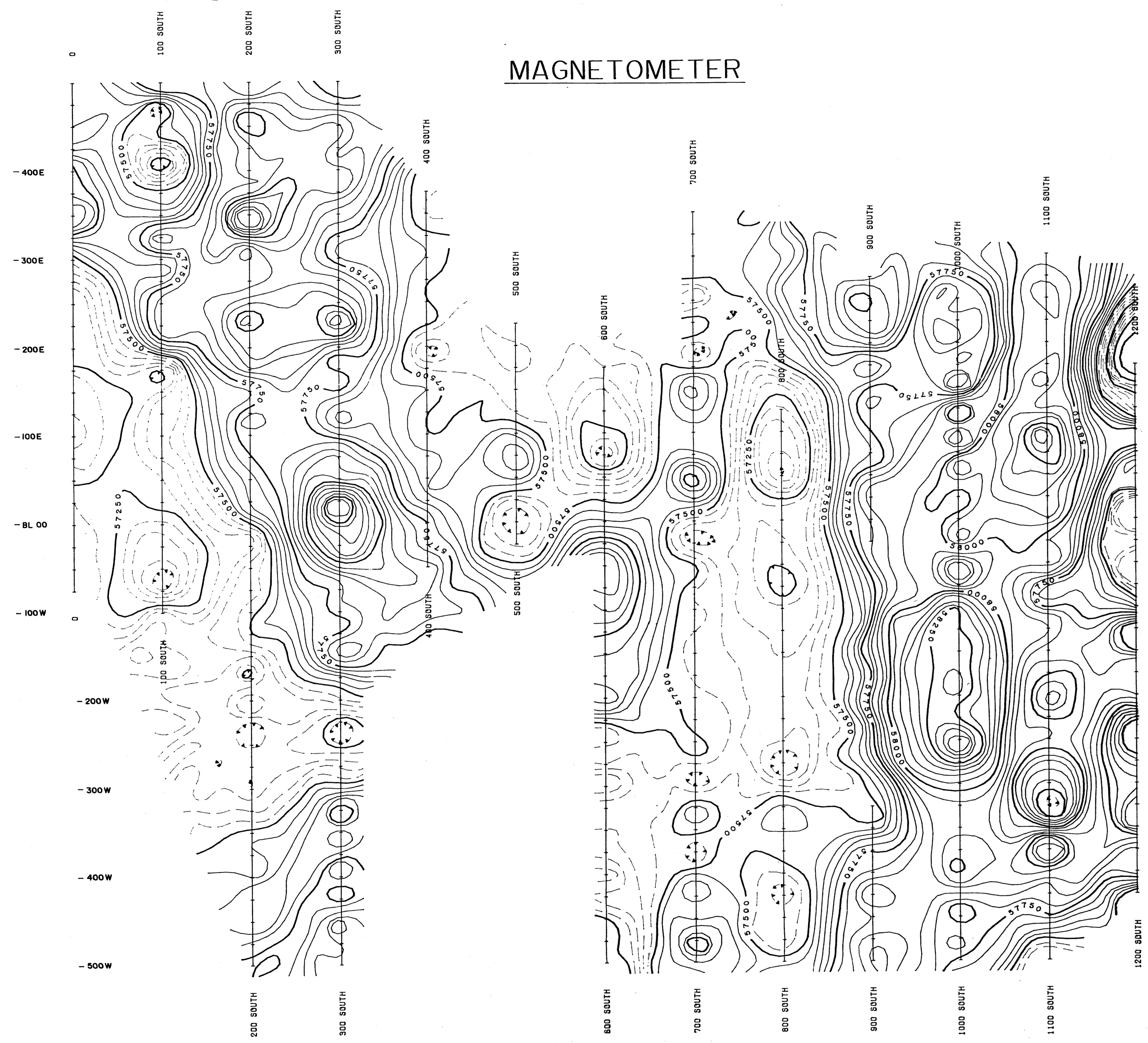
FLORIN RESOURCES INC.  
CRIMONSTAR RESOURCES LTD.  
**JOY 5 & 6 CLAIMS**  
LIARD MINING DIVISION, B.C.

**GEOCHEMISTRY**  
-ZIRCONIUM & NIOBIUM-

Scale: 1:2500 Date: Dec'90 Drawn: B.D.S. R.T.S.: 104B/10W  
KRAUSE & ASSOCIATES INC. File: 6

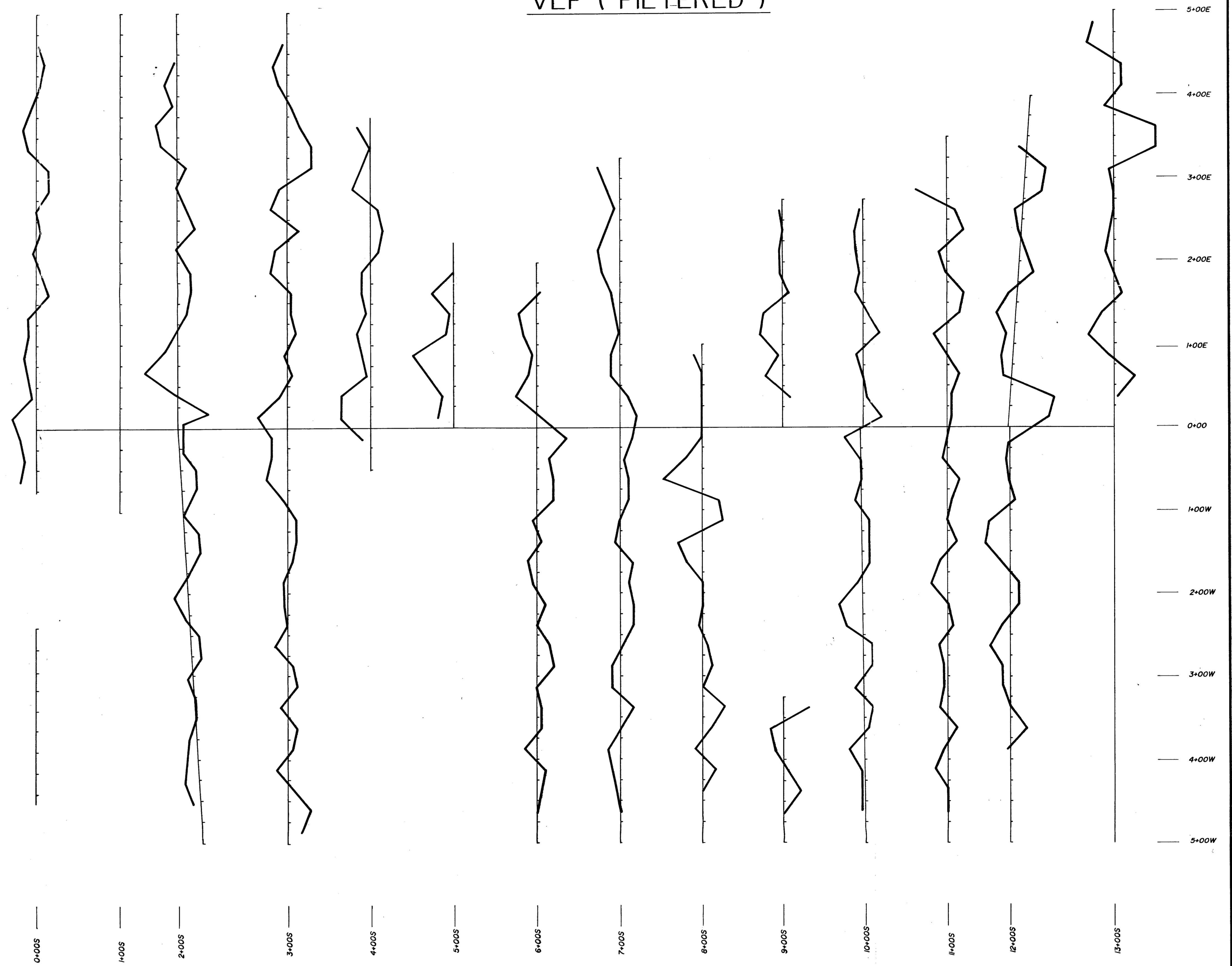


### MAGNETOMETER



( CORRECTED FOR DIURNAL VARIATION )

### VLF ( FILTERED )



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

# 20,886

FLORIN RESOURCES INC. CRIMSONSTAR RESOURCES LTD.			
JOY 5 & 6 CLAIMS LIARD MINING DIVISION, B.C.			
MAGNETOMETER & VLF (FILTERED)			
Scale: 1:2500	Date: Dec'90	Drawn: B.D.S.	M.T.S.: 104B/10W
KRAUSE & ASSOCIATES INC.			Page: 7