

LOG NO: *April 15/91* RD.

ACTION:

FILE NO:

**1990 GEOLOGICAL
AND GEOCHEMICAL REPORT
ON THE
JC 1-5 CLAIMS**

Located in the Telegraph Creek Area
Liard Mining Division
NTS 104J/4E
58° 04' North Latitude
131° 34' West Longitude

-prepared for-
PASS LAKE RESOURCES LTD.
GOLDEN SITKA RESOURCES INC.

-prepared by-
Bruno Kasper, Geologist
March, 1991

GEOLOGICAL BRANCH
ANNUAL REPORT

21,209



TYPE OF REPORT/SURVEY(S)	TOTAL COST
	\$ 6,543.11

AUTHOR(S) .. Bruno Kasper SIGNATURE(S) *Bruno Kasper*

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED YEAR OF WORK 1990

PROPERTY NAME(S) ... JC Claim Group

COMMODITIES PRESENT . Copper . (Cu)

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION .. Liard NTS . 104J./4E

LATITUDE 58° . 04' . North LONGITUDE . 131° . 34' . West

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property (Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved):

..... JC 1-5 claims (80 units)

OWNER(S)

(1) .. Pass Lake Resources Ltd, (2)

MAILING ADDRESS

... 1105-1020 Howe St.
... Vancouver, B.C. ... V6Z 1R2

OPERATOR(S) (that is, Company paying for the work)

(1) .. Pass Lake Resources Ltd, (2) .. Golden Sitka Resources Inc.

MAILING ADDRESS

... Same as above 9th Floor, 850 West Hastings St.
... Vancouver, B.C.
... V6C 1E1

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

Upper Triassic Stuhini Group rocks underlie the western part of the property and have been intruded by a diorite to granodiorite stock of Triassic to Jurassic age. Tertiary to Quaternary volcanic flows overlie the Stuhini Group rocks in the eastern part of the property. Chalcopyrite mineralization associated with calcite alteration was found in float of feldspar porphyry flows and within an outcrop of sericite altered intrusive rocks.

REFERENCES TO PREVIOUS WORK

GEOLOGICAL (scale, area)			
Ground	.....	All claims	\$ 6,290.91
Photo	.....	
GEOPHYSICAL (line kilometres)			
Ground	.....	
Magnetic	.....	
Electromagnetic	.....	
Induced Polarization	.....	
Radiometric	.....	
Seismic	.....	
Other	.....	
Airborne	.....	
GEOCHEMICAL (number of samples analysed for)			
Soil	.....	
Slit	5 (Au. & 32 elements)	All claims	\$252.20
Rock	10 (Au. & 32 elements)		
Other	.....	
DRILLING (total metres; number of holes, size)			
Core	.....	
Non core	.....	
RELATED TECHNICAL			
Sampling/assaying	.....	
Petrographic	.....	
Mineralogic	.....	
Metallurgic	.....	
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)	.....	
Topographic (scale, area)	.....	
Photogrammetric (scale, area)	.....	
Line/grid (kilometres)	.....	
Road, local access (kilometres)	.....	
Trench (metres)	.....	
Underground (metres)	.....	
			TOTAL COST \$ 6,543.11

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:
Value work done (from report)				
Value of work approved				
Value claimed (from statement)				
Value credited to PAC account				
Value debited to PAC account				
Accepted Date	Rept. No.			Information Class

1990 GEOLOGICAL AND GEOCHEMICAL REPORT ON THE JC 1-5 CLAIMS

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1.0 INTRODUCTION

The JC 1-5 claims were staked in June, 1990 to cover an area of favourable geology, geochemistry and geophysics on the Tahltan River, approximately 25 kilometres northwest of Telegraph Creek in northwestern British Columbia (Figure 1).

Reconnaissance exploration, consisting of geological mapping, prospecting and geochemical sampling, was carried out over the JC 1-5 claims in October of 1990. Equity Engineering Ltd. conducted this program for Pass Lake Resources Ltd. and Golden Sitka Resources Inc., and has been retained to report on the results of the fieldwork.

2.0 LIST OF CLAIMS

Records of the British Columbia Ministry of Energy, Mines and Petroleum Resources indicate that the following claims, located in the Liard Mining Division, (Figure 2) are owned by Pass Lake Resources Ltd.. Separate documents indicate that the claims are held in trust jointly for Pass Lake Resources Ltd. (50%) and Golden Sitka Resources Inc. (50%).

Claim Name	Record Number	No. of Units	Record Date	Expiry Year
JC 1	7391	20	June 18, 1990	1991
JC 2	7392	12	June 16, 1990	1991
JC 3	7393	20	June 18, 1990	1991
JC 4	7394	12	June 17, 1990	1991
JC 5	7395	<u>16</u>	June 18, 1990	1991
		80		

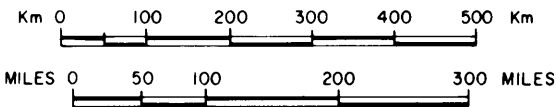
The positions of the legal corner posts for the JC 1-5 claims have been verified by Equity Engineering personnel.

3.0 LOCATION, ACCESS AND GEOGRAPHY

The JC 1-5 claims are located within the Boundary Ranges of the Coast Mountains approximately 25 kilometres northwest of Telegraph Creek in northwestern British Columbia (Figure 1). They lie within the Liard Mining Division, centred at 58° 04' north latitude and 131° 34' west longitude.

Access to the JC 1-5 claims for the 1990 exploration program was provided by daily helicopter setouts from the Ball Ranch, located approximately 25 kilometres south-southeast of the JC claims on Callbreath Creek. The Ball Ranch is connected by road

**PROPERTY
LOCATION**



PASS LAKE RESOURCES LTD.		
JC 1-5 CLAIMS LOCATION MAP BRITISH COLUMBIA		
EQUITY ENGINEERING LTD.		
DRAWN: J.J.E.	MINING DIV: LIARD	FIGURE
NTS: 104 J/4 E	SCALE: AS SHOWN	1
DATE DEC., 1990	REVISED:	

and ferry to Glenora, which lies sixteen kilometres south of Telegraph Creek along a secondary road. The Muddy Lake Road, an all-weather road, extending from the Telegraph Creek Road to the Golden Bear Mine, passes through the northern part of the JC claims at approximately kilometre 60 on the road.

The JC 1-5 claims are located approximately 2.5 kilometres north of the junction of Harper Reed Creek and the Tahltan River (Figure 2). The claims lie mostly below treeline, in a gently sloping spruce forest with some swampy areas. Elevations on the property range from approximately 750 metres along the Tahltan River to 1,150 metres in the northwestern corner of the property. Much of the property is covered by glacial overburden and rock exposure is limited.

The property lies in an intermediate or gradational belt between the wet belt of the Coast Range and the dry belt of the Stikine Plateau. The summers are typically cool and showery with occasional snowfalls. Accumulated snow in the winter is considerably less than in the wet belt. Prospecting and mapping could be started in July and continued through till October in a normal year. Shaded creek beds commonly contain packed snow until mid to late July.

4.0 PROPERTY MINING HISTORY

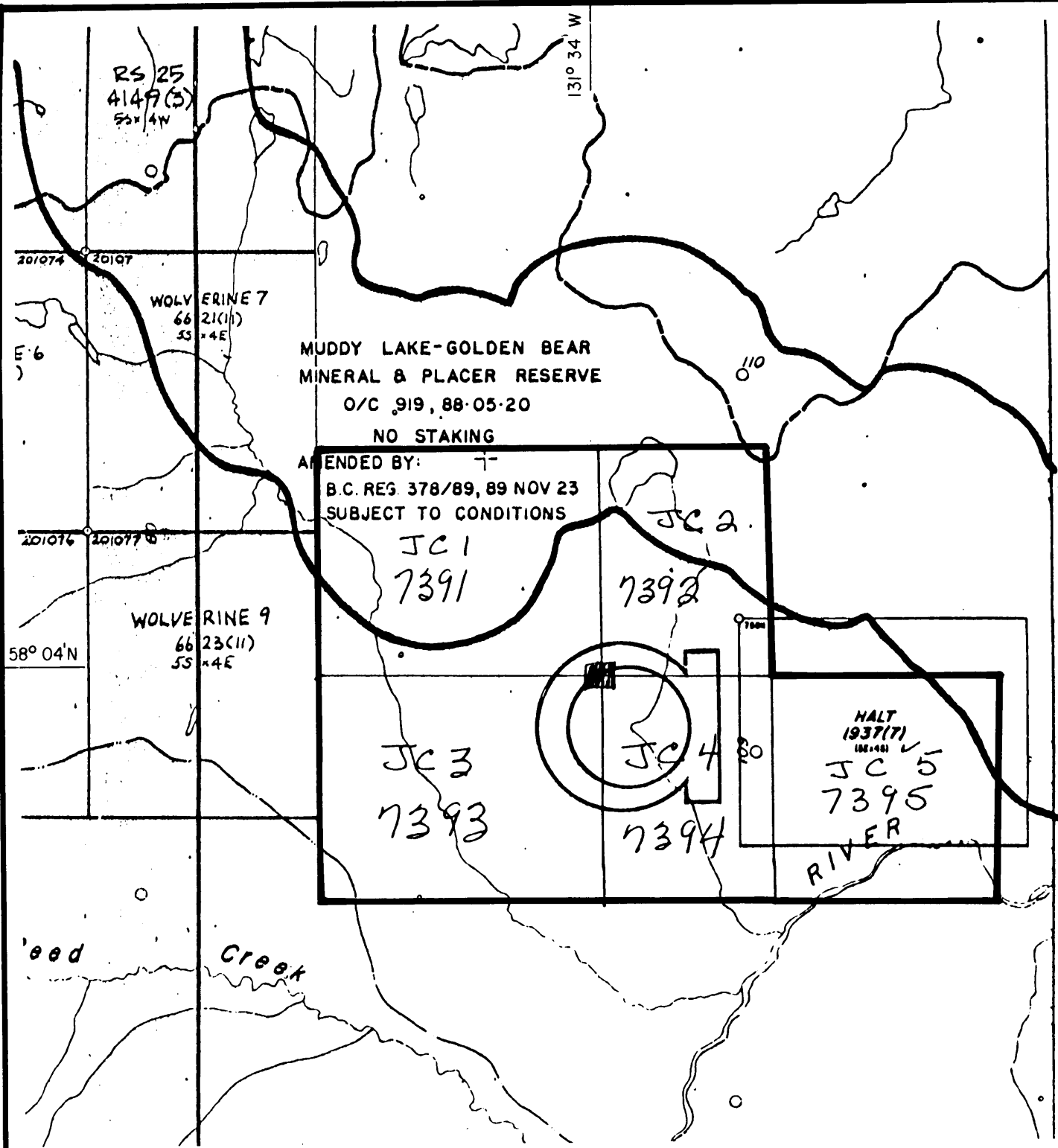
4.1 Previous Work

Placer gold was discovered on gravel bars of the Stikine River between Glenora and Telegraph Creek in 1861 and worked extensively until the early 1900's. The placer gold deposits of the lower Barrington River have been worked sporadically since 1903.

The area north and west of Telegraph Creek was extensively explored for its copper potential throughout the 1960's, following the discovery of the Galore Creek copper-gold porphyry deposit in 1955 and the Schaft Creek copper-molybdenum deposit in 1957, both of which host greater than one million tonnes of contained copper. These deposits are located 87 kilometres south-southwest and 62 kilometres south-southeast, respectively, from Telegraph Creek.

In 1972 a program of geochemical sampling was carried out by Sumitomo Metal Mining Canada Ltd. on the VI copper property, located approximately 3.5 kilometres west-northwest of the JC 1 claim (G.E.M., 1972).

The Golden Bear gold deposit, jointly held by Chevron Minerals Ltd. and North American Metals Corp., is located approximately 42 kilometres west-northwest of the JC 1-5 claims. This pyrite-quartz vein gold deposit contains 1.18 million tonnes of ore with an average grade of 11.5 g/tonne gold (Schroeter, 1987).



PASS LAKE RESOURCES LTD.		
JC 1-5 CLAIMS		
CLAIM MAP		
BRITISH COLUMBIA		
EQUITY ENGINEERING LTD.		
DRAWN:	MINING DIV.: LIARD	FIGURE
N.T.S.: 104 J/4 E	SCALE: 1:50000	2
DATE: DEC, 1990	REVISED:	

In 1981, Du Pont of Canada Exploration Limited staked the Halt claim, an area which is now mostly occupied by the JC 5 claim, to cover the drainage of an unnamed creek (termed "Halt Creek" in this report) from which a gold-enriched field-sieved stream sediment sample was taken (Neelands and Holmgren, 1982). Field-sieved stream sediment sample 9675 B, taken during a regional geochemical survey, returned a value of 460 ppb gold from its heavy mineral fraction (Figure 4). The follow up program on the Halt claim consisted of geological mapping along with rock, soil and stream sediment sampling. Silt and soil sampling was carried out along Halt Creek to locate the source of the gold anomaly. Although all the silt samples failed to duplicate the high gold result, spot gold highs were returned from two of the soil samples.

4.2 1990 Work Program

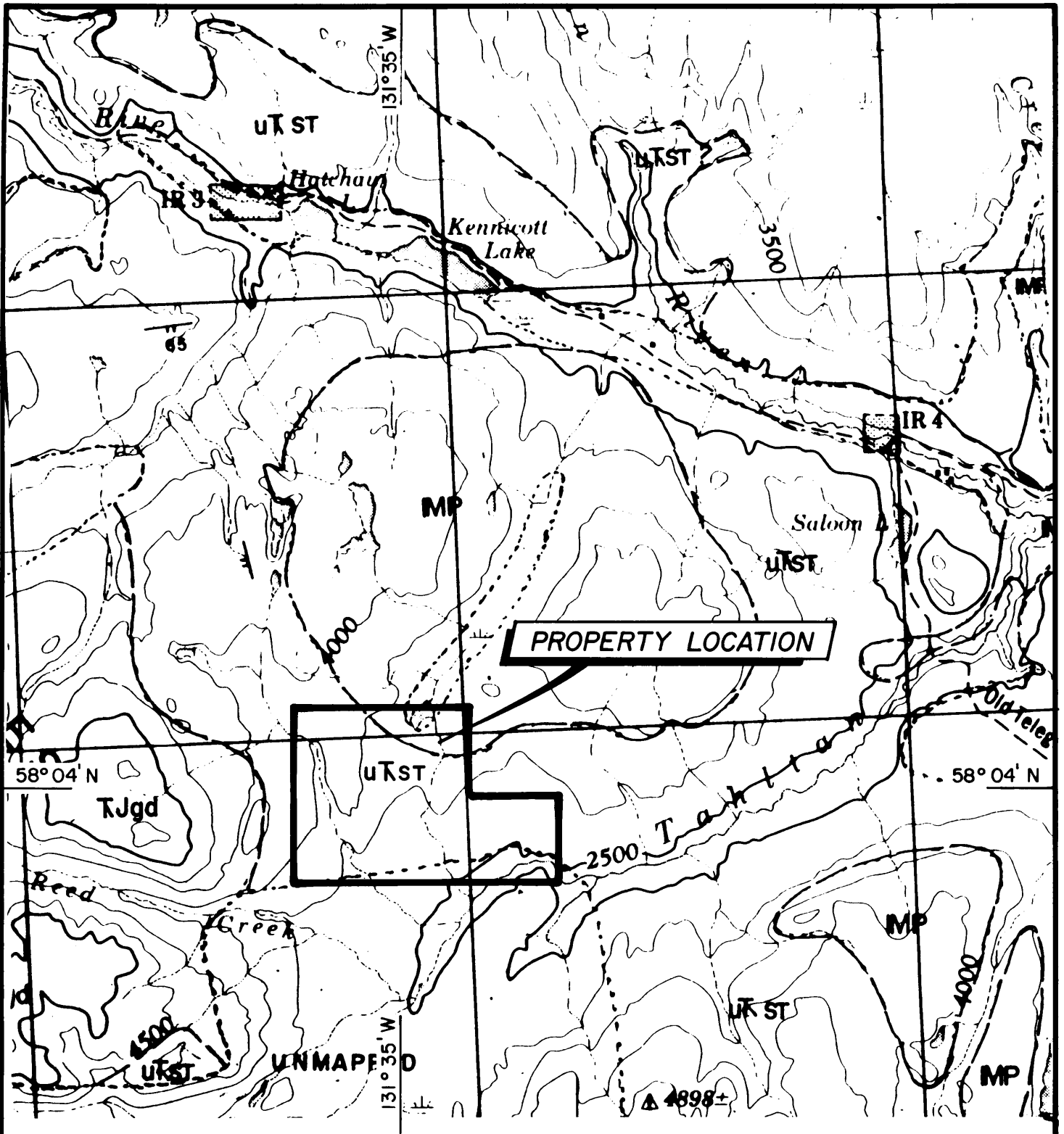
The 1990 exploration program on the JC 1-5 claims consisted of geological mapping, prospecting and stream sediment sampling. During the course of this program, seven silt samples and twelve rock samples were taken (Figure 4). The silt samples were collected from silt accumulations in creek drainages, sieved to minus 80 mesh in the laboratory and analyzed geochemically for gold and 32 elements by ICP. Samples with insufficient fines were screened through a minus 35 mesh and then pulverized to minus 150 mesh before being analyzed.

Reconnaissance geological mapping and prospecting were carried out using a 1:10,000 scale enlargement of the government's 1:50,000 scale topographic map as a base (Figure 4). Rock samples, described in Appendix C, were taken from zones of alteration and mineralization and analyzed geochemically for gold and 32 elements by ICP. Analytical certificates are attached in Appendix D.

5.0 REGIONAL GEOLOGY

The JC 1-5 Claims lie within the Intermontane Belt, a geological and physiographic province of the Canadian Cordillera, near its boundary with the Coast Plutonic Complex to the west (Figure 3). The generally northwest-trending structure of the Intermontane Belt is discordantly cut across by the northeast-trending Stikine Arch which became an important, relatively positive tectonic element in Mesozoic time when it began to influence sedimentation into the Bowser Successor Basin to the southeast and into the Whitehorse Trough to the northwest (Souter and Symons, 1974).

Much of the area around the JC 1-5 claims is underlain by Upper Triassic Stuhini Group volcanic, volcanoclastic and sedimentary rocks (Unit UTST). To the north of the property, thick successions of Tertiary to Quaternary basaltic flows (Unit MP)



Geology after GABRIELSE (1979)

Legend on following page



PASS LAKE RESOURCES LTD.		
JC 1-5 CLAIMS REGIONAL GEOLOGY British Columbia		
EQUITY ENGINEERING LTD.		
DRAWN: J.J.E.	MINING DIV.: LIARD	FIGURE
N.T.S.: 104 J/4E	SCALE: 1:125 000	3
DATE: DEC., 1990	REVISED:	

LEGEND
(to accompany Figure 3)

MIOCENE TO PLEISTOCENE AND(?) RECENT

MP Alkali olivine basalt with minor trachyte and rhyolite.

LATE TRIASSIC AND EARLY JURASSIC













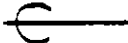
TJgd Biotite-hornblende quartz diorite, granodiorite, quartz monzonite and diorite.

UPPER TRIASSIC

Stuhini Group

uTST Augite and plagioclase porphyry, breccia and flows; tuff, volcanic sandstone and conglomerate; minor siltstone, greywacke and shale.

SYMBOLS

		Geological boundary, defined, approximate and assumed
		Drift boundary
		Limit of geological mapping
		Fault solid circle on downthrown side
		Fault, thrust, teeth on upthrust side
		Bedding, inclined, vertical
		Bedding, direction of dip known, upper side of bed unknown
		Schistosity, gneissosity, inclined vertical
		Syncline
		Anticline
		Glacial striae

Geology after Gabrielse (1979)

overlie the Stuhini Group rocks. The source of these flows is believed to be Level Mountain, an stratovolcano complex, located 40 kilometres north of the JC property. To the north of the King Salmon Thrust Fault, Mississippian to Permian sediments (Unit MPK) and mafic igneous rocks (Unit MPu) are the dominant rock types.

A large, Late Triassic to Early Jurassic intrusion (Unit TJgd) lies to the west of the JC claims. These rocks range from quartz-monzonite to gabbro in composition.

6.0 PROPERTY GEOLOGY AND MINERALIZATION

6.1 Geology

The western part of the JC property is underlain by Upper Triassic Stuhini Group volcanic, volcanoclastic and sedimentary rocks. A Triassic to Jurassic diorite to granodiorite stock has intruded these rocks near the western boundary of the property. In the eastern part of the property Tertiary to Quaternary volcanic rocks predominate. Minor north-trending and east-trending, southerly-dipping faults have been mapped on the property. Metamorphism within the Stuhini Group rocks appears to be of lower greenschist facies whereas the younger rocks do not appear to have undergone significant metamorphism or induration. Figure 4 illustrates the geology of the JC 1 to 5 claims. Rock exposures on the property are limited to stream gullies.

Stuhini Group rocks are exposed along the unnamed creek in the western part of property (termed "Canyon Creek" in this report) and have been divided into several units. East-striking, southerly-dipping sediments (Unit 8A) outcrop at elevations between 1,005 and 1,035 metres along the creek. These rocks range in composition from black, graphitic argillite to dark grey, laminated, calcareous siltstone. Ammonite fossils have been observed within the siltstone. Bedding within the argillite strikes 070° and dips 50° to the south.

The sediments are interbedded with dark grey to black, massive, fine-grained, feldspar-porphyrific flows (Unit 8E) and augite-porphyrific flows (Unit 8D). A contact striking 160° and dipping 86° to the west, was measured within Unit 8D.

Tuff (Unit 8H), consisting of volcanic rock fragments and broken augite and feldspar crystals in a dark green-grey groundmass, outcrops with Unit 8A at an elevation of 1,035 metres on Canyon Creek.

Grey-weathering, Triassic to Jurassic biotite-hornblende quartz diorite to granodiorite (Unit 10) outcrops at the point where Canyon Creek crosses the western boundary of the JC 1 claim. These rocks are sericite-altered, contain magnetite and are

malachite-stained. The outcrop lies on the northern end of a large, north-trending airborne magnetic anomaly (labelled "M" on Figure 4), centred approximately 400 metres to the south of the outcrop (Dighem, 1990). The anomaly may indicate the full extent of the intrusion.

An outcrop of orthoclase-porphyry has been mapped in the southwest corner of the JC 3 claim. This intrusion may be part of the Triassic to Jurassic suite described above.

Tertiary to Quaternary basaltic (Unit 25A) and rhyolitic (Unit 25B) flows outcrop in several places along a unnamed creek (termed "Otter Creek" in this report) and the Tahltan River in the eastern part of the property. The basaltic rocks are brownish-black, fine-grained and locally amygdaloidal. Hematitic weathering produces a local brick-red colour. The rhyolitic rocks are fine-grained, massive, light grey and often contain quartz eyes. These rocks are locally brecciated and clay altered.

6.2 Mineralization

During the 1990 field program 12 rock samples were taken on the JC 1 to 5 claims. The samples generally have a low precious and base metal content, although a few returned slightly elevated copper or arsenic values.

Float sample 484830 was taken at an elevation of 1,005 metres on the east side of Canyon Creek. The sample, consisting of feldspar-porphyrific volcanics containing disseminated pyrite, pyrrhotite and chalcopyrite, returned a copper value of 2,290 ppm, with low values for other base and precious metals. Chip sample JC ROCK-1, taken from a gossanous outcrop of similar rocks approximately 400 metres to the north, returned a value of 760 ppm copper. Malachite staining has been observed within an outcrop of sericite-altered intrusive rocks at the point where Canyon Creek crosses the western boundary of the JC 1 claim. Rocks in this area have yet to be sampled.

Grab samples 484941 and 484942, taken from an outcrop of gossanous, pyritic rhyolite (Unit 25B) near the mouth of Halt Creek, returned elevated arsenic values of 825 and 1,895 ppm, respectively. The results suggest that traces of arsenopyrite or other arsenic minerals may be present in the samples. The samples are low in gold and other precious and base metals.

7.0 GEOCHEMISTRY

During the 1990 field program, a total of seven silt samples were taken from streams on the JC 1-5 claims. Sample JC SILT-1, taken from the lower part of Canyon Creek, returned an elevated

copper value of 139 ppm. This result is consistent with copper mineralization observed upstream.

Sample 90BK-66, taken from a tributary of Halt Creek, returned an arsenic value of 25 ppm. Rock samples, taken downstream, suggest the presence of some arsenic mineralization near the mouth of Halt Creek. It is possible that similar mineralization occurs in the area drained by the anomalous creek.

All of the silt samples taken from Halt Creek and its tributaries during 1990 returned gold values of <5 ppb, failing to corroborate Du Pont's high 1981 gold value of 495 ppb. It should be noted that Du Pont's field-sieved sampling technique as well as the heavy mineral separation done by the laboratory, would have concentrated the gold within the sample, resulting in a higher gold content than what originally was present.

Results for the soil samples taken by Du Pont in 1981 along Halt Creek were generally low, with only isolated highs for gold or arsenic. Two of the soil samples, JP 154 and JP 157, taken approximately 60 and 230 metres upstream from field-sieved stream sediment sample 9675 B, respectively, returned gold values of 75 ppb (JP 154) and 55 ppb (JP 157). No follow up work was done on these soil anomalies. Soil sample JP 150, taken by Du Pont in 1981 near the confluence of Halt Creek with the Tahltan River, was highly anomalous in arsenic (520 ppm). This soil sample was taken below a gossanous, pyritic rhyolite outcrop from which rock samples returned elevated arsenic values up to 1,895 ppm.

8.0 DISCUSSION AND CONCLUSIONS

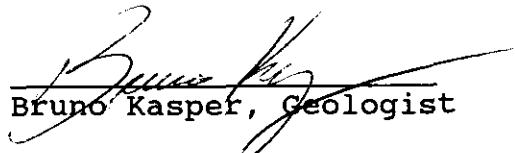
The western part of the JC property is underlain by Upper Triassic Stuhini Group rocks, which host significant base and precious metal deposits in the Galore Creek area to the south. Weak copper mineralization has been observed in the Stuhini Group rocks and in a sericite altered diorite which intrudes them. This area may have potential as a host for porphyry-style mineralization.

In the eastern part of the JC property Tertiary to Quaternary volcanics predominate. Epithermal silver-mercury-arsenic mineralization has been discovered within similar rocks on the Heart Peaks Prospect, located approximately 60 kilometres to the north-northwest of the JC claims (Schroeter, 1985). On the JC 5 claim, rock sampling has yielded some high arsenic values. Although some geochemical samples taken in 1981 were anomalous in gold, mercury and arsenic, the high gold anomaly returned from a field-sieved stream sediment sample is probably the result of gold concentration through sampling and laboratory techniques. The similar geochemical signatures of the two properties suggest that the potential for epithermal mineralization should be investigated

during future exploration on the JC property.

The JC 1 to 5 claims are in a very early stage of exploration but there are indications that two possible targets may exist and further exploration is warranted with respect to these targets.

Respectfully submitted,
EQUITY ENGINEERING LTD.



Bruno Kasper, Geologist

Vancouver, British Columbia
March, 1991.

APPENDIX A

BIBLIOGRAPHY

BIBLIOGRAPHY

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APPENDIX B

STATEMENT OF EXPENDITURES

JC CLAIM GROUP
(JC 1 - 5 CLAIMS)
(September 26 - September 29, 1991)

PROFESSIONAL FEES AND WAGES:

Bruno Kasper, Geologist		
2 days @ \$300/day	\$	600.00
Barry Girling, Prospector		
2 days @ \$250/day		<u>500.00</u>
	\$	1,100.00

CHEMICAL ANALYSES:

Rock Geochemical Samples		
10 @ \$17.75 each	\$	177.50
Silt Samples		
5 @ \$14.94 each		<u>74.70</u>
		252.20

EXPENSES:

Accommodation	\$	460.00	
Aircraft Charter		36.18	
Courier and Telefax		16.53	
Drafting		33.19	
Expediting		4.98	
Freight		19.61	
Fuel		8.69	
Geochemical Supplies		19.42	
Helicopter Charters		1,922.40	
Materials and Supplies		4.68	
Maps and Publications		2.37	
Meals		8.38	
Printing and Reproductions		161.08	
Radio Rental		20.00	
Telephone Distance Charges		9.52	
Truck Standby		<u>20.00</u>	
			<u>2,747.03</u>
	\$		4,099.23

MANAGEMENT FEE @ 15% on expenses

443.88
\$ 4,543.11

REPORT (estimated)

2,000.00
\$ 6,543.11

APPENDIX C

ROCK SAMPLE DESCRIPTIONS

Mineral Abbreviations:

AS	Arsenopyrite	KF	Potassium Feldspar
AZ	Azurite	LI	Limonite
BI	Biotite	MC	Malachite
BO	Bornite	MG	Magnetite
CA	Calcite	MO	Molybdenite
CC	Chalcocite	MN	Manganese-oxides
CB	Fe-Carbonate	MR	Mariposite
CL	Chlorite	MS	Sericite
CP	Chalcopyrite	MU	Muscovite
CV	Covellite	PO	Pyrrhotite
CY	Clay	PY	Pyrite
DO	Dolomite	QZ	Quartz
EP	Epidote	SI	Silica
GE	Goethite	SM	Smithsonite
GL	Galena	SP	Sphalerite
HE	Hematite	TA	Talc
JA	Jarosite	TT	Tetrahedrite

Sample No. Location : 6438 990 N Type : Chip Alteration : Au Ag Cu Pb Zn As
346 830 E Strike Length Exp. : 5.0 m Sulphides : PY, PO, TR.CP (ppb) (ppm) (ppm) (ppm) (ppm) (ppm)
JC ROCK-1 Elevation: 3450 ft Sample Width : 1.0 m Oxides : LI <5. 0.8 762. 14. 70. 10.
Orientation: / True Width : 3.0 m Host : Basalt/andesite
Comments : The sample was taken from an outcrop of gossanous volcanics 75 metres east of Canyon Creek.

Sample No. Location : 6439 130 N Type : SELECT Alteration : SI Au Ag Cu Pb Zn As
346 750 E Strike Length Exp. : 0.0 m Sulphides : 5% PY+PO (ppb) (ppm) (ppm) (ppm) (ppm) (ppm)
JC ROCK-2 Elevation: 3400 ft Sample Width : 0.0 m Oxides : <5. <0.2 131. 52. 110. 25.
Orientation: / True Width : 0.0 m Host : Andesite
Comments : The sample was taken from gossanous volcanics on the east side of Canyon Creek, approximately 200 metres northwest of sample JC ROCK-1.

Sample No. Location : 6438 585 N Type : Float Alteration : CA Au Ag Cu Pb Zn As
346 920 E Strike Length Exp. : 0.0 m Sulphides : <1%CP, <1%PY (ppb) (ppm) (ppm) (ppm) (ppm) (ppm)
484830 Elevation: 3300 ft Sample Width : 0.0 m Oxides : MC 30. 0.8 2290. 30. 46. 10.
Orientation: / True Width : 0.0 m Host : Feldspar-porphyritic volcanics
Comments : Coarse-grained albite-porphyritic volcanic float taken on the east side of Canyon Creek. The rock is fragmental and contains blebs of calcite.

Sample No. Location : 6438 630 N Type : Float Alteration : CA, QZ, CL Au Ag Cu Pb Zn As
346 905 E Strike Length Exp. : 0.0 m Sulphides : TR.CP, <3%PY (ppb) (ppm) (ppm) (ppm) (ppm) (ppm)
484831 Elevation: 3300 ft Sample Width : 0.0 m Oxides : MC 5. <0.2 355. 10. 56. 20.
Orientation: / True Width : 0.0 m Host : Volcanics
Comments : Veinlets? of quartz-calcite-chlorite containing rare chalcopyrite blebs.

Sample No. Location : 6440 015 N Type : Grab Alteration : CY, SI Au Ag Cu Pb Zn As
346 460 E Strike Length Exp. : 1.5 m Sulphides : TR.PY (ppb) (ppm) (ppm) (ppm) (ppm) (ppm)
484935 Elevation: 1095.0 m Sample Width : 1.5 m Oxides : GE, JA, MN 5. <0.2 598. 4. 22. <5.
Orientation: / True Width : 0.0 m Host : Fine-grained sediments
Comments : Strongly limonitic horizon in poorly exposed subcrop.

Sample No. Location : 6440 030 N Type : Grab Alteration : CY, SI Au Ag Cu Pb Zn As
346 385 E Strike Length Exp. : 0.2 m Sulphides : 2%PO, 2%PY (ppb) (ppm) (ppm) (ppm) (ppm) (ppm)
484936 Elevation: 1100.0 m Sample Width : 20 cm Oxides : GE, JA <5. <0.2 254. <2. 28. <5.
Orientation: / True Width : 0.0 m Host : Fine-grained sediments?
Comments : Poorly exposed. Pyrite occurs as large blebs, pyrrhotite is disseminated.

Sample No.	Location :	6440 060 N	Type :	Float	Alteration :	QZ, CY MODERATE	Au	Ag	Cu	Pb	Zn	As
		346 425 E	Strike Length Exp. :	0.0 m	Sulphides :	2%PY	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
484937	Elevation:	1080.0 m	Sample Width :	0.0 m	Oxides :	GE, JA	<5.	<0.2	84.	<2.	30.	<5.
	Orientation:	/	True Width :	0.0 m	Host :	Sediments?						

Comments : Float, found downslope from sample 484936. Pyrite occurs as pods and along fractures. Strongly leached in places.

Sample No.	Location :	6439 405 N	Type :	Float	Alteration :		Au	Ag	Cu	Pb	Zn	As
		346 715 E	Strike Length Exp. :	0.0 m	Sulphides :	3-5%PY	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
484938	Elevation:	1040.0 m	Sample Width :	0.0 m	Oxides :		<5.	0.6	25.	10.	12.	445.
	Orientation:	/	True Width :	0.0 m	Host :	Graphitic argillite						

Comments : Calcite vein float. Pyrite occurs as blebs and stringers. Source may be an argillite outcrop located 15 metres upslope.

Sample No.	Location :	6439 415 N	Type :	Grab	Alteration :		Au	Ag	Cu	Pb	Zn	As
		346 700 E	Strike Length Exp. :	0.0 m	Sulphides :	2-3%PY	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
484939	Elevation:	1060.0 m	Sample Width :	3.0 m	Oxides :	GE	10.	<0.2	69.	<2.	50.	130.
	Orientation:	065 / ?	True Width :	1.0 m	Host :	Graphitic argillite						

Comments : Sheared and fractured argillite containing numerous calcite veins. Pyrite occurs as blebs within the veins. This outcrop may be the source of sample 484938.

Sample No.	Location :	6438 980 N	Type :	Grab	Alteration :	QZ	Au	Ag	Cu	Pb	Zn	As
		346 740 E	Strike Length Exp. :	5.0 m	Sulphides :	1-2%PY	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
484940	Elevation:	1040.0 m	Sample Width :	60 cm	Oxides :	GE	10.	<0.2	352.	4.	32.	<5.
	Orientation:	135 / ?	True Width :	20 cm	Host :	Mudstone/siltstone						

Comments : Pyrite occurs as fracture fillings. Rocks are limonitic.

Sample No.	Location :	6437 080 N	Type :	Grab	Alteration :	CY	Au	Ag	Cu	Pb	Zn	As
		351 020 E	Strike Length Exp. :	0.0 m	Sulphides :	TR. PY	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
484941	Elevation:	735.0 m	Sample Width :	60 cm	Oxides :	GE, JA	15.	<0.2	365.	<2.	200.	825.
	Orientation:	165 / 90	True Width :	0.0 m	Host :	Rhyolite flow/breccia						

Comments : Gossanous outcrop. Gossan may be due to weathering of pyrite.

Sample No.	Location :	6437 105 N	Type :	Grab	Alteration :	CY, SI	Au	Ag	Cu	Pb	Zn	As
		351 060 E	Strike Length Exp. :	10.0 m	Sulphides :	3%PY	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
484942	Elevation:	735.0 m	Sample Width :	20 cm	Oxides :	GE, JA	10.	<0.2	159.	<2.	148.	1895.
	Orientation:	? / ?	True Width :	0.0 m	Host :	Rhyolite flow/breccia						

Comments : Pyrite occurs as disseminations and along fractures. Sample taken from a gossanous part of the outcrop. Taken 15 metres east of sample 484941.

APPENDIX D

CERTIFICATES OF ANALYSIS



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
 212 Brooksbank Ave., North Vancouver
 British Columbia, Canada V7J 2C1
 PHONE: 604-984-0221

To: EQUITY ENGINEERING LTD.

207 - 675 W. HASTINGS ST.
 VANCOUVER, BC
 V6B 1N2

A9025130

Comments: ATTN: HENRY AWMAK

CERTIFICATE **A9025130**

EQUITY ENGINEERING LTD.

Project: JC 1-5
 P.O. #: PLJ90-03

Samples submitted to our lab in Vancouver, BC.
 This report was printed on 23-OCT-90.

SAMPLE PREPARATION		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	3	Dry, sieve to -80 mesh
203	2	Dry, sieve to -35 mesh
205	2	Geochem ring to approx 150 mesh
238	5	NITRIC-AQUA REGIA DIGESTION

* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

ANALYTICAL PROCEDURES					
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	5	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
922	5	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
921	5	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
923	5	As ppm: 32 element, soil & rock	ICP-AES	5	10000
924	5	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
925	5	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
926	5	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
927	5	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
928	5	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
929	5	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
930	5	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
931	5	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
932	5	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
933	5	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
951	5	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
934	5	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
935	5	La ppm: 32 element, soil & rock	ICP-AES	10	10000
936	5	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
937	5	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
938	5	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
939	5	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
940	5	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
941	5	P ppm: 32 element, soil & rock	ICP-AES	10	10000
942	5	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
943	5	Sb ppm: 32 element, soil & rock	ICP-AES	5	10000
958	5	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
944	5	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
945	5	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
946	5	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
947	5	U ppm: 32 element, soil & rock	ICP-AES	10	10000
948	5	V ppm: 32 element, soil & rock	ICP-AES	1	10000
949	5	W ppm: 32 element, soil & rock	ICP-AES	10	10000
950	5	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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To: EQUITY ENGINEERING LTD.

207 - 675 W. HASTINGS ST.
VANCOUVER, BC
V6B 1N2

Project : LAMA,JC,LAGER
Comments:

Page Number : 1-A
Total Pages : 1
Invoice Date: 15-JUL-90
Invoice No. : I-9018209
P.O. Number : PLJ90-02

CERTIFICATE OF ANALYSIS

A9018209

SAMPLE DESCRIPTION	PREP CODE		Au ppb	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn
	FA+AA		FA+AA	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm
JC SILT-1	201	238	< 5	< 0.2	3.21	15	130	< 0.5	< 2	1.36	0.5	20	88	139	5.49	< 10	< 1	0.30	10	2.29	1005
JC SILT 2	201	238	< 5	0.2	2.82	5	150	0.5	< 2	1.74	< 0.5	13	7	18	3.66	< 10	< 1	0.23	10	0.65	1400

CERTIFICATION:



Chemex Labs Ltd.

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Project : LAMA,JC,LAGER
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Page Number : 1-B
Total Pages : 1
Invoice Date : 15-JUL-90
Invoice No. : I-9018209
P.O. Number : PLJ90-02

CERTIFICATE OF ANALYSIS

A9018209

SAMPLE DESCRIPTION	PREP CODE		Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
			ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
JC SILT-1	201	238	< 1	0.04	50	990	8	< 5	10	92	0.18	< 10	< 10	144	< 10	116
JC SILT 2	201	238	< 1	0.17	6	690	8	< 5	11	142	0.07	< 10	< 10	88	< 10	58

CERTIFICATION:



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To: EQUITY ENGINEERING LTD.

207 - 675 W. HASTINGS ST.
VANCOUVER, BC
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Page Number : 1-A
Total Pages : 1
Invoice Date: 23-OCT-90
Invoice No. : I-9025130
P.O. Number : PLJ90-03

Project : JC 1-5
Comments: ATTN: HENRY AWMACK

CERTIFICATE OF ANALYSIS

A9025130

SAMPLE DESCRIPTION	PREP CODE		Au ppb	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
	FA+AA																				
90BG-02	201	238	< 5	< 0.2	1.78	15	130	< 0.5	2	1.53	< 0.5	9	26	18	3.38	10	< 1	0.05	10	0.87	710
90BG-03	201	238	< 5	< 0.2	2.59	5	370	< 0.5	< 2	1.25	< 0.5	19	41	38	4.81	10	< 1	0.09	10	1.48	3200
90BK-65	203	205	< 5	< 0.2	1.93	15	390	< 0.5	2	1.71	< 0.5	17	98	60	4.58	10	< 1	0.20	10	1.19	1820
90BK-66	201	238	< 5	< 0.2	1.74	25	700	< 0.5	4	1.52	< 0.5	20	60	65	5.75	10	< 1	0.29	10	1.36	3890
90BK-67	203	205	< 5	< 0.2	2.12	5	280	< 0.5	2	1.15	< 0.5	16	74	39	4.56	10	< 1	0.17	10	1.04	1630

CERTIFICATION:



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Page Number : 1-B
Total Pages : 1
Invoice Date: 23-OCT-90
Invoice No. : I-9025130
P.O. Number : PLJ90-03

Project : JC 1-5
Comments: ATTN: HENRY AWMACK

CERTIFICATE OF ANALYSIS

A9025130

SAMPLE DESCRIPTION	PREP CODE		Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
			ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
90BG-02	201	238	< 1	0.08	16	1130	2	< 5	4	97	0.15	< 10	< 10	111	< 10	66
90BG-03	201	238	< 1	0.06	37	1320	< 2	< 5	8	150	0.13	< 10	< 10	101	< 10	80
90BK-65	203	205	1	0.08	33	1000	< 2	< 5	10	72	0.11	< 10	< 10	134	< 10	68
90BK-66	201	238	2	0.04	41	1090	2	< 5	11	59	0.11	< 10	< 10	136	< 10	86
90BK-67	203	205	1	0.08	24	890	< 2	< 5	7	65	0.15	< 10	< 10	144	< 10	62

CERTIFICATION:



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To: EQUITY ENGINEERING LTD.

207 - 675 W. HASTINGS ST.
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A9025129

Comments: ATTN: HENRY AWMACK

CERTIFICATE

A9025129

EQUITY ENGINEERING LTD.

Project: JC 1-5
 P.O. #: PLJ90-03

Samples submitted to our lab in Vancouver, BC.
 This report was printed on 21-FEB-91.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	10	Geochem ring to approx 150 mesh
294	10	Crush and split (0-10 pounds)
238	10	NITRIC-AQUA REGIA DIGESTION

* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	10	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
922	10	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
921	10	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
923	10	As ppm: 32 element, soil & rock	ICP-AES	5	10000
924	10	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
925	10	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
926	10	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
927	10	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
928	10	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
929	10	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
930	10	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
931	10	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
932	10	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
933	10	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
951	10	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
934	10	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
935	10	La ppm: 32 element, soil & rock	ICP-AES	10	10000
936	10	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
937	10	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
938	10	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
939	10	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
940	10	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
941	10	P ppm: 32 element, soil & rock	ICP-AES	10	10000
942	10	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
943	10	Sb ppm: 32 element, soil & rock	ICP-AES	5	10000
958	10	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
944	10	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
945	10	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
946	10	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
947	10	U ppm: 32 element, soil & rock	ICP-AES	10	10000
948	10	V ppm: 32 element, soil & rock	ICP-AES	1	10000
949	10	W ppm: 32 element, soil & rock	ICP-AES	10	10000
950	10	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



Chemex Labs Ltd.

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To: EQUITY ENGINEERING LTD.
207 - 675 W. HASTINGS ST.
VANCOUVER, BC
V6B 1N2

Page Number: 1-A
Total Pages: 1
Invoice Date: 15-JUL-90
Invoice No.: I-9018208
P.O. Number: PLJ90-02

Project: LAMA,JC,LAGER
Comments:

CERTIFICATE OF ANALYSIS A9018208

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
JC ROCK-1	205 294	< 5	0.8	1.75	10	70	< 0.5	4	1.50	< 0.5	30	121	762	5.64	< 10	< 1	0.35	10	0.77	730
JC ROCK-2	205 294	< 5	< 0.2	3.42	25	130	< 0.5	2	3.97	< 0.5	17	51	131	3.41	10	< 1	0.55	< 10	1.05	650

CERTIFICATION:



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

To: EQUITY ENGINEERING LTD.

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VANCOUVER, BC
V6B 1N2

Project: LAMA,JC,LAGER
Comments:

Page Number: 1-B
Total Pages: 1
Invoice Date: 15 JUL 90
Invoice No.: I-9018208
P.O. Number: PLJ90-02

CERTIFICATE OF ANALYSIS

A9018208

SAMPLE DESCRIPTION	PREP CODE		Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
			ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
JC ROCK-1	205	294	38	0.13	67	1320	14	5	7	27	0.28	< 10	< 10	166	< 10	70
JC ROCK-2	205	294	1	0.38	19	840	52	5	6	126	0.29	< 10	< 10	114	< 10	110

CERTIFICATION:



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

To: EQUITY ENGINEERING LTD.

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VANCOUVER, BC
V6B 1N2

Page Number : 1-A
Total Pages : 1
Certificate Date: 23-OCT-90
Invoice No. : 19025129
P.O. Number : PLJ90-03

Project : JC 1-5
Comments: ATTN: HENRY AWMACK

Note: Corrected Copy - Sample Description

CERTIFICATE OF ANALYSIS A9025129

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
484830	205 294	30	0.8	1.22	10	20	< 0.5	< 2	>15.00	< 0.5	10	108	2290	2.85	< 10	< 1	< 0.01	< 10	0.79	1960
484831	205 294	5	< 0.2	0.96	20	100	< 0.5	< 2	0.48	< 0.5	14	70	355	1.89	10	< 1	0.15	10	0.26	315
484935	205 294	5	< 0.2	0.81	< 5	< 10	< 0.5	2	13.60	< 0.5	10	136	598	1.76	< 10	< 1	< 0.01	< 10	0.69	1175
484936	205 294	< 5	< 0.2	2.67	< 5	80	< 0.5	< 2	2.08	< 0.5	10	19	254	7.40	10	< 1	0.11	< 10	1.09	325
484937	205 294	< 5	< 0.2	1.36	< 5	60	< 0.5	< 2	0.53	< 0.5	3	42	84	5.75	< 10	< 1	0.28	10	1.18	325
484938	205 294	< 5	0.6	0.48	445	10	< 0.5	6	>15.00	< 0.5	3	15	25	3.84	< 10	< 1	0.05	< 10	0.33	1720
484939	205 294	10	< 0.2	1.81	130	70	< 0.5	< 2	>15.00	< 0.5	8	36	69	3.52	< 10	< 1	0.18	< 10	0.87	840
484940	205 294	10	< 0.2	2.31	< 5	50	< 0.5	< 2	2.07	< 0.5	27	93	352	3.52	10	< 1	0.13	< 10	0.53	300
484941	205 294	15	< 0.2	1.33	825	230	< 0.5	< 2	0.15	< 0.5	12	25	365	13.05	10	< 1	0.06	10	0.06	475
484942	205 294	10	< 0.2	0.90	1895	50	< 0.5	< 2	0.63	< 0.5	9	76	159	9.00	10	< 1	0.07	10	0.22	1290

CERTIFICATION: *B. Coughlin*



Chemex Labs Ltd.

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PHONE: 604-984-0221

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207 - 675 W. HASTINGS ST.
VANCOUVER, BC
V6B 1N2

Page Number : 1-B
Total Pages : 1
Certificate Date: 23-OCT-90
Invoice No : 19025129
P.O. Number : PLJ90-03

Project : JC 1-5
Comments: ATTN: HENRY AWMACK

Note: Corrected Copy - Sample Description

CERTIFICATE OF ANALYSIS

A9025129

SAMPLE DESCRIPTION	PREP CODE		Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
			ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
484830	205	294	< 1	< 0.01	17	250	30	< 5	12	53	0.04	< 10	< 10	50	< 10	46
484831	205	294	2	< 0.01	24	210	10	< 5	4	3	< 0.01	< 10	< 10	22	< 10	56
484935	205	294	< 1	< 0.01	21	140	4	< 5	8	29	0.02	< 10	< 10	44	< 10	22
484936	205	294	< 1	0.03	4	1030	< 2	< 5	9	16	0.24	< 10	< 10	135	< 10	28
484937	205	294	2	0.04	< 1	1200	< 2	< 5	11	7	0.32	< 10	< 10	142	< 10	30
484938	205	294	1	0.02	2	220	10	5	3	82	0.02	< 10	< 10	20	< 10	12
484939	205	294	4	0.07	12	570	< 2	< 5	9	105	0.12	< 10	< 10	90	< 10	50
484940	205	294	1	0.33	58	1260	4	< 5	8	127	0.30	< 10	< 10	66	< 10	32
484941	205	294	3	0.05	29	2250	< 2	10	35	36	< 0.01	< 10	< 10	326	< 10	200
484942	205	294	16	0.06	21	2270	< 2	5	23	19	< 0.01	< 10	< 10	201	< 10	148

CERTIFICATION:

APPENDIX E

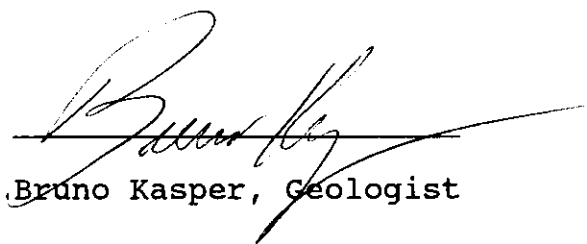
STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

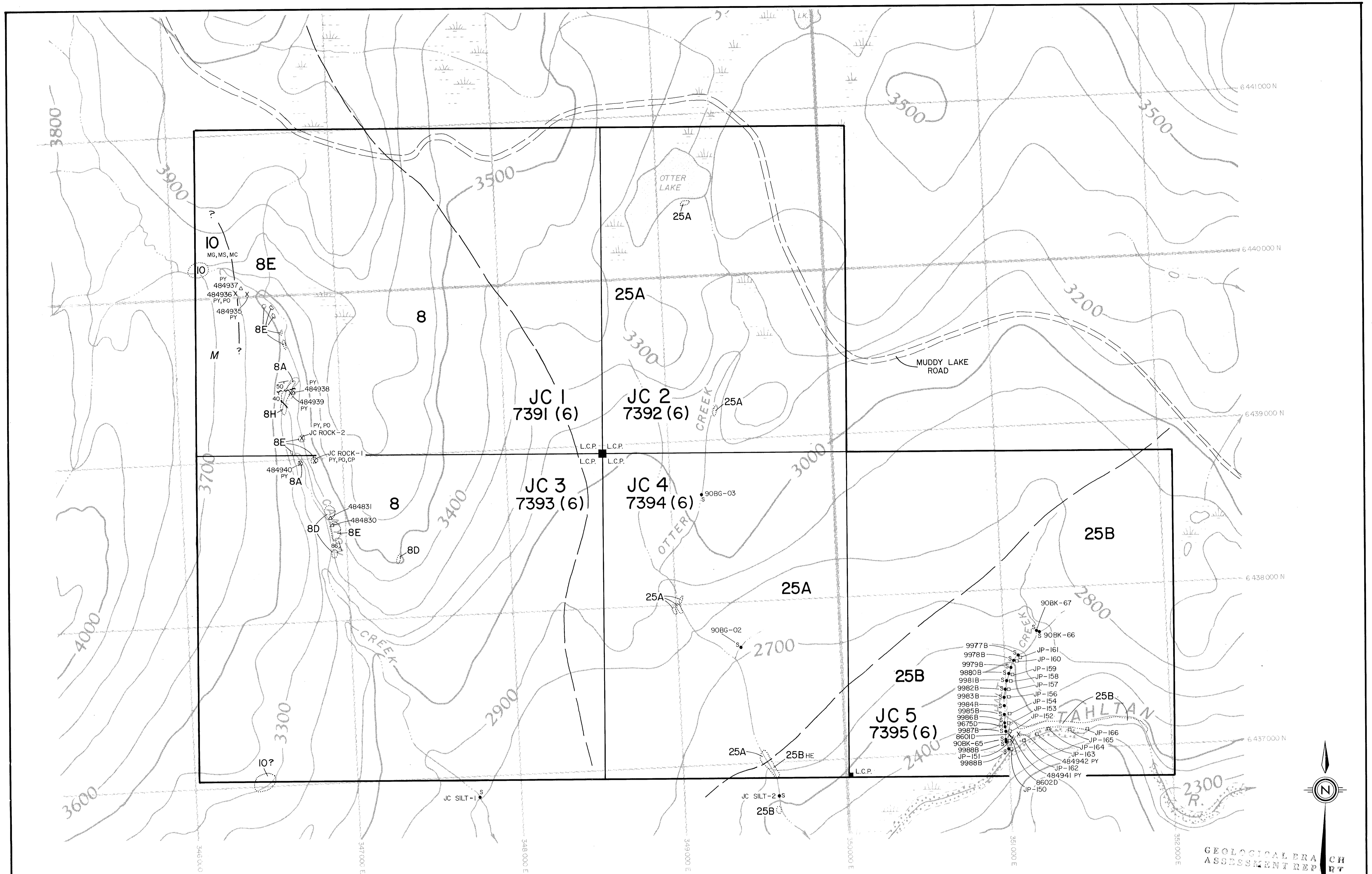
I, BRUNO KASPER, of 101-1990 West 6th Avenue, Vancouver, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Consulting Geologist with offices at Suite 207, 675 West Hastings Street, Vancouver, British Columbia.
2. THAT I am a graduate of the University of Alberta with a Bachelor of Science degree in Geology.
3. THAT my primary employment since June, 1988 has been in the field of mineral exploration.
4. THAT this report is based on fieldwork carried out under my direction.
5. THAT I have no interest, directly or indirectly, in the securities of Pass Lake Resources Ltd. and Golden Sitka Resources Inc. or any of their affiliates. I have no interest, directly or indirectly in the property.

DATED at Vancouver, British Columbia, this 28th day of March, 1991.



Bruno Kasper, Geologist



1990 ROCK SAMPLE ANALYSES

Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)
JC ROCK-1	<5	0.8	762	14	70	10
JC ROCK-2	<5	<0.2	131	52	110	25
484830	30	0.8	2286	30	46	10
484831	5	<0.2	355	10	56	20
484935	5	<0.2	598	4	22	<5
484936	<5	<0.2	254	<2	28	<5
484937	<5	<0.2	84	<2	30	<5
484938	<5	0.6	25	10	12	445
484939	10	<0.2	69	<2	50	130
484940	10	<0.2	352	4	32	<5
484941	15	<0.2	365	<2	200	825
484942	10	<0.2	159	<2	148	1895

1981 DUPONT ROCK SAMPLE ANALYSES

Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)
8601 D	10	0.3	141	4	71	22
8602 D	45	0.4	124	2	53	227

1990 SILT SAMPLE ANALYSES

Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)
JC SILT-1	<5	<0.2	139	8	116	15
JC SILT-2	<5	0.2	18	8	58	5
90BK-2	<5	<0.2	18	2	66	15
90BK-3	<5	<0.2	38	<2	80	5
90BK-65	<5	<0.2	60	<2	68	15
90BK-66	<5	<0.2	65	2	86	25
90BK-67	<5	<0.2	39	<2	62	5

1981 DUPONT FIELD-SIEVED STREAM SEDIMENT SAMPLE (WITH HEAVY MINERAL SEPARATION) ANALYSIS

Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)
9675 B	460	0.9	36	18	58	--

1981 DUPONT SILT SAMPLE ANALYSES

Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)
9977 B	10	1.0	44	18	54	8
9978 B	5	0.9	40	14	52	7
9979 B	5	0.5	52	16	52	15
9980 B	<5	0.7	54	16	57	7
9981 B	15	0.8	54	12	56	11
9982 B	5	0.8	50	14	54	10
9983 B	5	0.7	60	16	57	16
9984 B	25	0.7	54	13	56	17
9985 B	5	0.7	56	18	61	21
9986 B	15	0.9	48	20	59	17
9987 B	5	0.5	58	18	62	15
9988 B	20	1.0	48	20	60	20
9989 B	5	0.7	50	19	62	17

1981 DUPONT SOIL SAMPLE ANALYSES

Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)
JP-150	10	1.7	160	7	134	520
JP-151	5	1.1	80	21	115	13
JP-152	5	1.2	64	22	90	10
JP-153	5	1.4	81	19	103	15
JP-154	75	1.3	82	25	93	11
JP-156	15	1.5	68	16	60	14
JP-157	55	1.3	68	19	76	14
JP-158	5	1.2	52	20	62	6
JP-159	5	1.5	64	15	65	6
JP-160	5	1.2	50	14	60	14
JP-161	10	1.7	66	15	60	21
JP-162	20	1.5	139	19	119	16
JP-163	15	1.6	96	17	68	13
JP-164	5	1.8	90	23	60	2
JP-165	10	1.8	146	18	75	8
JP-166	5	2.1	126	15	61	17

LEGEND

- SYMBOLS**
- Rock outcrop
 - Geological contact (approximate)
 - 50 Bedding or flow contact (inclined)
 - 55 Fault with dip (approximate)
 - X, Δ Rock sample (outcrop, float)
 - s Silt sample
 - Field-sieved stream sediment sample
 - Soil sample
 - M Magnetic anomaly
 - L.C.P. Legal corner post (located)

- LITHOLOGIES**
- LATE TERTIARY TO QUATERNARY
 - 25A Basalt flows, locally amygdaloidal.
 - 25B Rhyolite flows and rhyolite breccia.
 - LATE TRIASSIC AND EARLY JURASSIC
 - 10 Biotite-hornblende quartz diorite and granodiorite.
 - UPPER TRIASSIC
 - 8 Stuhini Group
 - 8 Undivided Stuhini Group rocks.
 - 8A Interbedded argillite and fossiliferous, calcareous siltstone.
 - 8D Augite-porphry, andesitic to basaltic composition.
 - 8E Plagioclase-porphry, andesitic to basaltic composition.
 - 8H Heterolithic crystal lithic lapilli tuff, and tuff breccia.
- MINERAL AND ALTERATION TYPES**
- CP chalcopyrite
 - MC malachite
 - MS sericite
 - PY pyrite
 - HE hematite
 - MG magnetite
 - PO pyrrhotite

Geology adapted in part from Gabrielse (1979)
1981 DUPONT geochemical data from Neelands and Holmgren (1982)



PASS LAKE RESOURCES LTD.

**JC 1-5 CLAIMS
GEOLOGY &
GEOCHEMISTRY**

BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN: B.K./J.J.E.	MINING DIV.: LIARD	FIGURE
N.T.S.: 104 J/4E	SCALE: 1:10000	4
DATE: MARCH, 1991	REVISED:	