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ASSESSMENT REPORT

**GEOCHEMICAL, GEOPHYSICAL
AND DIAMOND DRILLING**

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VANCOUVER, B.C.

PORPHYRY CREEK PROPERTY
KAREN 3, LADY DIANA 1-4, LADY DIANA 6,
BEAR, KLIYUL, EMER 1-9, AND
FINN 1-4 CLAIMS
OMINECA MINING DIVISION

NTS: 94C/5,12
94D/8,9

LATITUDE: 56°29'N
LONGITUDE: 125°58'W

OWNERS: TECK CORPORATION
TOTAL ENERGOLD CORPORATION

OPERATOR: TECK EXPLORATION LTD.

WRITERS: J.R. TOOHEY (Teck Exploration Ltd.)
P. CARTWRIGHT (Pacific Geophysical Ltd.)
S.J. HOFFMAN (Prime Geochemical Methods Ltd.)

January 27, 1992

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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22,083

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APPENDICES

- APPENDIX 1 Companion Report Entitled "Soil Geochemical Assessment Report - Porphyry Creek Property" by Dr. S.J. Hoffman of Prime Geochemical Methods Ltd. (Bound separately).
- APPENDIX 2 Companion Report Entitled "Report on the Induced Polarization, Resistivity and Magnetic Surveys on the Porphyry Creek Property" by P. Cartwright and M. Cormier of Pacific Geophysical Ltd. (Bound separately).
- APPENDIX 3 Drill Logs
- APPENDIX 4 Drill Core Assay Certificates

INTRODUCTION

This report documents field exploration work carried out on the Porphyry Creek property by Teck Exploration Ltd. between July 10 and September 9, 1991, including:

- 1) collection of 2829 soil and talus fines samples,
- 2) 89.1 line kilometres of combined induced polarization, resistivity and total field ground magnetic surveys, and
- 3) 457.19 metres of diamond drilling.

LOCATION AND ACCESS

The Porphyry Creek property is located 215 km NNE of Smithers, B.C. (See Figure 1). It lies to the west of Lay Creek, between Aiken and Johanson Lakes. The Omineca Mining Access Road passes within 3 km of the NE corner of the property. The driving time from Ft. St. James is approximately 6 hours. A gravel airstrip at Johanson Lake, 23 km to the NW, accommodates medium-sized wheeled aircraft. The flying time from Smithers is approximately 1 hour.

PHYSIOGRAPHY AND VEGETATION

The physiography of the area is characterized by broad glacial valleys rising steeply to rugged peaks and ridges ranging in elevation from 2,000 to 2,300 metres. Numerous well-developed cirques host small receding alpine glaciers. Thick glacial drift and alluvium mantle the valley floors. Higher elevations are typified by large percentages of bedrock exposure on rugged spurs separated by gullies with thick aprons of loose blocky talus.

Treeline is at about 1500 metres elevation. Alpine grasses and stunted shrubs vegetate the higher elevations. Lower valley slopes are forested with stands of spruce and balsam.

CLAIMS STATUS

The property consists of 20 contiguous 4 post claims and one fractional claim, comprising a total of 311 units (see Figure 2 and Table 1). All of the claims are owned by Teck Corporation and Total Energold Corporation.

TABLE 1 - CLAIMS STATUS

CLAIM NAME	RECORD NUMBER	OWNERSHIP	UNITS	EXPIRY DATE
KLIYUL	1581	TECK CORPORATION	20	DEC 19,1993
BEAR	1997	TECK CORPORATION	12	AUG 24,1993
KAREN 3	2263	TECK CORPORATION	8	OCT 29,1993
LADY DIANA 1	3999	TOTAL ENERGOLD CORPORATION	12	JUL 28,1993
LADY DIANA 2	4000	TOTAL ENERGOLD CORPORATION	18	JUL 28,1993
LADY DIANA 3	4001	TOTAL ENERGOLD CORPORATION	9	JUL 28,1993
LADY DIANA 4	4002	TOTAL ENERGOLD CORPORATION	15	JUL 28,1993
LADY DIANA 6Fr.	4003	TOTAL ENERGOLD CORPORATION	1	JUL 28,1993
EMER 1	11787	TECK CORPORATION	20	APR 28,1999
EMER 2	11788	TECK CORPORATION	20	APR 28,1996
EMER 3	11789	TECK CORPORATION	20	APR 28,1997
EMER 4	11790	TECK CORPORATION	20	APR 28,1999
EMER 5	11791	TECK CORPORATION	20	APR 28,1999
EMER 6	11792	TECK CORPORATION	20	APR 28,1999
EMER 7	12453	TECK CORPORATION	16	AUG 20,1996
EMER 8	12454	TECK CORPORATION	8	AUG 20,2001
EMER 9	12455	TECK CORPORATION	12	AUG 20,1991
FINN 1	12993	TECK CORPORATION	20	FEB 16,1992
FINN 2	12994	TECK CORPORATION	10	FEB 16,1992
FINN 3	12995	TECK CORPORATION	20	FEB 16,1992
FINN 4	12996	TECK CORPORATION	20	FEB 16, 1992

EXPLORATION HISTORY

Exploration activity in the area dates back to the 1930's when Cominco explored lode gold showings at Porphyry Creek, Croydon Creek and nearby Granite Basin. A forest fire in 1938 destroyed Cominco's Croydon Creek camp and work in the area was subsequently halted. The period 1946 to 1948 saw renewed interest, leading to the discovery and staking of the Shell and Soup prospects comprising magnetite-chalcopyrite-Au skarns and veins located immediately west and northwest of the present Porphyry Creek property. These showings have been explored intermittently up to recent years.

In 1963, Rio Tinto discovered porphyry Mo mineralization at Davie Creek, a minor tributary of Porphyry Creek. The claims were abandoned in 1964 following a short drill program. During the early 1970's the area was actively explored for porphyry Cu-Mo mineralization by a number of companies. UMEX held claims covering the Raven prospect and Stellac staked the Sarah claims to the south. Both of these old prospects are included in the present Porphyry Creek property. BP has held ground in the surrounding area since the mid-1970's.

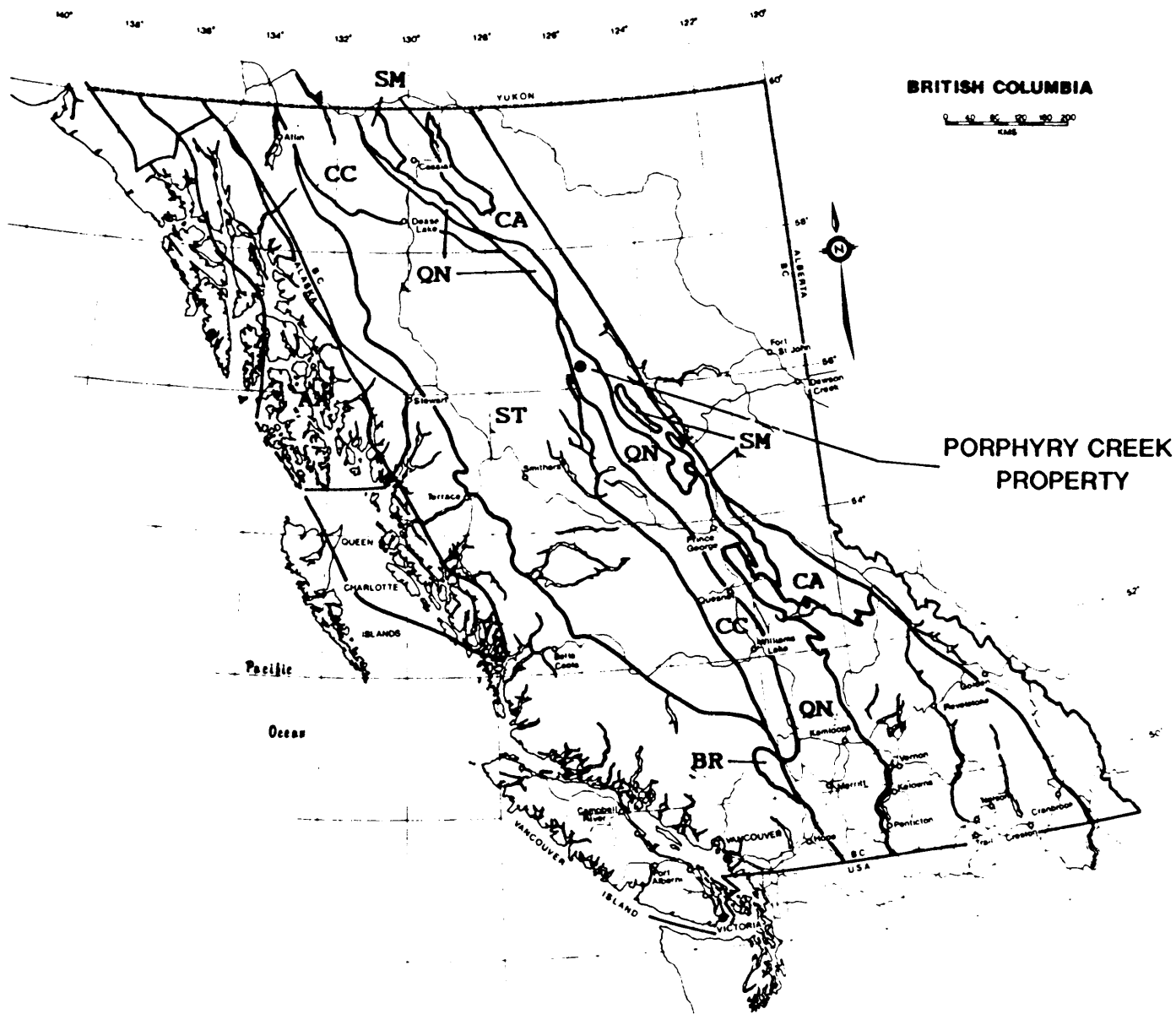
Teck staked the Davie Creek porphyry Mo prospect in 1978. The property was explored in joint ventures with Chevron (1979) and Getty Resources (1981-83), the final result being a drill-indicated resource estimated at 100 million tons grading 0.1%MoS₂. Teck resumed exploration on the property in 1990 with a new focus emphasizing the alkaline porphyry Cu-Au potential. The 1990 program involved reconnaissance mapping at a scale of 1:10,000, prospecting, and contour soil sampling. A 25 line-km grid ("Raven Grid") was placed over the old Raven showing and was soil sampled and mapped late in the 1990 field season.

REGIONAL GEOLOGY

The Porphyry Creek property lies within the tectonostratigraphic terrane designated Quesnellia by Wheeler, et al (1988). Quesnellia extends as a narrow NNW-trending belt over most of the length of the Canadian Cordillera (See Figure 3). It is an assemblage of Upper Triassic to Lower Jurassic island-arc submarine volcanics and comagmatic subvolcanic intrusions represented in the Omineca region by the Takla Group volcanic/volcaniclastic succession and by early phases of the Hogem batholith.

The NNW-striking Pinchi-Ingenika fault system lies 14 kilometres to the west of the property (See Figure 4). It juxtaposes Quesnellia with rocks of Stikinia. Quesnellia is bounded 3 kilometres to the east of the property by the NW-striking Lay Creek fault which separates it from the Cassiar Terrane. These two major fault systems merge 50 kilometres to the northwest drawing Quesnellia rocks into a narrow sliver.

CA - Cassiar	SM - Slide Mountain	Ax - Alexander
QN - Quesnellia	CC - Cache Creek	
ST - Stikinia	BR - Bridge River	



**ACCRETED TECTONOSTRATIGRAPHIC TERRANES
OF
BRITISH COLUMBIA**

FIGURE 3

The regional structural fabric is dominated by these two major fault systems and in a more local sense by the N-striking Dortatelle fault. Less prominent NE-striking faults are also an important element of the regional structural pattern.

PROPERTY GEOLOGY (See Figure 4)

The property is underlain by rocks of the Takla Group intruded by a variety of alkaline and calc-alkaline plutons.

Takla Group

The Takla Group is a thick conformable succession of subaqueous volcanic, volcanoclastic and sedimentary rocks ranging in age from Upper Triassic to Lower Jurassic. In the Porphyry Creek area, the Takla Group comprises approximately equal proportions of volcanic and sedimentary rocks. The dominant volcanic lithology is grey-green porphyritic andesite to basalt flows containing phenocrysts of either hornblende pseudomorphic after pyroxene, or zoned plagioclase or both, in a dark aphanitic groundmass. The flows appear massive, are thick-bedded (up to 100 metres thick) and the sequence lacks distinctive marker strata. Within the volcanic sequence are found lesser flow breccias and toward the top of the sequence are minor tuffs and agglomerates.

The sedimentary part of the sequence comprises thin- to medium-bedded greywackes consisting almost entirely of volcanic-derived sediment, and much less abundant limestone, black carbonaceous argillite and siltstone, not of volcanic derivation.

Croydon Creek Stock

This composite pluton comprises the oldest intrusive suite exposed and covers a large area in the south half of the property. The average composition is that of hornblende diorite with equal proportions of the two essential constituents-hornblende and plagioclase. However, rocks of varying texture and with varying proportions of hornblende and plagioclase intrude each other in an intricate and complex fashion, resulting in a complex of dyke-like bodies and inclusions. There is a definite order of intrusion with the oldest varieties being the most mafic and younger rocks progressively more feldspathic.

The following intrusive sequence has been documented:

1. Hornblendite, pyroxene hornblendite and actinolite amphibolite.
2. Feldspathic hornblendite and appinite (up to 15% feldspar).
3. Medium-grained appinite (15-25% feldspar).

4. Pegmatitic appinite and hornblende diorite (15-40% feldspar).
5. Fine-grained appinite (20% feldspar).
6. Medium-grained appinite and hornblende diorite (40-50% feldspar).
7. Fine-grained hornblende diorite (50% feldspar).
8. Coarse-grained hornblende diorite (50% feldspar).
9. Fine- to medium-grained hornblende diorite (50-80% feldspar).

These rocks are all cut by crowded monzonite porphyry dykes which appear to be late stage differentiates of the dioritic magma. The crowded porphyries are characterized by lath-shaped phenocrysts of plagioclase and lesser hornblende in a fine-grained groundmass of plagioclase and k-feldspar with mafics.

Rocks having similar compositions, textures and interrelationships intrude the Takla Group volcanics in the northeast corner of the property (Raven Grid area).

Kliyul Creek Pluton

The northeast margin of this intrusive body is exposed in the southwest corner of the property. It comprises leucocratic quartz-rich rocks ranging in composition from quartz diorite to granodiorite. They are light grey, medium-grained equigranular and composed essentially of quartz, plagioclase, k-feldspar, and biotite with minor muscovite.

Davie Creek Stock

This small stock is a composite of quartz-rich intrusive varieties ranging in composition from quartz-monzonite to granodiorite. Most varieties are porphyritic with ovoid quartz phenocrysts. Some have plagioclase and less abundant biotite phenocrysts as well. Several varieties of compositionally-similar dykes cut the main stock and the country rocks in its immediate vicinity.

Alteration

The volcanics and the intrusive rocks of the Croydon Creek Stock and Davie Creek Stock have been variably affected by potassic and propylitic hydrothermal alteration. Potassic alteration, as potassium feldspar replacement, is most pronounced within and immediately surrounding the Davie Creek Stock where it is moderate to intense and locally pervasive. It is less pronounced in the volcanics and rocks of the Croydon Creek Stock but occurs sparingly as stringers and fracture-controlled disseminations of potassium feldspar and as fresh brown biotite replacing hornblende.

Weak pervasive chloritization is a ubiquitous feature of the volcanics, diorite and monzonite. Weak to moderately-intense fracture-controlled epidotization occurs widely throughout the same rocks. Other manifestations of widespread propylitic alteration in these rocks are the occurrence of calcite veinlets and broad zones of pyritization.

Structure

The predominant structural orientation in the Porphyry Creek area is NW. At least 6 important NW- to WNW-striking faults cross the property. Most are traceable for several km beyond the property boundaries. They show up to 1.3 km of left-lateral displacements of diorite and monzonite intrusive contacts.

Subordinate faults striking N and NNE are also important structural features but show lesser lateral displacements. Most of the faults on the property are characterized by 1- to 15-metre wide zones of intense shear foliation and gouge attended by chloritization and carbonatization.

Mineralization

The following forms of mineralization have been discovered on the property to date:

1. High-grade Au-bearing quartz-chalcopyrite-pyrite fissure veins (eg Croydon veins explored by Cominco in the 1930's). They have thus far been found to be narrow, erratic and discontinuous.
2. Moderate- to high-grade chalcopyrite and Au-bearing magnetite calc-silicate skarn deposits hosted by limy tuff horizons within the volcanic sequence (eg. the Soup skarn horizon which extends onto the SW corner of the property and similar skarn mineralization in the vicinity of Bloom Cirque).
3. High-grade chalcopyrite-and Au-bearing magnetite-pyrite-pyrrhotite fissure vein deposits hosted by andesite as at the Shell prospect at the western edge of the property.
4. Calc-alkaline porphyry Mo-Cu mineralization occurring as disseminations, fracture-fillings and quartz-veinlet stockworks throughout and confined to the Davie Creek Stock. Considerable scheelite is found in pan concentrates from streams draining the Davie Creek Stock.
5. Alkaline porphyry Cu-Au mineralization comprised of broad zones of disseminated and fracture-filling pyrite and chalcopyrite hosted by volcanics, diorite and monzonite (eg. Bloom Cirque, Raven Grid, and Porphyry Creek valley).

6. High-grade Au-bearing quartz-carbonate-chalcopyrite veins hosted by major shears (eg. Croydon Ridge).

GEOCHEMISTRY

A 60 kilometre cut line grid ("Porphyry Creek Grid") was established in the southeast part of the Porphyry Creek drainage in 1991 (See Figure 4). The grid lines are spaced 100 metres apart with a station interval of 25 metres. A total of 2401 B-horizon soil samples were collected from the grid. Sample locations corresponding to picketed grid stations were marked by orange flagging upon which was affixed the sample number.

A small (3.6 kilometre) compass and topefil controlled grid was established in Bloom Cirque for the purpose of soil sampling (See Figure 4). The line spacing is 100 metres and the sample station interval is 25 metres. Soil samples on this grid totalled 159 and sample locations were marked in the same fashion as for the Porphyry Creek Grid.

An additional 269 contour soil and talus fines samples were collected in a reconnaissance geochemical survey of the FINN claims which were staked in February of 1991. Parallel traverse lines were spaced 100 metres apart in elevation and samples collected on 50-metre intervals.

In all three surveys samples weighing approximately 0.5 kg were collected using shovels. They were taken at depths of between 10 and 50 cm, depending upon the degree of soil development and depth of the A horizon. The samples were placed in gusseted wet-strength kraft envelopes and shipped to Rossbacher Laboratory in Burnaby, B.C. where they were oven-dried and screened to minus 80 mesh. The minus 80 mesh fractions were analysed for 32 elements by ICP following aqua regia digestion and for Au by Atomic Absorption.

The geochemical data were submitted to Prime Geochemical Methods Ltd. who performed statistical data analyses, produced dot-plot style maps depicting element concentrations and provided a geochemical interpretation of the results.

A report on the data evaluation and interpretation by Dr. S.J. Hoffman is attached as Appendix 1. Included are sample location maps, element distribution maps, certificates of laboratory analyses and completed field note forms.

GEOPHYSICS

All of the geophysical work carried out on the property in 1991 was contracted to Pacific Geophysical Ltd. of Vancouver. They completed combined induced polarization, resistivity and total field ground magnetic surveys amounting to 25.75 line kilometres on the Raven Grid and 63.35 line kilometres on the Porphyry Creek Grid (See Figure 4). Appendix 2 contains a report by Pacific Geophysical Ltd. which includes detailed descriptions of the instrumentation and survey specifications, data presentation in the form of pseudosections and plans, and interpretation.

DIAMOND DRILLING

J.T. Thomas Diamond Drilling Ltd. of Smithers, B.C. were contracted to drill 3 holes totalling 1500 feet (457.19 metres). They provided a JT 600 heliportable drill rig and BQ Thinwall equipment. The drilling was carried out between August 30 and September 4, 1991.

All of the mineralized core was split and submitted to Rossbacher Laboratory in Burnaby, B.C. where it was assayed for Cu and analysed for Au by Atomic Absorption. A total of 161 core samples were taken, the average sample length being 3.05 metres. The remaining core is stored in wooden core boxes at the respective drill sites.

All three holes were targeted on a coincident chargeability and Cu soil geochemical anomaly in the Raven Grid area. The holes were widely-spaced and located in such a way as to provide a broad cursory test of the potential for a large (eg 250 mt) porphyry Cu-Au deposit.

Table 2 is a drill hole summary listing the grid coordinates, depth, azimuth and inclination of each hole. The drill hole locations are shown in Figure 5. Drill logs appear in Appendix 3 and the core assay and analytical certificates in Appendix 4.

The drilling encountered porphyritic andesitic and basaltic flows and flow breccias, intrusive bodies of porphyritic hornblende diorite and crowded monzonite porphyry, and late andesite porphyry dykes. With the exception of the andesite porphyry dykes, all of the lithologies showed varying intensities of potassic and propylitic alteration and were mineralized with disseminations and fracture-fillings of pyrite and lesser chalcopyrite. Copper grades in the range of 0.02-0.08% were returned. The higher concentrations of chalcopyrite are associated with intense fracture-controlled epidote alteration and the occurrence of hydrothermal magnetite in the form of veinlets and localized disseminations.

TABLE 2

DIAMOND DRILL HOLE SUMMARY - RAVEN GRID

HOLE	COORDINATES	INCLINATION	AZIMUTH	DEPTH
91-R-1	50+00N/95+00W	-45°	352°	152.40m
91-R-2	53+50N/92+00W	-45°	172°	149.65m
91-R-3	50+25N/91+50W	-45°	082°	155.14m

CONCLUSIONS

1. Geologic mapping has identified the property setting as a high-level subvolcanic intrusive environment. A differentiated alkalic magma series comprising small stocks, plugs and dykes of diorite and monzonite intrude and are comagmatic with overlying volcanics.
2. The property lies within an area of strong Cu and Au metallogeny. These are important Cu and Au lode prospects peripheral to the property and numerous bedrock occurrences have been located during property-wide prospecting programs.
3. Limited drill testing of one coincident geochemical and chargeability anomaly on the Raven Grid failed to intersect economically significant grades of Cu and Au.
4. Numerous other targets await further exploration and drilling, including two broad areas of coincident geochemical and chargeability response in the Porphyry Creek area and an area of high-contrast Cu and Au geochemistry in Bloom Cirque.

RECOMMENDATIONS

1. Further exploration work is warranted and recommended.
2. The 1992 exploration program should entail the following:
 - a) follow-up of outstanding soil geochemical anomalies in order to locate, expose and characterize the bedrock sources;
 - b) extension of the Porphyry Creek grid to close-off existing anomalous trends;
 - c) detailed rock-chip sampling in the Bloom Cirque area to characterise the grade distribution of exposed mineralization; and
 - d) cursory drill testing of prioritized targets thus generated.

STATEMENT OF COSTS


Field salaries:	
P.L. Grexton, T. Berger, R. Smallwood, J. Bacon, E. Ronyecz, J. Weber I. Sommerville, P. Griffioen, P. Baulne	\$ 123,244.55
Geological Consultant-Project Management and Supervision:	
J.R. Toohey	9,590.48
Pacific Geophysical Ltd.	66,836.00
J.T. Thomas Diamond Drilling Ltd.	33,597.85
Bear Mountain Exploration Service Ltd.	82,478.38
Prime Geochemical Methods Ltd.	1,654.59
Nadir Mapping (Topographic base maps)	4,251.50
Pegasus Professional Services (Terrain Analysis)	4,619.73
Aircraft Support:	
Pacific Western Helicopters	103,762.82
Central Mountain Air	4,858.55
Northern Thunderbird air	1,065.90
Rossbacher Laboratory (assays and geochemical analyses)	45,735.13
Equipment and Supply Purchase	50,930.81
Equipment Rental	7,080.03
Groceries and Camp Supplies	28,641.51
Expediting	
Smithers Expediting	2,246.46
Russell Transfer	4,589.20
Freight Charges	12,268.18
Truck Rentals	6,036.89

Fuel	3,199.37
Travel Costs	7,365.94
B.C. Telephone	328.80
Maps and Reproductions	2,688.12
Report Preparation:	
J.R. Toohey	2,412.85
Pacific Geophysical Ltd.	5,938.50
Prime Geochemical Methods Ltd.	<u>4,162.57</u>
TOTAL	<u>619,584.71</u>

WRITER'S CERTIFICATE

I, Jeffrey Robert Toohey, of 27-39752 Government Road, Squamish, British Columbia, do hereby certify that:

1. I am a consulting geological engineer with offices at the above address.
2. I am a graduate of Colorado School of Mines, Golden, Colorado, U.S.A. (B.Sc. Geological Engineering, 1984).
3. I am a graduate of Queen's University, Kingston, Ontario (M.Sc. Geology - Mineral Exploration 1986).
4. I am a member in good standing of the Association of Professional Engineers of British Columbia.
5. I have been engaged in mineral exploration in British Columbia, the Yukon and Northwest Territories, Saskatchewan and the Western United States since 1974.
6. I supervised exploration work carried out on the Porphyry Creek property in 1991 and am the writer of the foregoing report.



J.R. Toohey, M.Sc. P. Eng.
January 27, 1990

APPENDIX 3

DRILL LOGS



DIAMOND DRILL HOLE LOG

TECK CORPORATION

LEGEND			
Porphyritic Plagioclase Andesite	PA	Basalt	B
Cracked Monzonite Porphyry	MP		
Porphyritic Hornblende Diorite	HD		
Augite Andesite Porphyry	AA		

SURVEY

Depth	Bearing	Inclination

Property	<u>PORPHYRY CREEK</u>	Hole No.	<u>91-R-1</u>
Location	<u>NTS 94C/12</u>	Bearing at collar	<u>352°</u>
		Inclination at collar	<u>-45°</u>
Coord. - Collar N	<u>50+00N</u>	Length	<u>152.40 metres</u>
	<u>E 95+00W</u>	Core Size	<u>BQ Thin Wall</u>
Elev. - Collar	<u>1850 metres</u>	Date Started	<u>AUG. 30, 1991</u>
Date Completed	<u>AUG. 31, 1991</u>	Logged By	<u>J. TOOHEY</u>

LITHOLOGY, ALTERATION, MISC.	Depth	GRAPHIC LOG	MINERALIZATION	RECOVERY		ANALYTICAL				BOX	
				Run	%	Sample	Interval to	width			
0-1.51 Overburden						21451	6.63	8.30	1.67		
1.51-6.63 FA Plag. phenos in ophanitic dk grey ground mass, phenos 0.5-5 mm. Not altered.	5		Not mineralized			2	9.43	11.95	2.52		
6.63-8.30 HD Med. grained w/ coarse euh. hornblende phenos. Epidote Alteration on fractures			py, cpy, mal on fractures			3	11.95	12.25	0.60		
8.30-9.43 PA as above			Not mineralized.			4	12.55	15.57	3.02		
9.43-11.95 HD Hornblende phenos 1-2 mm, euh. - sub. Epidote on fractures	10		5-15% py, minor cpy			5	22.49	22.83	0.34		
11.95-12.25 MP			5-12% py, minor cpy			6	23.54	24.98	0.84		
12.25-15.57 HD High fracture density, epidote alteration on fractures, Fault contact at 13.57 core @ 17°	15		5-10% py, minor but significant cpy			7	24.38	27.48	3.05		
15.57-22.49 FA as above			Not mineralized			8	27.43	30.99	3.05		
22.49-22.85 HD as above						9	30.48	33.51	3.03		
22.85-23.54 PA			3-7% py, minor cpy			60	33.51	34.36	0.85		
23.54-34.36 HD Epidote on fractures	20					1	34.36	35.47	1.11		
34.36-35.47 MP Epidote veinlets						2	35.47	38.98	3.51		
35.47-38.98 HD Microcryst epidote-py veinlets. Irregular quartz-py-cpy-mt stringer @ 38.90	25		7-15% py, minor but significant cpy			3	38.98	39.62	0.64		
38.98-43.78 MP	30					4	39.62	42.67	3.05		
43.78-44.67 HD						5	42.67	43.78	1.11		
44.67-48.90 MP Vague contact @ 44.67	35		2-6% py, no cpy			6	43.78	44.67	0.89		
48.90-49.70 AA	40		3-5% py, no cpy			7	44.67	48.90	4.23		
						8	48.90	51.90	2.00		
						9	50.90	54.95	4.05		
						70	54.95	58.05	3.10		
						1	58.05	58.89	0.84		
						2	58.89	60.04	1.15		
						3	60.04	61.00	3.96		
						4	61.00	67.10	3.10		
						5	67.10	70.10	3.00		
						6	70.10	72.15	3.05		
						7	72.15	75.59	2.44		
						8	75.59	77.02	1.43		
						9	77.02	78.64	1.62		
						21480	78.64	81.79	3.15		

DDH: 91-R-1

LITHOLOGY, ALTERATION, MISC.	Depth	GRAPHIC LOG	MINERALIZATION	RECOVERY		ANALYTICAL				BOX	
				Run	%	Sample	Interval to	width			
49.70-53.37 PA Plag. phenos 0.5-2mm	50		5-10% py, minor			21481	81.79	85.34	3.55		
53.37-54.00 Fault quart-py-ep veinlet @ 51.27			but significant cpy locally				85.34	88.39	3.05		
54.00-54.95 AA			5-10% py, minor cpy				88.39	91.44	3.05		
54.95-58.05 MP epidote-py stockwork nearly developed.	55		2-8% py, minor cpy				91.44	94.49	3.05		
58.05-58.89 AA Weak epidote development							94.49	97.54	3.05		
58.89-7702 MP Patchy weak epidote development, quartz-py-mt-ep veinlet @ 61.50 core @ 12° and @ 71.55	60		7-12% py, minor cpy				97.54	101.50	3.96		
							101.50	103.63	2.13		
	65		4-8% py, minor but significant cpy				103.63	106.68	3.05		
							106.68	109.73	3.05		
							109.73	110.96	1.13		
	70						110.96	111.36	0.50		
							111.36	114.60	3.24		
							114.60	115.85	1.25		
							115.85	118.47	2.62		
	75						118.47	120.40	1.93		
7702-77.65 HD Fine to medium grained			5-8% py, minor cpy				120.40	123.74	3.34		
77.65-78.24 B numerous py veinlets			3-7% py, no cpy				123.74	128.40	4.66		
78.24-80.95 HD	80		8-15% py, minor cpy				128.40	131.06	2.66		
80.95-83.37 B Massive, aphanitic							131.06	134.11	3.05		
83.37-87.34 HD Hornblende phenos 0.5-3 mm	85		7-10% py, minor cpy				134.11	137.38	3.27		
							137.38	139.98	2.60		
							139.98	141.33	1.35		
87.34-101.50 AA dk greenish grey aphanitic groundmass, augite phenos sub-subh 0.5-5mm, plag phenos sub-anh 1-10 mm	90		2-4% py, minor cpy				141.33	143.36	2.03		
							143.36	145.69	2.33		
	95						145.69	149.35	3.66		
							21506	149.35	152.40	3.05	
	100										
101.50-106.49 MP Epidote and K-spar alteration assoc. w/ fractures, 5% K-spar	105		5-7% py, cpy as fracture fillings assoc. w/ epidote, pyrite								
106.49-110.86 AA Intense epidote alteration on fractures, weak patchy K-feldspar alteration	110		7-15% py, minor cpy								
110.86-111.36 MP			2-6% py, minor cpy								
111.36-114.73 B Intense fracture-controlled epidotization. Mt veinlet @ 114.73			3-5% py, minor cpy								
114.73-115.85 MP	115		1-2% py								
115.85-118.47 B			3-5% py								
118.47-128.40 MP Epidote & K-feld alteration	120		3-10% py, significant cpy								

DDH: 91-R-1



DIAMOND DRILL HOLE LOG

TECK CORPORATION

LEGEND	
Crowded Hornstone Basalt	MP <input type="checkbox"/>
Porphyritic plagioclase interbedded with MP	PG <input type="checkbox"/>
Basalt	B <input type="checkbox"/>
	<input type="checkbox"/>

SURVEY

Depth	Bearing	Inclination

Property	<u>PORPHYRY CREEK</u>	Hole No.	<u>91-R-2</u>
Location	<u>NTS 94 C/12</u>	Bearing at collar	<u>172°</u>
		Inclination at collar	<u>-45°</u>
Coord. - Collar N	<u>53+50N</u>	Length	<u>149.65 m</u>
E	<u>92+00W</u>	Core Size	<u>BQ Thin Wall</u>
Elev. - Collar		Date Started	<u>AUG. 31, 1991</u>
Date Completed	<u>SEPT. 2, 1991</u>	Logged By	<u>J. TOOLEY</u>

LITHOLOGY, ALTERATION, MISC.	Depth	GRAPHIC LOG	MINERALIZATION	RECOVERY		ANALYTICAL				BOX		
				Run	%	Sample	Interval to	width				
0-4.30 Overburden						21507	4.30	4.57	0.27			
						8	4.57	6.10	1.53			
						9	6.10	7.32	1.22			
4.30-17.24 B	5		2-7% py			10	7.32	9.34	2.02			
	10					11	10.36	14.63	4.27			
						12	14.63	17.24	2.61			
	15					13	17.24	18.61	1.37			
						14	18.61	21.64	3.03			
						15	21.64	24.39	2.74			
						16	24.39	27.43	3.05			
						17	27.43	31.09	3.66			
17.24-37.04 MP Weak to moderate epidote alteration - fracture controlled.	20		3-7% py			18	31.09	35.60	4.51			
						19	35.60	37.03	1.43			
	25					20	37.03	39.42	2.39			
						21	39.42	42.67	3.25			
						22	42.67	45.20	2.53			
	30					23	45.20	47.85	2.65			
						24	47.85	49.16	1.31			
						25	49.16	54.25	5.09			
	35					26	54.25	55.86	1.61			
37.04-37.20 Fault core @ 45°						27	55.86	56.95	1.09			
						28	56.95	59.13	2.18			
						29	59.13	61.26	2.13			
37.20-45.20 B massive, aphanitic	40		2-10% py			30	61.26	63.41	2.15			
						31	63.41	66.45	3.04			
						32	66.45	70.41	3.96			
	45					33	70.41	73.46	3.05			
						34	73.46	76.50	3.04			
45.20-49.16 MP Moderate epidote and K-feld alteration - fracture controlled			4-15% py, minor spyl			35	76.50	79.55	3.05			
	50					36	79.55	91.99	2.44			

DDH: 91-R-2

LITHOLOGY, ALTERATION, MISC.	Depth	GRAPHIC LOG	MINERALIZATION	RECOVERY		ANALYTICAL						BOX		
				Run	%	Sample	Interval to	width						
49.16-54.25 B Intense fracture controlled epidote alteration	50		8-12% py			21537	81.99	84.43	2.44					
						38	84.43	88.70	4.27					
54.25-55.86 PB plagioclase phenos	55		3-13% py			39	88.70	91.46	2.76					
55.86-56.95 MP K-feld alteration			8-15% PY, minor GPY			40	91.46	91.74	0.28					
56.95-63.41 PB up to 20% plag. phenos	60		3-12% py			41	91.74	94.11	2.37					
						42	94.11	97.84	3.73					
						43	97.84	100.58	2.74					
						44	100.58	102.11	1.53					
63.41-94.11 MP Moderate to locally-intense epidote and K-feld alteration.	65		2-7% py			45	102.11	103.94	1.83					
	70					46	103.94	106.98	3.04					
						47	106.98	109.54	2.56					
						48	109.54	111.41	1.87					
						49	111.41	112.09	0.68					
						50	112.09	113.08	0.99					
	75					51	113.08	116.13	3.05					
						52	116.13	119.18	3.05					
						53	119.18	122.23	3.05					
	80					54	122.23	125.27	3.04					
						55	125.27	128.32	3.05					
						56	128.32	131.37	3.05					
	85					57	131.37	134.41	3.04					
						58	134.41	137.33	2.92					
						59	137.33	140.51	3.18					
	90					60	140.51	142.95	2.44					
						61	142.95	146.91	3.96					
						62	146.91	149.10	1.19					
						63	149.10	149.16	1.55					
94.11-102.11 B Zones of intense epidote alteration, strong epidote-pyrite stockwork system	95		4-8% py											
	100													
102.11-109.54 MP locally-intense fracture-controlled epidote and K-feld alteration, minor mt	105		5-10% py											
	110													
109.54-122.23 B Some narrow epidote-pyrite veins. Zone of intense pervasive epidote alteration 114.25-114.98	115		2-3% py											
	120													

DDH: 91-R-2

DIAMOND DRILL HOLE LOG

TECK CORPORATION



LEGEND	
Crowded Monzonite <i>Pompaix</i>	MA <input type="checkbox"/>
Porphyritic Plagioclase hornblende Basalt	PB <input type="checkbox"/>
Bqsalt	B <input type="checkbox"/>
	<input type="checkbox"/>

SURVEY

Depth	Bearing	Inclination

Property <u>FORPHYRY CREEK</u>	Hole No. <u>91-R-3</u>
Location <u>NTS 94 C/12</u>	Bearing at collar <u>092°</u>
	Inclination at collar <u>-45°</u>
Coord. - Collar N <u>50+25N</u>	Length <u>155.14 m</u>
	Core Size <u>BQ Thin Wall</u>
E <u>91+50W</u>	
Elev. - Collar <u> </u>	
Date Started <u>SEPT. 2, 1991</u>	
Date Completed <u>SEPT. 4, 1991</u>	Logged By <u>J. TOOHEY</u>

LITHOLOGY, ALTERATION, MISC.	Depth	GRAPHIC LOG	MINERALIZATION	RECOVERY		ANALYTICAL					BOX	
				Run	%	Sample	Interval to	width				
0-9.75 Overburden	0					21564	9.75	13.11				
						65	13.11	14.63				
	5					66	14.63	17.07				
						67	17.07	19.00				
						68	19.00	21.34				
	10					69	21.34	24.09				
9.75-19.00 B Well-developed stockwork of narrow epidote-pyrite veinlets			4-10% PY			70	24.09	27.43				
						71	27.43	29.67				
	15					72	29.67	31.54				
						73	31.54	33.22				
						74	33.22	36.00				
	20					75	36.00	39.01				
19.00-40.70 MP Fracture-controlled epidote and K-feld alteration, locally intense			7-12% PY			76	39.01	40.70				
						77	40.70	42.99				
	25					78	42.99	44.25				
						79	44.25	45.61				
	30					80	45.61	48.76				
						81	48.76	51.58				
						82	51.58	54.09				
	35					83	54.09	57.91				
						84	57.91	60.96				
						85	60.96	63.40				
	40					86	63.40	66.44				
						87	66.44	69.46				
40.70-41.81 PB						88	69.46	73.15				
41.81-44.25 MP						89	73.15	76.20				
						90	76.20	78.94				
44.25-45.61 PB			2-9% PY			91	78.94	81.79				
45.61-51.58 MP narrow quartz veins with py-mt, intensifying epidote and K-feld alteration.			3-5% PY			92	81.79	84.43				
	50					215	84.43	87.13				

DDH: 91-R-3

LITHOLOGY, ALTERATION, MISC.	Depth	GRAPHIC LOG	MINERALIZATION	RECOVERY		ANALYTICAL				BOX	
				Run	%	Sample	Interval to	width			
	50										
51.58-54.08 PB			6-12% py			21594	87.98	90.53			
						95	90.53	93.58			
						96	93.58	96.62			
54.08-155.14 MP	55		3-5% py, minor GPV			97	96.62	100.00			
						98	100.00	103.02			
						99	103.02	106.07			
	60					21600	106.07	109.12			
						1	109.12	112.17			
						2	112.17	115.52			
	65					3	115.52	118.57			
						4	118.57	121.92			
						5	121.92	124.96			
	70					6	124.96	128.02			
						7	128.02	131.06			
						8	131.06	134.11			
	75					9	134.11	137.16			
						10	137.16	140.21			
						11	140.21	143.26			
	80					12	143.26	146.30			
						13	146.30	149.35			
						14	149.35	152.40			
	85					21615	152.40	155.14			
	90										
	95										
	100										
	105										
	110										
	115										
	120										

DDH:
91-R-3

APPENDIX 4
DRILL CORE ASSAY CERTIFICATES

ROSSBACHER LABORATORY LTD.

CERTIFICATE OF ANALYSIS

2225 Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-6910 Fax:299-6252

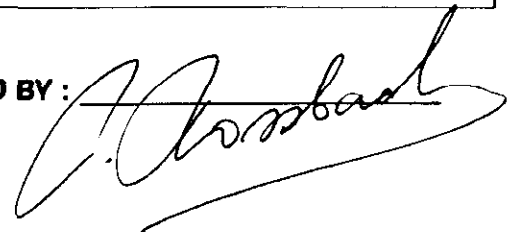
To : TECK EXPLORATIONS LTD.
960-175 SECOND AVE.
KAMLOOPS, B.C.

Project: 1384
Type of Analysis: Assay

Certificate: 91253
Invoice: 20404
Date Entered: 91-09-12
File Name: TEK91253
Page No.: 1

PRE FIX	SAMPLE NAME	% PPB	
		Cu	Au AA
A	21451	0.06	60
A	21452	0.07	90
A	21453	0.02	30
A	21454	0.07	70
A	21455	0.06	30
A	21456	0.07	40
A	21457	0.07	40
A	21458	0.05	10
A	21459	0.08	10
A	21460	0.01	5
A	21461	0.02	5
A	21462	0.02	5
A	21463	0.05	20
A	21464	0.03	5
A	21465	0.06	10
A	21466	0.03	5
A	21467	0.02	5
A	21468	0.04	10
A	21469	0.06	5
A	21470	0.04	5
A	21471	0.05	5
A	21472	0.05	5
A	21473	0.04	5
A	21474	0.06	10
A	21475	0.05	20
A	21476	0.06	5
A	21477	0.05	10
A	21478	0.04	5
A	21479	0.04	5
A	21480	0.03	5
A	21481	0.02	5
A	21482	0.01	5
A	21483	0.02	10
A	21484	0.04	10
A	21485	0.08	20
A	21486	0.06	70
A	21487	0.01	30
A	21488	0.04	120
A	21489	0.03	20
A	21490	0.06	10

CERTIFIED BY :



ROSSBACHER LABORATORY LTD.

CERTIFICATE OF ANALYSIS

2225 Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-6910 Fax:299-6252

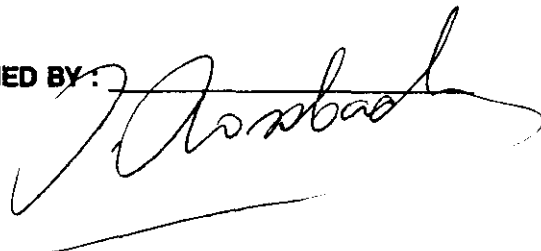
To : TECK EXPLORATIONS LTD.
960-175 SECOND AVE.
KAMLOOPS, B.C.

Project: 1384
Type of Analysis: Assay

Certificate: 91253
Invoice: 20404
Date Entered: 91-09-12
File Name: TEK91253
Page No.: 2

PRE FIX	SAMPLE NAME	% PPB	
		Cu	Au AA
A	21491	0.03	5
A	21492	0.03	5
A	21493	0.04	10
A	21494	0.05	80
A	21495	0.06	5
A	21496	0.06	30
A	21497	0.07	30
A	21498	0.08	170
A	21499	0.03	20
A	21500	0.02	10
A	21501	0.04	20
A	21502	0.03	10
A	21507	0.02	40
A	21508	0.03	90
A	21509	0.02	100
A	21510	0.03	10
A	21511	0.02	10
A	21512	0.02	30
A	21513	0.03	5
A	21514	0.04	5
A	21515	0.02	5
A	21516	0.04	10
A	21517	0.03	5
A	21518	0.03	5
A	21519	0.04	5
A	21520	0.03	5
A	21521	0.04	5
A	21522	0.07	20
A	21523	0.03	10
A	21524	0.04	50
A	21525	0.07	10
A	21526	0.03	5
A	21527	0.03	5
A	21528	0.03	5
A	21529	0.04	5
A	21530	0.03	5
A	21531	0.01	5
A	21532	0.01	10
A	21533	0.02	20
A	21534	0.02	20

CERTIFIED BY:



ROSSBACHER LABORATORY LTD.

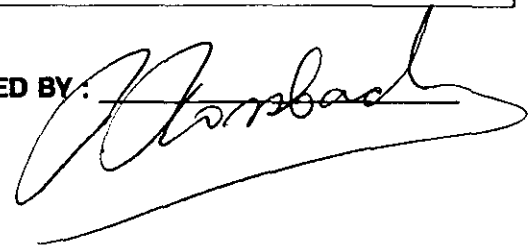
CERTIFICATE OF ANALYSIS

2225 Springer Ave., Burnaby,
British Columbia, Can. V8B 3N1
Ph:(604)299-6910 Fax:299-6252

To : TECK EXPLORATIONS LTD.
960-175 SECOND AVE.
KAMLOOPS, B.C.
Project: 1384
Type of Analysis: Assay

Certificate: 91253
Invoice: 20404
Date Entered: 91-09-12
File Name: TEK91253
Page No.: 3

PRE FIX	SAMPLE NAME	% PPB	
		Cu	Au AA
A	21535	0.02	10
A	21536	0.01	5
A	21537	0.01	5
A	21538	0.01	10
A	21539	0.01	5
A	21540	0.07	30
A	21541	0.04	10
A	21542	0.05	40
A	21543	0.03	30
A	21544	0.02	20
A	21545	0.04	10
A	21546	0.04	20
A	21547	0.04	5
A	21548	0.06	30
A	21549	0.03	50
A	21550	0.02	20
A	21551	0.04	20
A	21552	0.05	10
A	21553	0.06	5
A	21554	0.02	20
A	21555	0.01	10
A	21556	0.02	10
A	21557	0.02	10
A	21558	0.01	10
A	21559	0.06	20
A	21560	0.04	10
A	21561	0.06	10
A	21562	0.05	30
A	21563	0.01	5

CERTIFIED BY: 

ROSSBACHER LABORATORY LTD.

CERTIFICATE OF ANALYSIS

2225 Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-6910 Fax:299-6252

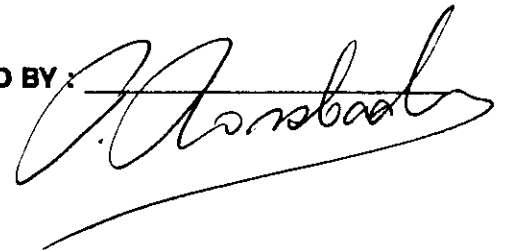
To : TECK EXPLORATIONS LTD.
960-175 SECOND AVE.
KAMLOOPS, B.C.

Project: 1384
Type of Analysis: Assay

Certificate: 91268
Invoice: 20418
Date Entered: 91-09-18
File Name: TEK91268
Page No.: 1

PRE FIX	SAMPLE NAME	% Cu	PPB Au
A	21564	0.06	10
A	21565	0.07	20
A	21566	0.06	30
A	21567	0.05	10
A	21568	0.03	20
A	21569	0.03	10
A	21570	0.03	5
A	21571	0.03	20
A	21572	0.03	20
A	21573	0.03	10
A	21574	0.03	5
A	21575	0.02	20
A	21576	0.02	5
A	21577	0.03	5
A	21578	0.03	5
A	21579	0.03	5
A	21580	0.02	10
A	21581	0.03	20
A	21582	0.07	5
A	21583	0.03	5
A	21584	0.03	5
A	21585	0.04	10
A	21586	0.03	20
A	21587	0.02	10
A	21588	0.02	5
A	21589	0.02	5
A	21590	0.02	5
A	21591	0.02	5
A	21592	0.02	5
A	21593	0.02	5
A	21594	0.02	10
A	21595	0.02	40
A	21596	0.02	5
A	21597	0.01	10
A	21598	0.01	5
A	21599	0.02	10
A	21600	0.02	5
A	21601	0.02	5
A	21602	0.02	20
A	21603	0.02	20

CERTIFIED BY :



ROSSBACHER LABORATORY LTD.

CERTIFICATE OF ANALYSIS

2225 Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-6910 Fax:299-6252

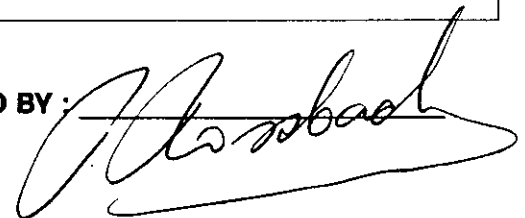
To : TECK EXPLORATIONS LTD.
960-175 SECOND AVE.
KAMLOOPS, B.C.

Project: 1384
Type of Analysis: Assay

Certificate: 91268
Invoice: 20418
Date Entered: 91-09-18
File Name: TEK91268
Page No.: 2

PRE FIX	SAMPLE NAME	% Cu	PPB Au
A	21604	0.02	5
A	21605	0.02	20
A	21606	0.02	5
A	21607	0.02	5
A	21608	0.02	20
A	21609	0.03	10
A	21610	0.02	5
A	21611	0.03	10
A	21612	0.03	5
A	21613	0.03	5
A	21614	0.02	5
A	21615	0.02	5

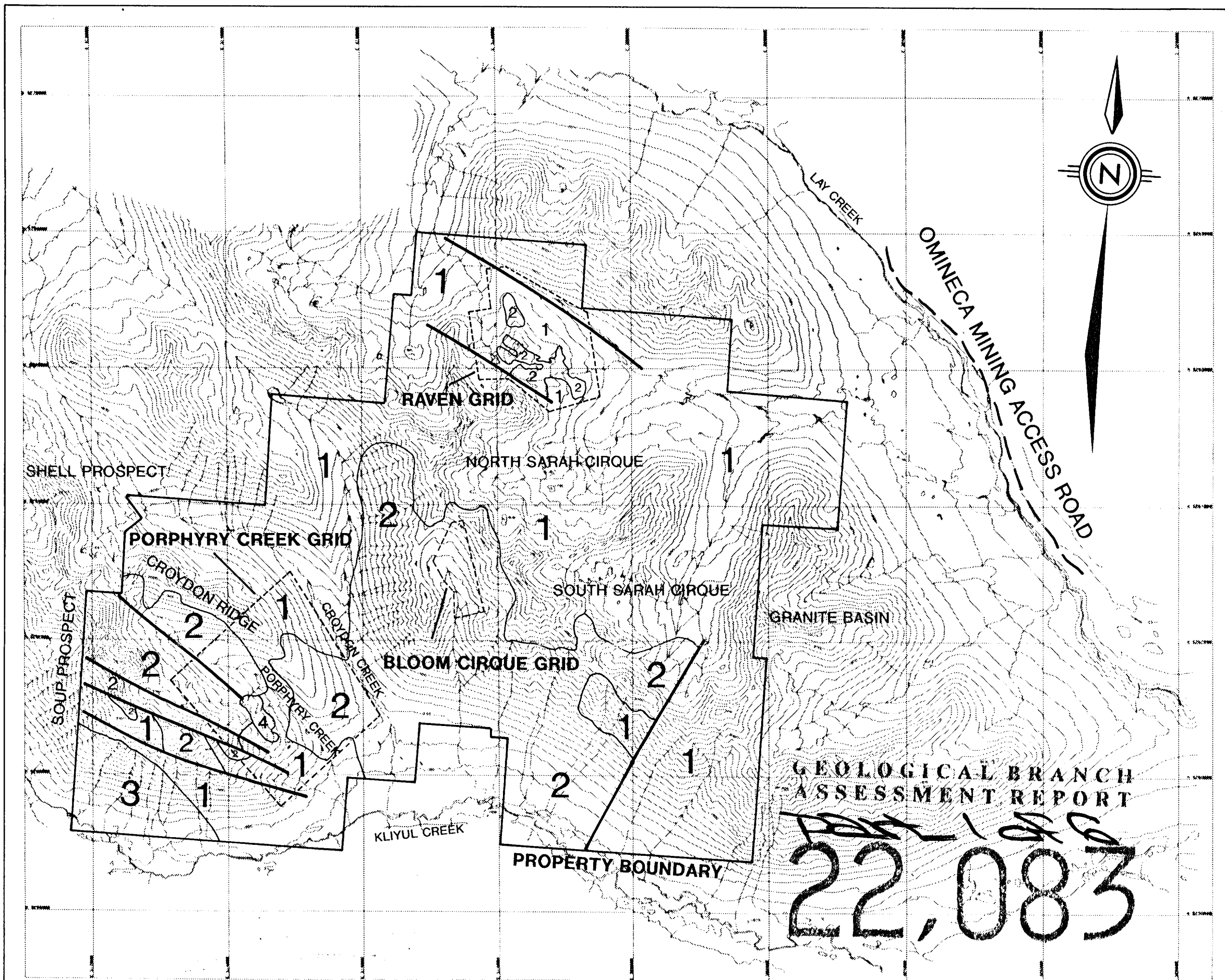
CERTIFIED BY :





GEOLOGICAL BRANCH
ASSESSMENT REPORT

TECK EXPLORATION LTD.	
PORPHYRY CREEK PROPERTY	
OMINECA MINING DIVISION	BRITISH COLUMBIA
NTS 94C/5,12 94D/8,9	
CLAIM MAP	
JANUARY 27, 1992	FIGURE 2



LEGEND

- | | | |
|---|---|---|
| <p>4</p> <p>3</p> <p>2</p> <p>1</p> | <p>DAVIE CREEK STOCK</p> <p>KLIYUL CREEK PLUTON</p> <p>CROYDON CREEK STOCK</p> <p>TAKLA GROUP</p> | <p>QUARTZ MONZONITE-GRANODIORITE</p> <p>QUARTZ DIORITE-GRANODIORITE</p> <p>DIORITE, MONZONITE</p> <p>ANDESITIC AND BASALTIC FLOWS, TUFFS AND BRECCIAS</p> |
|---|---|---|

MAJOR FAULT

INTRUSIVE CONTACT

TECK EXPLORATION LTD.

PORPHYRY CREEK PROPERTY

OMINECA MINING DIVISION — BRITISH COLUMBIA

NTS 94C/5,12
94D/8,9

GEOLOGICAL SUMMARY

JANUARY 27, 1992

FIGURE 4

RAVEN GRID

1:5,000

EXPLANATION

EARLY JURASSIC



4 Leucocratic MONZONITE PORPHYRY characterized by abundant plagioclase phenocrysts

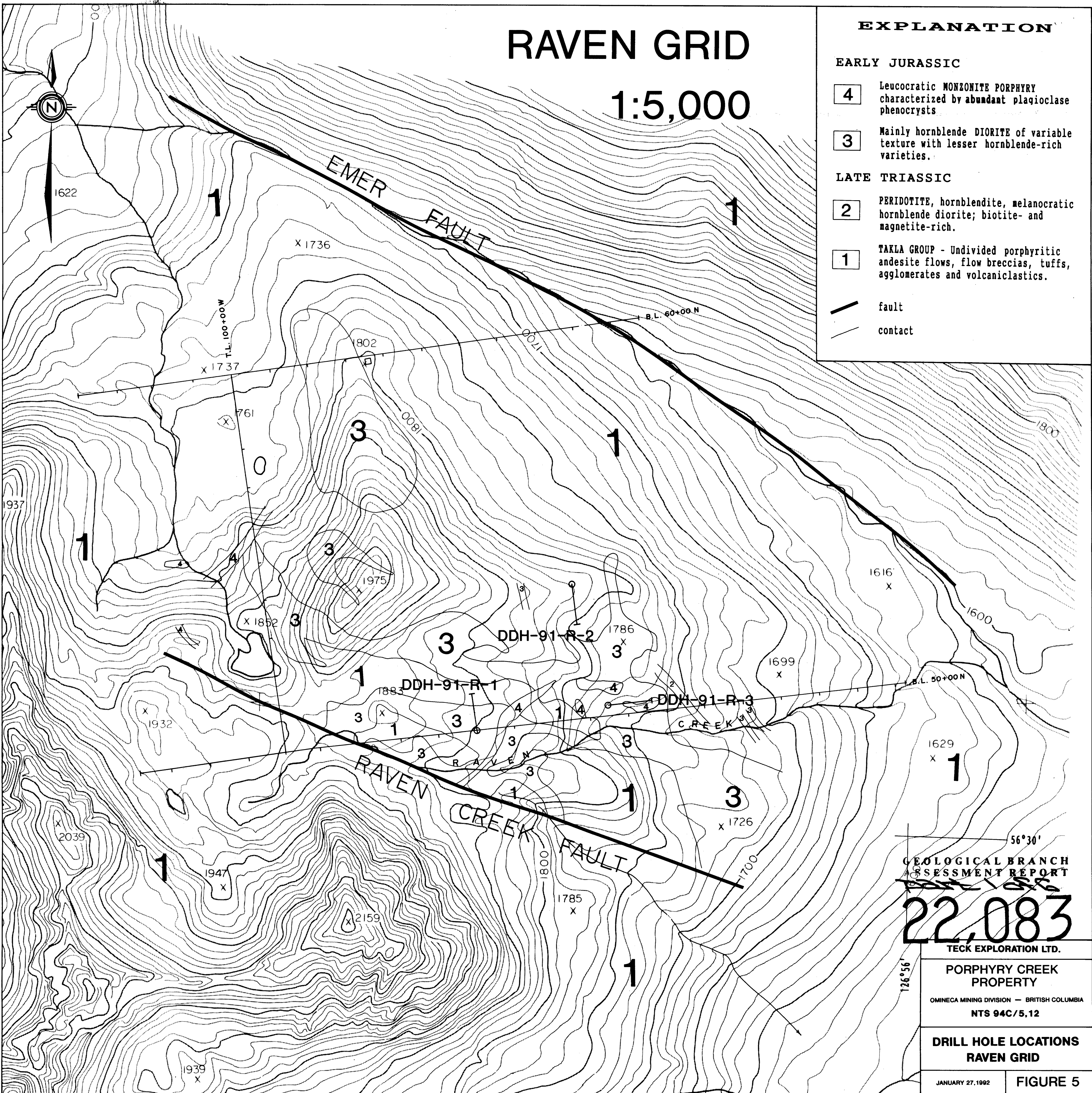
3 Mainly hornblende DIORITE of variable texture with lesser hornblende-rich varieties.

LATE TRIASSIC

2 PERIDOTITE, hornblende, melanocratic hornblende diorite; biotite- and magnetite-rich.

1 TAKLA GROUP - Undivided porphyritic andesite flows, flow breccias, tuffs, agglomerates and volcaniclastics.

 fault
 contact



56°30'
GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,083
TECK EXPLORATION LTD.

PORPHYRY CREEK
PROPERTY

OMINECA MINING DIVISION - BRITISH COLUMBIA
NTS 94C/5.12

DRILL HOLE LOCATIONS
RAVEN GRID

JANUARY 27, 1992

FIGURE 5