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GEOLOGICAL and GEOCHEMICAL REPORT

on the
ADAM CLAIM
Liard Mining Division

for

KELAN RESOURCES INC.

#330 - 580 Hornby St Vancouver, B.C. V6C 3B6 Tel: (604)984-7211 Fax: 988-4653

by

Roger G. Kidlark, B.Sc., F.G.A.C.

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Reliance Geological Services Inc.

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### SUMMARY

The Adam claim group is located in the Iskut-Sulphurets area of northwestern B.C., which is currently the site of intensive exploration and development activity (Figure 1). It is about 80 km north-northeast of Stewart, British Columbia in the Liard Mining Division on claim map 104B/9W.

The claim lies approximately 9 km northeast of the Eskay Creek property of Calpine Resources Inc./Stikine Resources Ltd. Other advanced properties in this region include the Snip deposit held by Cominco Ltd./Prime Resources Corp, Skyline Gold Corporation's Johnny Mountain Mine on the west and the Sulphurets area to the south.

Little has been done in the immediate area of the claim with the exception of a government regional geochemical survey in 1987. Strongly anomalous results in trace elements indicators such as mercury, barium and antimony which are associated with the Eskay Creek deposit have been noted in stream sediment samples. A drainage on the east side of the Adam claim returned values of 127 ppm nickel, 36 ppm cobalt, 1500 ppm manganese, 200 ppb mercury and 59 ppb gold.

The subject property is underlain by siltstone, sandstone, and mudstone, likely belonging to the Middle Jurassic Salmon River of Ashman Formations.

Results from 1990 Phase 1 rock and stream sediment sampling were inconclusive.

An exploration program consisting of magnetometer, VLF-EM, and Induced Polarization geophysics has been recommended to test the subsurface for mineralization within the favourable Hazelton Group units. The estimated cost is \$80,000.

#### 1. INTRODUCTION

This report was prepared at the request of Kelan Resources Inc. to describe and evaluate the results of geological and geochemical surveys completed by Reliance Geological Services Inc. on the Adam Claim Group, Eskay Creek Area, British Columbia. The fieldwork was carried out from July 11 - 18, 1990. The report also describes the regional geology, area history, previous work, and makes recommendations for further work.

The purpose of the project was to perform a grassroots evaluation of the entire property to locate precious and/or base metal mineralization similar to the nearby Eskay Creek deposit.

### 2. LOCATION, ACCESS AND PHYSIOGRAPHY

The Adam property is located in the Liard Mining Division, approximately 75 km north of Stewart, B.C. The main supply centre for the region is Smithers, B.C., 300 km southeast. The area is on NTS mapsheet 104B/9W and the coordinates are Latitude 56°44' North and Longitude 130°21' West (Figures 1 and 2).

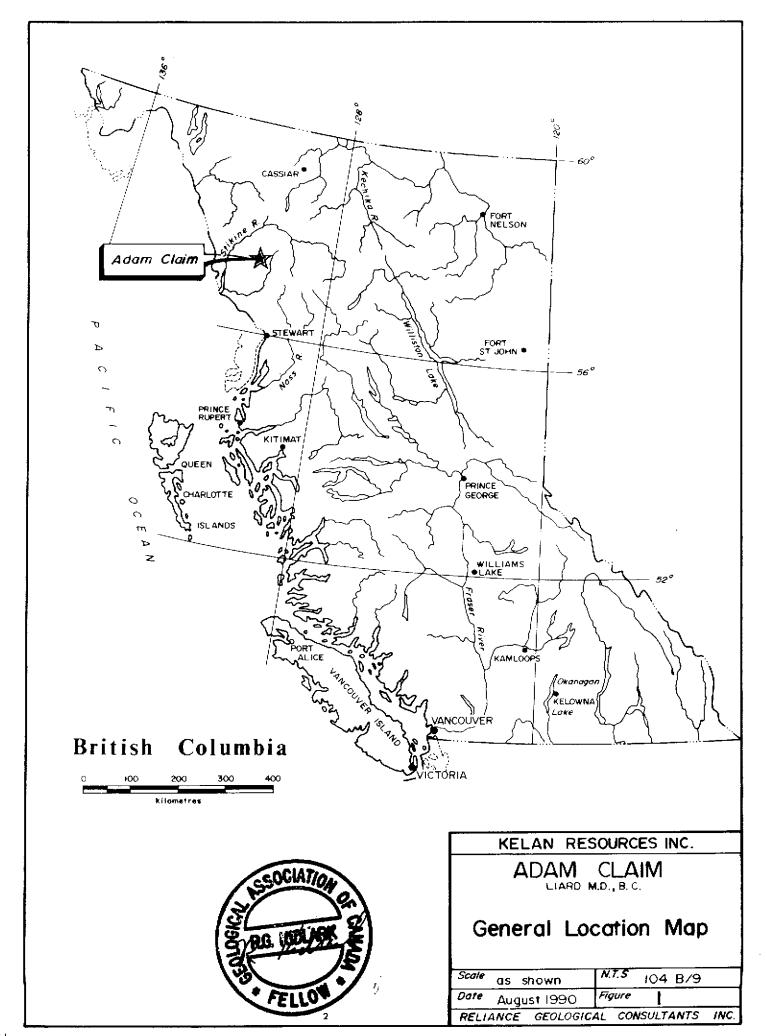
Access to the property is best attained from the Bob Quinn Lake staging base, located approximately 340 km north of Kitwanga on the Stewart-Cassiar Highway (Hwy 37). From there, the property is 27 km west by helicopter.

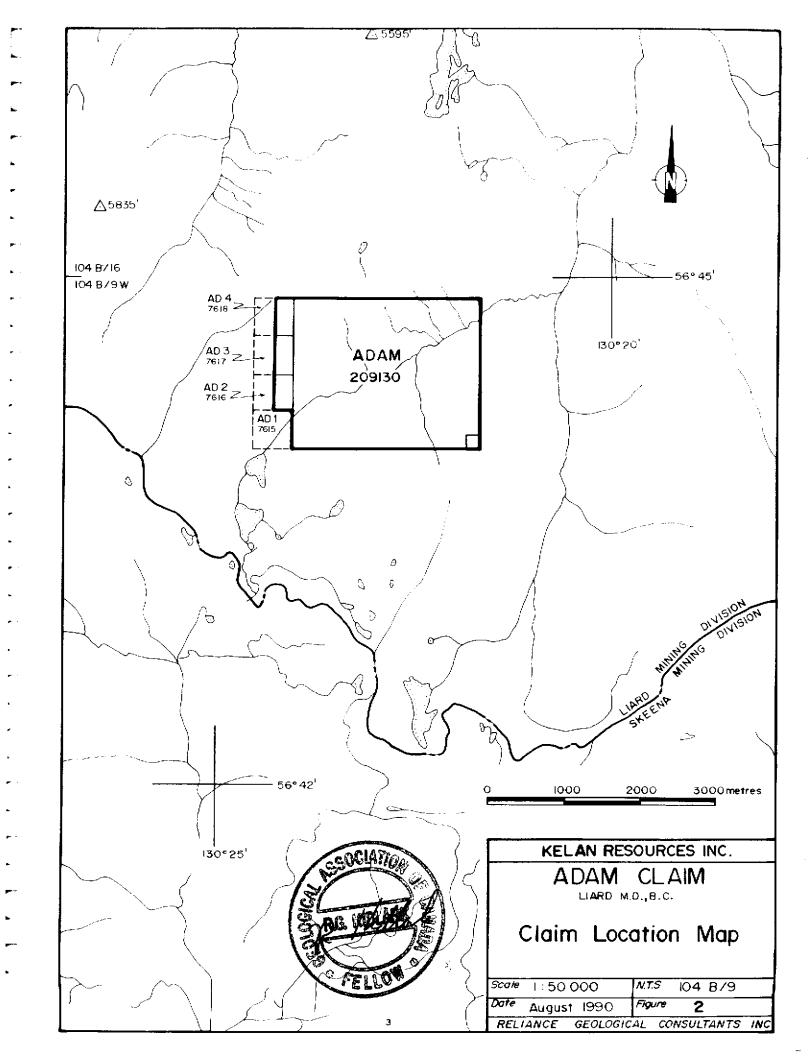
The B.C. Government has announced plans to build a road into the Iskut area, which will improve access upon completion.

The claims occupy a NE-SW trending valley. Slopes range from gentle to steep, with elevations ranging from 1000 m (east side of claims) to 1525m (NW corner) for a total relief of 525 meters.

Low lying regions have some mature mountain hemlock and balsam, changing to subalpine and alpine vegetation consisting of stunted shrubs and grasses. Approximately 60% of the property is above tree-line.

Climate in the area is severe, particularly at the higher elevations. Heavy snowfalls in winter and rain in the short summer working season are typical of the Iskut-Sulphurets area. Inclement weather conditions and reliance on helicopter transport make this a relatively high cost area for exploration. Recommended field season is from late June to mid September.





### 3. PROPERTY STATUS

The Adam Property consists of one 4 post and four 2 post mineral claims, totalling 24 units. The claims are 100% owned by Kelan Resources Inc., #330 - 580 Hornby Street, Vancouver, B.C.

Pertinent	Claim data i	is as follows:
Claim	Record #	Units

<u>Claim</u>	Record #	<u>Units</u>	Record Date	Expiry Date			
Adam	7496	20	June 30/90	1991			
AD1	7615	1	July 12/90	1991			
AD2	7616	1	July 12/90	1991			
AD3	7617	1	July 12/90	1991			
AD4	7618	_1	July 12/90	1991			
		24	- '				

The total area, correcting for overlap, is approximately 540 hectares.

### 4. HISTORY AND PREVIOUS WORK

There is no record of any work having been carried out on the Adam prospect. A stream sediment sample collected from the southern part of the claim assayed 127 ppm Ni, 36 ppm Cu, 1500 ppm Mn, 200 ppb Hg, 59 ppb Au (G.S.C. and B.C.E.M.P.R. Regional Geochemical Survey, 1987).

The Stewart area has been mined actively since the early 1900's and is one of the most prolific mining districts in British Columbia (Grove, 1971). A brief summary of activity on surrounding properties follows.

Recent exploration and development activity has focused on vein and fissure vein gold mineralization in the northern part of the Stewart Complex, the Iskut River area, where several new discoveries have been made. These include Skyline's Johnny Mountain Mine, Prime Resources/Cominco's Snip deposit, various deposits under development by Newhawk and its partners in the Sulphurets area, Magna Ventures Doc property and recent

discoveries by Calpine Resources and Stikine Resources at Eskay Creek.

Mineralization has been known and worked sporadically on Johnny Mountain since 1907. In 1956, drilling and underground work on the Stonehouse Zone outlined gold. silver and copper mineralization. In 1980 Skyline Explorations staked the property, which is located 44 km west of the Adam prospect. Since 1981, various exploration programs have been conducted for high grade gold and polymetallic massive sulphides. reserves at Johnny Mountain, (Northern Miner, Aug. 21, 1989) are 876,000 tons grading 0.55 oz./t gold and 1.00 oz./t silver.

Mineralization on the jointly held ground of Cominco Ltd. and Prime Resources Corporation (formerly Delaware Resources Corp.) was discovered in 1965 but was not developed until recently. Gold occurs in quartz veins within a shear zone. Proven and probable reserves at the Snip Deposit are 1,691,000 tonnes grading 0.834 oz./t gold (Prime Resources, 1959). The deposit lies approximately 45 km west of the Adam prospect.

The Sulphurets Creek area, about 26 km southeast of the Adam property, incorporates a wide variety of gold mineralization. In the Brucejack Lake area, the West Zone is reported to contain 854,072 tons of proven and probable ore grading 0.354 oz/t gold and 22.94 oz/t silver (Northern Miner Handbook, 1989-90) in a structurally controlled quartz vein stockwork. Recent results include 84.6 ft of 7.5 oz/t gold (GCNL August 16, 1989) from the West Zone underground drilling. The Snowfield Zone and Sulphurets Lake Gold Zone are bulk tonnage low grade deposits containing 7.7 million tons of 0.075 oz/t gold and 20 million tons of 0.08 oz/t gold respectively (GCNL Aug. 24, 1989).

Magna Ventures Doc deposit hosts 470,000 tons grading 0.27 oz/t gold and 1.31 oz/t silver. Mineralization occurs in quartz veins

2 m wide and 170 m long hosted by a shear zone cutting Upper Triassic Stuhini Group volcanics. This property has been optioned by Echo Bay Mines and is located approximately 35 km south of the Adam prospect.

The most recently discovered gold mineralization occurs on the Calpine-Stikine Eskay Creek property 11 km southwest of the Adam prospect. The current drilling program on the "21 zone" has outlined a mineralized body over 1300 m long that is open along strike in both directions and at depth. Mineralization occurs at the contact between sulphide rich, silicified, felsic breccias (Mt. Dilworth Formation) and argillaceous sediments which are in turn overlain by intermediate volcanics. The stratabound nature of the Eskay Creek deposit has been described as a volcanic epithermal type deposit with its mineral composition and host rock association similar to the deposits in the Carlin district of Nevada (Northern Miner, August 25, 1989).

Drilling in the 21 Zone has returned spectacular results, including hole CA59-109 which assayed 0.875 oz/t gold over 682 feet. After drilling approximately 69 holes, Stikine released an open pitable reserve figure of 3 million tons of .25 oz/ton gold. To date over 140 holes have been drilled, including hole 109. There are indications that the actual tonnage could triple and the grade could substantially increase. Further work is in progress with two drills currently working on the property.

### 5. REGIONAL GEOLOGY

Grove (1956) classifies the mineralization in the Stewart-Iskut area into three categories: fissure veins and replacement veins, massive sulphide deposits, and porphyry deposits.

The area is underlain by the Stewart Complex (Grove 1971, 1986). The Stewart Complex encompasses Late Palaeozoic and Mesozoic rocks, confined by the Coast Plutonic Complex to the west, the

Bowser Basin to the East, Alice Arm to the south and the Iskut River to the north.

The oldest units in the Stewart Complex are Upper Triassic epiclastic volcanics, marbles, sandstones and siltstones. These, in turn, are overlain by sedimentary and volcanic rocks of the Upper Triassic to Middle Jurassic Hazelton Group. In the Unuk River area, the Hazelton Group had been subdivided (Alldrick et al, 1989) into the Lower Jurassic Unuk River, Betty Creek and Mt. Dilworth Formations, and the Middle Jurassic Salmon River Formation. Upper Jurassic sedimentary rocks were identified as the Nass Formation by Grove (Grove, 1956) and included by him in the Hazelton Group. More recently the Salmon River Formation has been included in the Spatsizi Group (Alldrick, 1989). Both the Salmon River and Ashman Formations occur in the Middle Jurassic.

The Unuk River Formation was deposited during Upper Triassic to Lower Jurassic times and marks a period of submergence (marine sedimentation) followed by emergence marked by volcaniclastic rocks. These rocks include arkosic and lithic wackes, siltstones, conglomerates, tuffites and green intermediate to mafic volcanics. Unuk River rocks outcrop along a broad north northwesterly trending belt from Alice Arm to the Iskut River.

Subsequent to deposition of the Unuk River Formation, a period of erosion and deformation occurred followed by deposition of the Betty Creek Formation volcanics and marine sediments. Betty Creek rocks are characterized by red and green volcaniclastic agglomerates with intercalated andesitic flows, pillow lavas, chert and minor carbonate lenses.

The Mt. Dilworth Formation was deposited during a period of explosive felsic volcanic activity. Massive to bedded airfall tuffs and welded ash flow tuff characterize this formation.

The Salmon River Formation comprises thin bedded, alternating siltstones and mudstones with minor limestone. The overlying Ashman Formation is characterized by turbidites and wackes with lesser intraformational conglomerates and marked by a basal chert pebble conglomerate.

These stratified rocks were intruded by alkali feldspar granites, monzonites and plagioclase porphyries during the Jurassic, and by felsic dykes in Tertiary times; these are thought to be important to mineralization in this area.

Major structural features of the Stewart Complex include the western boundary contact with the Coast Intrusive Complex. The northern boundary is at the Iskut River where extensive deformation has thrust Palaeozoic strata south across Middle Jurassic and older units. Younger faulting has also occurred throughout the Iskut area. A line of Quaternary volcanic flows marks the southern limit of the complex and the Meziadin Hinge defines the eastern border.

Doubly plunging, northwesterly-trending synclinal folds of Salmon River and underlying Betty Creek Formations dominate the structural setting of the area. These folds are locally disrupted by small scale east-overthrusts (Tippy Lake, Knipple Lake) on strikes parallel to the major fold axes. Cross-axis steep wrench faults and major northwest faults locally overturn beds.

#### 6. 1990 EXPLORATION PROGRAM

### 6.1 Methods and Procedures

During July, 1990, a field crew consisting of a project geologist (the writer), field geologist and a geotechnician, performed geological mapping and stream sediment sampling on the entire property.

A compass, hipchain, altimeter and topographic features were used for control for all surveys. A total of 30 rock samples were collected and analyzed for gold and multi-element ICP by International Plasma Laboratory Ltd. See Appendix A for rock sample descriptions and Appendix B for analytical rocks and techniques.

Sixteen pan concentrates and 32 stream sediment samples were collected from north and south flowing streams throughout the property. Using gold panning techniques, full pans of sediment were concentrated to approximately 1/5 of the original size. The stream sediment samples were collected from the active part of the drainages, from the sand-silt size fractions. Samples were packaged in Hubco Sand Bags and sent to International Plasma Laboratory Ltd. for gold and multi-element ICP analysis (Appendix B).

### 6.2 Property Geology (Figure 3)

The property is underlain dominantly by well foliated, thinly bedded black siltstone. Thin beds (10 cm) of buff coloured sandstone, sandy siltstone, mudstone, and chert are commonly interbedded with the siltstone. The above units are likely part of the Middle Jurassic Salmon River and/or Ashman Formations, belonging to the Bowser Lake Group.

The sedimentary package is commonly cut by a series of steeply dipping white quartz veins up to 1.5m wide. The veins generally contain a few percent ankerite and local pyrite. Epidote and chlorite occur along fractures and the margins of veins.

Numerous bedding, foliation, and joint attitude measurements were taken. There is no consistent pattern to the strikes and dips, indicating that the units are complexly folded.

# 6.3 Geochemistry (Figure 4)

The results for all rock chip and select samples were not significant in gold, silver or copper. Four samples (AR 12, KR 6, 10, 11) were anomalous in zinc, ranging from 108 to 164 ppm. Sample KR10 assayed 2817 ppm strontium, which could indicate the presence of a nearby intrusive pluton.

The results from pan concentrate and silt samples are not considered significant.

### 6.4 Discussion of Results

The Bowser Lake Group of sediments which underlie the property are known to be void of economic metallic mineralization. Hence, the low geochemical results are not surprising.

The Bowser Lake Group overlies the more favourable volcanosedimentary units of the Lower Jurassic Mount Dilworth, Betty Creek and Unuk River Formations of the Hazelton Group. The Bowser-Hazelton contact occurs very close to the western boundary of the property, indicating that the cover of Bowser sediments could be thin on the subject property. Geophysical work is needed to test the subsurface for possible mineralization within the underlying Hazelton Group.

### 7. CONCLUSIONS

The Adam Claim Group has the potential to host precious-base metal mineralization for the following reasons:

The subject property lies in close proximity to the Eskay Creek deposit, 11 km southwest.

A thin cover of Bowser Group sediments could be masking the more favourable units of the Hazelton Group.

For these reasons, further exploration work is recommended.

#### 8. RECOMMENDATIONS

- 1. Layout approximately 20 line kilometers of grid over the area of the claims.
- Perform magnetometer and VLF-EM geophysics over the grid.
- 3. Perform Induced Polarization geophysics over the grid.
  Di-pole spacings should be wide to ensure maximum depth
  penetration.

Contingent upon targets being established from Phase 2, a Phase 3 exploration program would be recommended consisting of diamond drilling.

# 9. PROPOSED BUDGET

# ADAM PROJECT

Project Preparation	\$	600.
Mobilization & demobilization (includes freight, transportation, wages)	\$	12,000.
Field Crew:	\$	4,250.
Field Costs:	\$	11,300.
Sub-Contractors: Geophysical Magnetometer-VLF \$350/km x 20 km \$7,000. IP Survey \$1500/km x 20 km \$30,000.	\$	37,000.
Report: Maps, report writing, word processing, & copies	\$	6,000.
Sub-total	\$	71,150.
Administration, incl. Overhead and Profit	\$.	7,115.
TOTAL	\$	78,265.
Rounded to \$ 80,000	-	<del></del>



### **CERTIFICATE**

- I, ROGER G. KIDLARK, of 303 9110 Halston Court, Burnaby, B.C., do hereby certify that:
- 1. I am a graduate of the University of Toronto with a Bachelor of Science Degree in Geology, 1974.
- 2. I am a Fellow in good standing with the Geological Association of Canada.
- 3. I have practised my profession as a geologist for fourteen years in British Columbia, Yukon and Northwest Territories, Ontario and Nova Scotia.
- 4. The information, opinions and recommendations in this report are based on fieldwork carried out under my direction and on published and unpublished literature. I was present on the subject property from July 11 to 18, 1990.
- 5. I have no interest, direct or indirect, in the subject claims or the securities of Kelan Resources Inc.
- 6. I consent to the use of this report in Prospectus or Statement of Material Facts for the purpose of private or publicationing.

RELIANCE GEOLOGIVAL SERVICES INC.

Roger & Kidlark Sc., F.G.A.C.

Dated at North Wancouver, this 21st day of August 1990.

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### GROVE, E.W.

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1986: Geology and Mineral Deposits of the Unuk River - Salmon River - Anyox Area. B.C. Ministry of Energy, Mines and Petroleum Resources, Bulletin 63.

#### **MEMPR**

a: Revised Mineral Inventory Map 104B (MI)

b: Revised Mineral Inventory Map 103P (MI)

### NORTHERN MINER

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1989: Iskut River Road Study in Progress. Vol. 74, No. 50, p-28, February 20, 1989.

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1989: Calpine Hole Kick Starts VSE. Vol. 75, No. 25, p-1, August 28, 1989.

### PRIME RESOURCES CORPORATION

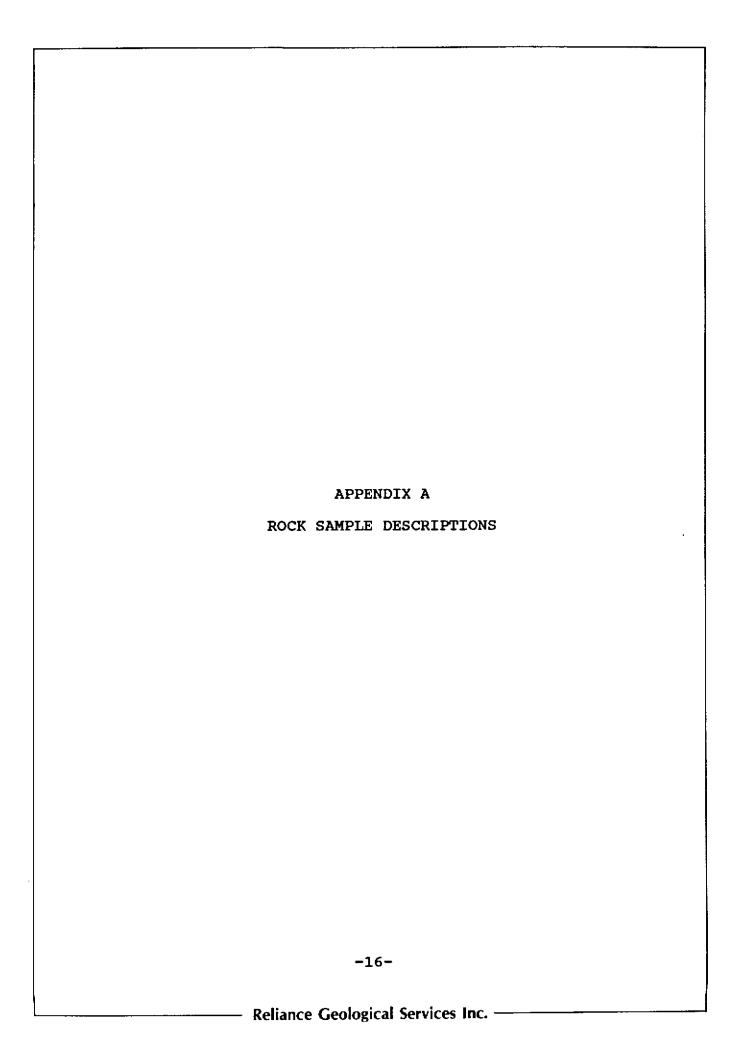
1989: Galore Creek - Iskut River - Eskay Creek Areas. The Prime Group of Companies (Claim Holdings Map).

SOUTHER, J.G., BREW, D.A., AKOLITCH, A.V. 1979: GSC Map 1418A, Iskut River.

# ITEMIZED COST STATEMENT

# ADAM PROJECT

Project Preparation								\$	150	
Mobilization & demobilizatio (includes freight, tr		\$	1,800							
Field Crew:										
Project Geologist R. Kidlark, July 13-18, 1990		325/ <b>day</b>	x	6	days	\$1	,950			
Field Geologist D. Atkinson, July 13-18,1990		275/day	x	6	days	\$1	,650			
Geotechnician (1) B. Doubt, July 13-18, 1990	\$	210/day	x	6	days	\$ <u>1</u>	<u>,260</u>	-	4,860	
Field Costs:										
Aircraft & Choppers	\$	720/hr	x	3	hrs	\$2	,161			
Communications	\$	50/day	x	6	days	\$	300			
Food & Accommodation	\$	70/day	x	1	3 days	\$1	,260			
Supplies	\$	50/day	x	6	days	\$	300			
Vehicles (Stand-by)	\$	20/day	x	6	days	\$_	120		4,141	
Assays & Analysis:										
48 silt samples @ \$14/sample						\$	672			
30 rock samples @ \$17/sample Analysis by FA/AA + multi IC						\$_	<u>510</u>	~	1,182	
Summary or Report:								-	1,500	
Sub-total								\$_	13,633	
Administration incl. Overheads & Profit \$_1									1,363	
TOTAL	TOTAL \$_14,996									

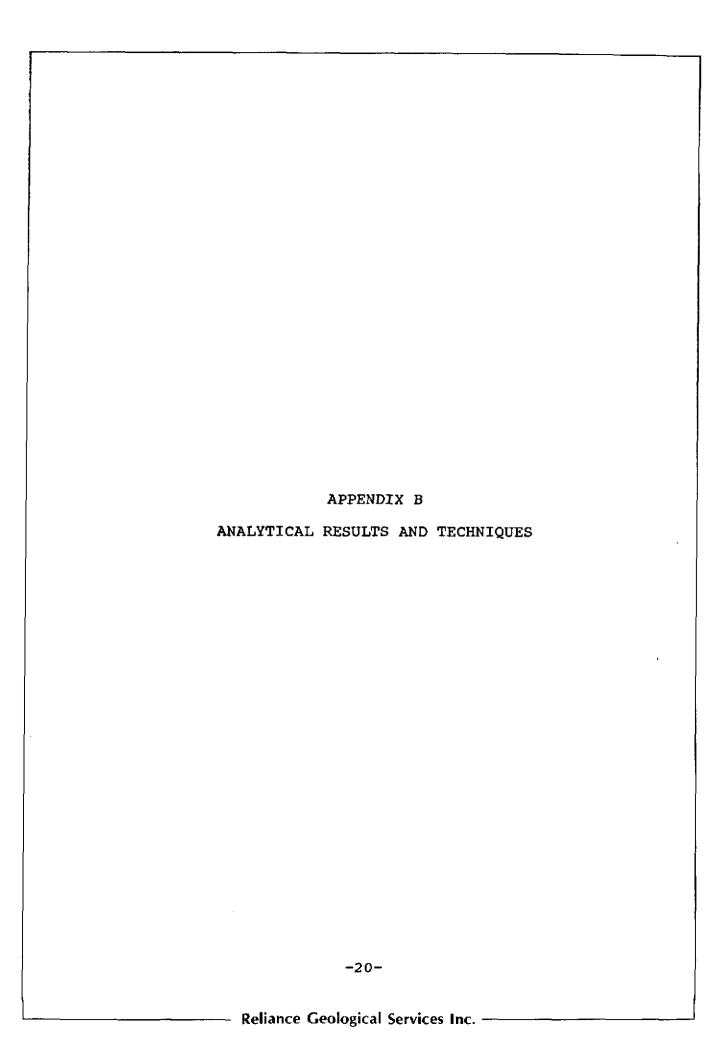


# ROCK SAMPLE DESCRIPTIONS

SAMPLE NO.	DESCRIPTION	WIDTH (cm)
AM90AR01	Selected grab from very angular piece of white quartz float. Trace chlorite along fractures in quartz.	15
AR02	Select chip from bull quartz vein in slightly altered siltstone. Trace epidote along fractures in quartz	
AR03	Selected chip from bull quartz vein in slightly altered siltstone. Trace epidote along fractures. Trace sericite and chlorite in siltstone with \% stauro	10
ARO4	Select chip from bull quartz vein occupying fold nose in siltstone. Weak chloritization of country rock forming a breccia within the quartz vein. 2% ankerite associated with quartz.	70
AR05	Select chip from bull quartz vein filling nose of fold in siltstone. Moderate chloritization of included country rock, 15% ankerite.	25
AR06	Select chip from bull quartz vein of irregular widths. Trace chlorite along fractures in quartz.	30
AR07	Select chip from bull quartz veins filling tension fractures in sandstone bed. 4% ankerite in quartz. Moderate epidote alteration of sandstone.	37
AR08	Select chip across bull quartz vein of irregular width. Weakly chloritized and sericitized country rock.	20
AR09	Selected chip across bull quartz vein of irregular width. Weakly chloritized and seriticized country rock at vein margins.	35
AR10	Selected chip across bull quartz vein. 2-3% ankerite with trace chlorite along fractures.	75

SAMPLE NO.	DESCRIPTION WI	OTH (cm)
AR11	Selected chip across a sequence of 10-50 cm wide quartz veins across nose of fold. 3-5% ankerite.	130
AR12	Selected chip across four parallel quartz veins, each 5-15 cm wide. 1-2% ankerite.	80
AR13	Selected chip across bull quartz vein. 2% ankerite, trace epidote along fractures. Trace pyrite.	60
AR14	Selected chip across bull quartz vein. Trace chlorite, epidote along fractures.	50
AR15	Selected chip across bull quartz vein. Trace chlorite and epidote along fractures.	100
KR01	Rounded boulder of rusty quartz float. No primary sulphides.	30
KR02	Select chip sample from a white, semi- transparent, slightly rusty quartz vein. Trace of fine grained disseminated pyrite.	30
KR03	Composite select chip sample from three 19 quartz veins. Traces of fine grained disseminated pyrite.	5 - 20
KR04	Composite select chip sample from four quartz veins. Slightly rusty with traces of fine grained disseminated pyrite.	1 - 2
KR05	Select chip sample from a slightly rusty white quartz vein. Pinches out rapidly down dip.	16
KR06	Select chip sample from a white quartz veing with traces of fine grained disseminated pyrite.	n 20
KR07	Select chip sample from a white, slightly rusty quartz vein.	18
KR08	Select chip sample from a white, slightly rusty quartz vein. Traces of fine grained disseminated pyrite.	30
KR09	Select chip sample from a slightly rusty white quartz vein.	30

SAMPLE NO.	DESCRIPTION WIDTH	<u>(cm)</u>
KR10	Select chip sample from a slightly rusty white quartz vein. Trace of fine grained disseminated pyrite.	30
KR11	Select chip sample from a limonitic quartz vein.	15
KR12	Select chip sample from a limonitic quartz vein.	15
KR13	Rounded boulder of rusty quartz float. No primary sulphides.	30
KR14	Composite select chip sample from six white quartz veins.	15
KR15	Composite select chip sample from five 20 - discontinuous white quartz veins. Slightly limonitic.	60





REPORT SU	MMARY	Report:[	9000648 R ]
	ANALYTICAL		
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Analytical Requisi	.tion		
Assay:[ N	Au (FA/AAS 20g) ICP None Fax results when ready	] ]	ICP:[ 30 ]
Delivery Informati	on I	Reporting Date:[	Jul 23, 1990 ]
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Address:[ City/Province:[ Country/Postal:[ Attention:[	Reliance Geological S 241 East 1st Street North Vancouver, B.C. V7L 1B4 Mr. Roger Kidlark (604)986-6150		] ] ] ]
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Sample Name	Туре	Au ppb	Ag ppm	A1 %	As ppm	Ba ppm	Bi ppm	Ca <b>%</b>	ppm Cd	Со ррм	Cr ppm	Cu ppm	Fe %	ppm Mg	K %	La ppm
AM 90 AR 01 AM 90 AR 02 AM 90 AR 03 AM 90 AR 04 AM 90 AR 05	Rock Rock Rock Rock Rock	5 5 5 <5 10	0.1 <0.1 <0.1 <0.1 0.1	1.00 0.25 0.73 0.99 2.60	<5 <5 13 <5 23	29 27 36 22 40	<2 <2 <2 <2 <2	0.04 2.77 0.35 6.86 0.07	0.1 <0.1 0.2 <0.1 0.3	12 1 5 2 15	256 161 311 177 186	28 3 21 2 21	1.92 0.49 1.32 1.51 4.88	<3 <3 4 <3 4	0.02 0.02 0.06 0.04 0.10	4 <2 3 6 4
AM 90 AR 06 AM 90 AR 07 AM 90 AR 08 AM 90 AR 09 AM 90 AR 10	Rock Rock Rock Rock Rock	5 10 <5 5 <5	<0.1 0.1 0.1 <0.1 0.1	1.30 0.94 0.39 0.33 0.35	8 5 5 <5 <5	53 52 28 22 34	<2 <2 <2 <2 <2 <2	1.89 0.28 0.17 0.02 2.03	<0.1 <0.1 0.1 <0.1 <0.1	13 10 3 3 2	250 187 301 305 267	20 13 11 9 9	2.10 1.95 0.86 0.81 0.67	<3 <3 <3 <3 <3	0.12 0.08 0.05 0.03 0.06	8 8 2 2 4
AM 90 AR 11 AM 90 AR 12 AM 90 AR 13 AM 90 AR 14 AM 90 AR 15	Rock Rock Rock Rock Rock	10 \$ <5 <5 <5	<0.1 <0.1 0.1 0.1 0.1	1.27 2.41 0.98 1.39 0.54	15 29 17 16 6	42 70 37 31 54	<2 <2 <2 <2 <2 <2	0.16 0.23 0.13 0.54 0.09	0.2 0.5 0.2 0.2 0.1	6 14 6 5 6	276 313 339 328 303	38 23 37 13 19	2.33 4.00 1.97 2.54 1.08	<3 6 4 4 <3	0.10 0.18 0.08 0.05 0.05	4 8 3 4 5
AM 90 AR 16 AM 90 KR 01 AM 90 KR 02 AM 90 KR 03 AM 90 KR 04	Rock Rock Rock Rock Rock	<5 5 <5 <5 5	0.1 0.1 <0.1 <0.1 0.1	0.70 0.55 1.68 0.79 0.91	5 5 10 5 7	34 33 43 58 78	<2 <2 <2 <2 <2	0.03 0.07 0.11 0.69 0.07	<0.1 <0.1 <0.1 <0.1 <0.1	15 7 8 9 7	315 331 309 283 307	21 17 11 49 75	1.41 1.19 2.96 1.48 1.84	<3 <3 <3 <3 <3	0.07 0.06 0.11 0.06 0.10	2 2 4 3 4
AM 90 KR 05 AM 90 KR 06 AM 90 KR 07 AM 90 KR 08 AM 90 KR 09	Rock Rock Rock Rock Rock	5 5 5 <5 5	0.2 0.2 0.1 0.1 0.1	0.43 0.36 0.29 0.18 1.20	5 <5 <5 19	47 35 37 62 139	<2 <2 <2 <2 <2	0.43 0.08 0.87 0.21 0.08	<0.1 0.3 <0.1 <0.1 0.4	14 9 9 8 78	370 316 365 316 393	69 166 25 25 39	1.02 0.99 1.00 0.91 2.43	<3 <3 <3 <3 5	0.05 0.06 0.03 0.03 0.14	2 2 3 <2 6
AM 90 KR 10 AM 90 KR 11 AM 90 KR 13 AM 90 KR 14 AM 90 KR 15	Rock Rack Rock Rock Rock	<5 <5 5 <5 10	<0.1 <0.1 <0.1 0.1 0.1	0.28 1.60 0.25 0.71 0.93	<5 26 5 8 10	24 64 31 31 34	<2 <2 <2 <2 <2	>10.00 0.58 0.05 0.04 0.27	<0.1 0.7 0.1 <0.1 0.1	19 16 2 6 5	171 399 388 450 258	48 75 14 8 32	0.61 3.10 0.76 1.60 1.80	<3 5 <3 3 <3	0.02 0.18 0.07 0.06 0.08	15 7 3 3 4
AM 90 BPC 01 AM 90 BPC 02 AM 90 BPC 03 AM 90 BPC 04 AM 90 BPC 05	Pan Conc Pan Conc Pan Conc Pan Conc Pan Conc	<5 \$ <5 <5 <5	0.1 0.1 0.1 0.1 0.1	3.31 3.10 3.21 2.79 2.67	40 39 33 24 16	129 108 95 86 74	<2 <2 <2 <2 <2 <2	0.24 0.19 0.27 0.16 0.16	0.7 0.4 0.4 0.3 <0.1	17 17 20 17 14	172 149 153 144 111	35 44 45 37 35	>5.00 4.92 >5.00 4.42 4.40	7 7 4 <3 <3	0.30 0.28 0.22 0.21 0.19	14 14 14 13 11
AM 90 BPC 06 AM 90 BPC 07 AM 90 BPC 08 AM 90 BPC 09	Pan Conc Pan Conc Pan Conc Pan Conc	<5 <5 <5 <5	0.1 0.1 0.1 0.1	2.63 2.74 2.61 2.87	16 16 18 18	104 78 93 108	<2 <2 <2 <2	0.14 0.13 0.20 0.22	<0.1 0.1 <0.1 0.1	15 16 14 18	127 114 131 102	31 30 31 44	4.42 4.49 4.09 4.80	<3 <3 <3 <3	0.18 0.20 0.23 0.21	11 13 13 12
Minimum Detection Maximum Detection Method = Not Analysed	⊔nr ≃ Not Requeste	5 10000 FA/AAS ed ins =	0.1 100.0 ICP Insuffi	0.01 5.00 ICP scient \$	5 10000 ICP ample	2 10000 ICP	2 10000 ICP	0.01 10.00 ICP	0.1 10000.0 ICP	1 10000 ICP	10000 ICP	1 20000 ICP	0.01 5.00 ICP	3 10000 ICP	0.01 10.00 ICP	2 10000 ICP

Report: 9000648 R	Reliance Geolog	gical Se	rvices	Ltd.		Project	: Adam (	537				Page 1	of 2	Se	ection	2 of 2
Sample Name	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P <b>%</b>	PP Pb	d2 mqq	Sc ppm	Sr ppm	Th ppm	Ti %	V ppm	₩ ppm	Zn ppm	Zr ppm
AM 90 AR 01 AM 90 AR 02 AM 90 AR 03 AM 90 AR 04 AM 90 AR 05	0.89 0.28 0.74 1.02 2.23	3699 829 374 1302 852	3 1 <1 2 2	<0.01 0.01 0.01 <0.01 <0.01	62 7 40 39 78	0.02 <0.01 0.03 0.01 0.04	3 2 2 <2 8	7 6 16 5 11	3 2 2 5 2	7 160 34 438 11	<10 <10 <10 <10 <10	<0.01 <0.01 <0.01 <0.01 <0.01	16 <5 16 18 42	<5 <5 <5 <5	41 1 35 33 92	<1 <1 1 <1 1
AM 90 AR 06 AM 90 AR 07 AM 90 AR 08 AM 90 AR 09 AM 90 AR 10	1.09 0.68 0.31 0.26 0.28	948 669 503 428 674	2 2 1 2 6	0.01 0.03 0.02 0.01 0.01	67 52 27 22 13	0.03 0.05 0.06 0.01 0.01	5 4 <2 <2 <2	7 7 9 <i>1</i> 8	3 3 2 1 1	371 23 30 3 322	<10 <10 <10 <10 <10	<0.01 <0.01 <0.01 <0.01 <0.01	25 23 10 9 <5	<5 <5 <5 <5	64 49 31 17 10	1 1 1 1
AM 90 AR 11 AM 90 AR 12 AM 90 AR 13 AM 90 AR 14 AM 90 AR 15	1.10 2.06 0.86 1.31 0.32	567 1299 457 731 274	6 2 7 1 6	0.02 0.01 0.02 0.02 0.04	63 114 44 87 35	0.05 0.10 0.07 0.05 0.04	<2 4 3 2 <2	11 16 13 13 6	2 4 2 2 1	20 34 27 93 20	<10 10 <10 <10 <10	<0.01 <0.01 <0.01 <0.01 <0.01	25 41 17 39 13	<5 <5 <5 <5 <5	52 108 43 45 47	1 1 <1 1
AM 90 AR 16 AM 90 KR 01 AM 90 KR 02 AM 90 KR 03 AM 90 KR 04	0.58 0.40 1.56 0.63 0.73	541 426 867 787 372	2 2 2 1 2	0.02 0.02 0.01 0.01 0.01	43 29 65 47 40	0.02 0.03 0.05 0.02 0.02	2 2 <2 <2 4	9 8 7 8 9	1 2 2 1 2	6 10 14 101 9	<10 <10 <10 <10 <10	<0.01 <0.01 <0.01 <0.01 <0.01	16 11 28 15 19	<5 <5 <5 <5 <5	26 32 67 93 61	<1 <1 <1 <1 <1
AM 90 KR 05 AM 90 KR 06 AM 90 KR 07 AM 90 KR 08 AM 90 KR 09	0.22 0.24 0.12 0.07 0.91	1071 461 1117 485 1331	2 7 2 7 1	0.01 0.02 0.01 0.01 0.02	33 24 37 26 53	0.02 0.02 0.01 0.02 0.06	4 5 4 4 7	12 9 10 8 19	1 1 1 1 3	60 12 62 21 16	<10 <10 <10 <10 <10	<0.01 <0.01 <0.01 <0.01 <0.01	8 6 <5 26	<5 <5 <5 <5 <5	55 141 64 77 46	1 <1 <1 <1
AM 90 KR 10 AM 90 KR 11 AM 90 KR 13 AM 90 KR 14 AM 90 KR 15	0.16 1.17 0.17 0.59 0.85	9032 964 133 833 402	2 8 2 10 1	<0.01 0.01 0.01 0.01 0.02	59 112 19 38 42	0.01 0.09 0.01 0.02 0.07	<2 5 2 <2 2	<5 20 12 14 10	5 3 1 1 2	2817 77 9 7 36	<10 <10 <10 <10 <10	<0.01 <0.01 <0.01 <0.01 0.01	<5 32 7 15 21	<5 <5 <5 <5 <5	164 140 7 33 43	<1 1 1 <1 <1
AM 90 BPC 01 AM 90 BPC 02 AM 90 BPC 03 AM 90 BPC 04 AM 90 BPC 05	2.94 2.66 2.85 2.50 2.39	922 855 1005 878 961	2 1 2 2 3	0.01 0.01 0.01 0.01 0.01	164 153 168 146 129	0.09 0.08 0.09 0.07 0.07	6 7 7 6 7	18 13 12 6 5	5 5 5 4	39 30 36 21 19	12 11 <10 10 <10	0.02 0.01 0.01 0.01 0.01	60 57 58 52 50	<5 <5 <5 <5 <5	129 134 142 123 116	2 1 1 2 1
AM 90 BPC 06 AM 90 BPC 07 AM 90 BPC 08 AM 90 BPC 09	2.32 2.33 2.32 2.43	1059 1057 702 1478	3 3 2 3	0.01 0.01 0.01 0.01	128 132 129 132	0.06 0.06 0.07 0.08	6 6 8	<5 <5 5 <5	4 4 5 4	59 16 23 27	10 <10 <10 <10	0.01 0.02 0.01 <0.01	50 50 51 52	<5 <5 <5 <5	114 127 103 150	2 2 1 1
Minimum Detection Maximum Detection Method = Not Analysed	0.01 10.00 ICP unr = Not Requ	1 10000 ICP ested i	1 1000 ICP ns = In	0.01 5.00 ICP sufficie	1 10000 ICP ent Samp	0.01 5.00 ICP le	2 20000 ICP	5 1000 ICP	1 10000 ICP	1 10000 1CP	10 1000 ICP	0.01 1.00 ICP	5 10000 ICP	5 1000 ICP	1 20000 ICP	1 10000 ICP

Report: 9000648 R	Reliance Geologic	al Service	es Ltd.		Pro	ject: A	dam <b>63</b> 7				Page	2 of	2	Section	1 of	5
Sample Name	Туре	Au ppb	Ag ppm	A1 %	As ppm	Ba ppm	B1 ppm	Ca %	Cd ppm	Со рря	Cr ppm	Cu ppm	Fe %	Hg ppm	K <b>%</b>	La ppm
AM 90 BPC 10 AM 90 BPC 11 AM 90 BPC 12 AM 90 BPC 13 AM 90 BPC 14	Pan Conc Pan Conc Pan Conc Pan Conc Pan Conc	<5 5 <5 <5 <5	0.1 <0.1 <0.1 <0.1 <0.1	2.59 3.17 2.42 2.48 2.51	19 26 14 16 16	108 97 76 85 88	<2 <2 <2 <2 <2	0.23 0.19 0.17 0.19 0.19	0.2 0.3 0.1 <0.1 0.1	14 14 15 14 15	101 141 120 130 116	42 30 31 25 40	4.43 >5.00 3.99 4.09 4.09	<3 4 <3 <3 <3	0.17 0.21 0.17 0.20 0.20	10 13 11 11 12
AM 90 BPC 15 AM 90 BPC 16 AM 90 BL 01 AM 90 BL 02 AM 90 BL 03	Pan Conc Pan Conc Silt Silt Silt	5 45 5 45 5	<0.1 <0.1 0.1 <0.1 <0.1	3.24 2.38 2.44 2.36 2.05	36 16 22 16 14	97 61 59 56 64	<2 <2 <2 <2 <2	0.30 0.16 0.21 0.20 0.18	0.5 0.1 0.3 0.2 0.3	20 21 21 21 36	156 116 117 126 88	41 38 41 30 32	>5.00 4.12 4.24 4.13 3.55	6 <3 3 <3 <3	0.21 0.11 0.09 0.10 0.07	12 12 10 12 11
AM 90 BL 04 AM 90 BL 05 AM 90 BL 06 AM 90 BL 07 AM 90 BL 08	\$11t \$41t \$41t \$41t \$41t	5 <5 5 < <b>5</b> 15	0.1 <0.1 0.1 0.1 <0.1	2.17 2.22 2.87 2.72 2.60	13 12 13 33 18	53 61 34 69 65	<2 <2 <2 <2 <2	0.21 0.19 0.27 0.22 0.24	0.1 0.2 <0.1 0.4 0.3	19 32 12 20 32	86 109 38 114 124	22 17 19 47 58	3.11 4.14 4.41 4.78 4.65	<3 <3 <3 6 <3	0.08 0.08 0.06 0.10 0.08	11 10 15 11 12
AM 90 BL 09 AM 90 BL 10 AM 90 BL 11 AM 90 BL 12 AM 90 BL 13	\$11t \$11t \$11t \$11t \$11t	<5 <5 <5 5	<0.1 <0.1 <0.1 <0.1 <0.1	2.81 2.49 2.32 2.38 2.54	28 15 14 15 18	127 69 64 52 43	<2 <2 <2 <2 <2	0.26 0.20 0.19 0.16 0.20	0.5 0.2 0.1 0.1 0.1	36 21 16 21 19	126 129 123 111 122	75 34 26 32 38	4.96 4.32 3.88 3.97 4.40	4 <3 <3 <3 3	0.12 0.11 0.16 0.10 0.09	12 11 10 13 10
AM 90 BL 14 AM 90 BL 15 AM 90 BL 16 AM 90 BL 17 AM 90 BL 18	Silt Silt Silt Silt Silt	5 5 5 10 5	<0.1 0.2 0.1 <0.1 0.1	3.65 2.58 2.57 3.27 3.47	37 18 15 13 29	82 66 66 37 59	<2 <2 <2 <2 <2 <2	0.22 0.19 0.18 0.56 0.22	1.1 0.2 0.1 <0.1 0.4	28 23 21 29 21	162 97 111 32 83	36 45 35 21 36	>5.00 4.50 4.51 4.30 4.68	8 <3 <3 <3	0.15 0.12 0.11 0.12 0.09	18 12 13 22 19
AM 90 BL 19 AM 90 BL 20 AM 90 BL 21 AM 90 BL 22 AM 90 BL 23	Silt Silt Silt Silt Silt	<5 5 <5 5 10	<0.1 0.1 <0.1 0.1 <0.1	3.04 2.22 2.55 3.60 2.66	18 15 12 43 19	42 76 47 225 108	<2 <2 <2 <2 <2	0.43 0.21 0.37 0.35 0.38	0.4 0.4 <0.1 1.4 0.3	33 33 14 70 31	55 96 59 108 91	40 51 31 142 62	4.35 3.88 3.94 >5.00 4.89	<3 <3 <3 7 <3	0.13 0.08 0.09 0.09 0.10	23 13 14 15
AM 90 BL 24 AM 90 BL 25 AM 90 BL 26 AM 90 BL 27 AM 90 BL 28	Silt Silt Silt Silt Silt	5 5 10 5 5	0.1 <0.1 <0.1 <0.1 <0.1	3.72 2.69 2.59 2.57 1.98	45 18 23 23 12	155 132 64 68 92	<2 <2 <2 <2 <2	0.31 0.18 0.21 0.20 0.87	1.3 0.2 0.5 0.3 0.6	47 18 21 21 27	134 119 114 127 84	101 34 34 41 47	>5.00 4.66 4.77 4.42 4.02	7 <3 <3 <3 <3	0.11 0.13 0.12 0.11 0.07	16 11 13 12 12
AM 90 BL 29 AM 90 BL 30 AM 90 BL 31 AM 90 KL 01	Silt Silt Silt Silt	5 5 10 10	<0.1 <0.1 <0.1 <0.1	2.42 2.75 2.72 2.58	15 16 23 23	72 101 68 74	<2 <2 <2 <2	0.29 0.34 0.39 0.24	0.2 0.4 0.6 0.5	20 44 19 32	112 124 119 96	34 73 36 67	4.25 4.79 4.54 4.78	<3 <3 4 3	0.14 0.09 0.14 0.09	12 11 13 13
Minimum Detection Maximum Detection Method = Not Analysed		5 10000 FA/AAS ed 1ns =	0.1 100.0 ICP Insuff	0.01 5.00 ICP Iclent S	5 10000 ICP ample	10000 ICP	2 10000 ICP	0.01 10.00 ICP	0.1 10000.0 ICP	1 10000 ICP	1 10000 ICP	20000 ICP	0.01 5.00 ICP	3 10000 ICP	0.01 10.00 ICP	2 10000 ICP

Report: 9000648 R	Reliance Geological Services Ltd.					Project: Adam 537						Page 2 of 2			Section 2 of 2		
Sample Name	Mg %∑	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Th ppm	T i %	V ppm	₩ ppm	Zn ppm	Zr ppm	
AM 90 BPC 10 AM 90 BPC 11 AM 90 BPC 12 AM 90 BPC 13 AM 90 BPC 14	2.30 2.91 2.29 2.27 2.27	1007 971 733 787 952	2 2 3 3 2	0.01 0.01 0.01 0.01 0.01	129 155 130 127 129	0.08 0.08 0.06 0.06 0.07	8 5 6 6	6 9 5 5 <5	4 5 4 4	29 23 25 24 31	<10 10 <10 <10 <10	<0.01 0.02 0.01 0.03 0.02	48 58 44 45 44	<5 <5 <5 <5	124 121 110 97 113	1 2 1 1	
AM 90 BPC 15 AM 90 BPC 16 AM 90 BL 01 AM 90 BL 02 AM 90 BL 03	2.96 2.20 2.32 2.25 1.71	1005 939 900 933 1285	2 3 2 2 2	0.01 0.01 0.01 0.01 0.01	172 134 145 138 109	0.09 0.07 0.07 0.06 0.07	5 7 6 8 7	14 <5 7 5 <5	5 4 4 3 3	36 23 29 31 32	11 <10 <10 <10 <10	0.01 0.02 0.01 0.02 0.04	56 42 43 41 37	<5 <5 <5 <5	144 115 121 114 106	1 1 1 1	
AM 90 BL 04 AM 90 BL 05 AM 90 BL 06 AM 90 BL 07 AM 90 BL 08	1.59 1.94 0.33 2.47 2.40	732 2453 264 950 1505	2 3 4 2 3	0.03 0.02 0.02 <0.01 <0.01	99 125 30 144 163	0.05 0.05 0.08 0.08 0.08	7 4 10 7 13	6 <5 6 12 <5	2 3 4 4	44 35 51 39 36	<10 <10 <10 10 <10	0.07 0.05 0.38 0.01 0.01	39 42 82 48 46	<5 <5 <5 <5 <5	97 114 80 138 158	1 1 40 1	
AM 90 BL 09 AM 90 BL 10 AM 90 BL 11 AM 90 BL 12 AM 90 BL 13	2.42 2.38 2.17 2.11 2.39	1353 1010 806 953 1086	2 2 3 3 3	0.01 0.01 0.01 0.01 <0.01	163 140 125 123 144	0.10 0.07 0.06 0.07 0.07	8 7 5 8 7	7 5 5 <5 <5	4 4 4 3 4	60 48 26 29 23	<10 <10 <10 <10 <10	0.02 0.02 0.02 0.03 0.01	49 44 42 43 46	<5 <5 <5 <5	180 116 97 105 119	1 <1 1 1	
AM 90 BL 14 AM 90 BL 15 AM 90 BL 16 AM 90 BL 17 AM 90 BL 18	3.11 2.29 2.31 0.83 1.44	2078 1256 1443 683 796	3 3 3 4 3	0.02 0.01 0.01 0.13 0.03	178 132 134 47 88	0.08 0.08 0.08 0.10 0.09	6 8 8 11 9	16 <5 <5 6 10	5 4 4 4 5	44 28 31 71 40	11 <10 <10 <10 <10	0.03 0.02 0.01 0.29 0.18	65 48 47 65 71	<5 <5 <5 <5 <5	169 134 124 168 121	1 <1 1 29 11	
AM 90 BL 19 AM 90 BL 20 AM 90 BL 21 AM 90 BL 22 AM 90 BL 23	1.30 1.93 1.46 2.88 2.28	1113 1211 731 4083 2238	5 2 3 4 4	0.13 0.01 0.09 0.01 <0.01	72 131 84 230 141	0.11 0.08 0.10 0.15 0.10	13 10 10 11 10	6 <5 <5 13 <5	4 3 3 5 4	47 32 52 50 50	<10 <10 <10 11 <10	0.23 0.03 0.14 0.02 0.01	57 41 50 63 48	<5 <5 <5 <5 <5	142 130 126 363 181	19 <1 7 1 <1	
AM 90 BL 24 AM 90 BL 25 AM 90 BL 26 AM 90 BL 27 AM 90 BL 28	3.27 2.54 2.20 2.50 1.70	2502 1259 1287 1002 1912	2 2 2 3 3	0.01 0.01 0.01 0.01 0.02	221 141 134 153 122	0.14 0.08 0.08 0.07 0.10	10 7 9 7 8	18 5 6 8 5	5 4 3 4 2	56 27 30 31 172	13 <10 <10 <10 <10	0.01 0.01 0.01 0.01 0.04	66 51 43 45 37	<5 <5 <5 <5 <5	255 120 148 135 155	1 1 1 1	
AM 90 BL 29 AM 90 BL 30 AM 90 BL 31 AM 90 KL 01	2.21 2.37 2.33 2.33	1366 1776 861 1836	2 4 2 3	0.01 0.01 0.06 0.01	131 178 133 150	0.07 0.10 0.08 0.10	7 11 8 11	<5 <5 10 5	3 5 4 4	49 50 62 28	<10 <10 <10 <10	0.02 0.01 0.07 0.01	42 46 52 47	<5 <5 <5 <5	124 207 134 176	1 1 1	
Minimum Detection Maximum Detection Method = Not Analysed	10.00 ICP	1 10000 ICP ested i	1 1000 ICP ns = In	0.01 5.00 ICP sufficie	1 10000 ICP nt Samp	0.01 5.00 ICP le	2 20000 ICP	5 1000 ICP	1 10000 ICP	1 10000 ICP	10 1000 ICP	0.01 1.00 ICP	5 10000 ICP	5 1000 ICP	20000 ICP	1 10000 ICP	



# Method of ICP Multi-element Analyses

- (a) 0.50 grams of sample is digested with diluted aqua regia solution by heating in a hot water bath for 90 minutes, then cooled, bulked up to a fixed volume with demineralized water, and thoroughly mixed.
- (b) The specific elements are determined using an Inductively Coupled Argon Plasma spectrophotometer. All elements are corrected for inter-element interference. All data are subsequently stored onto computer diskette.
- \* Aqua regia leaching is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

### QUALITY CONTROL

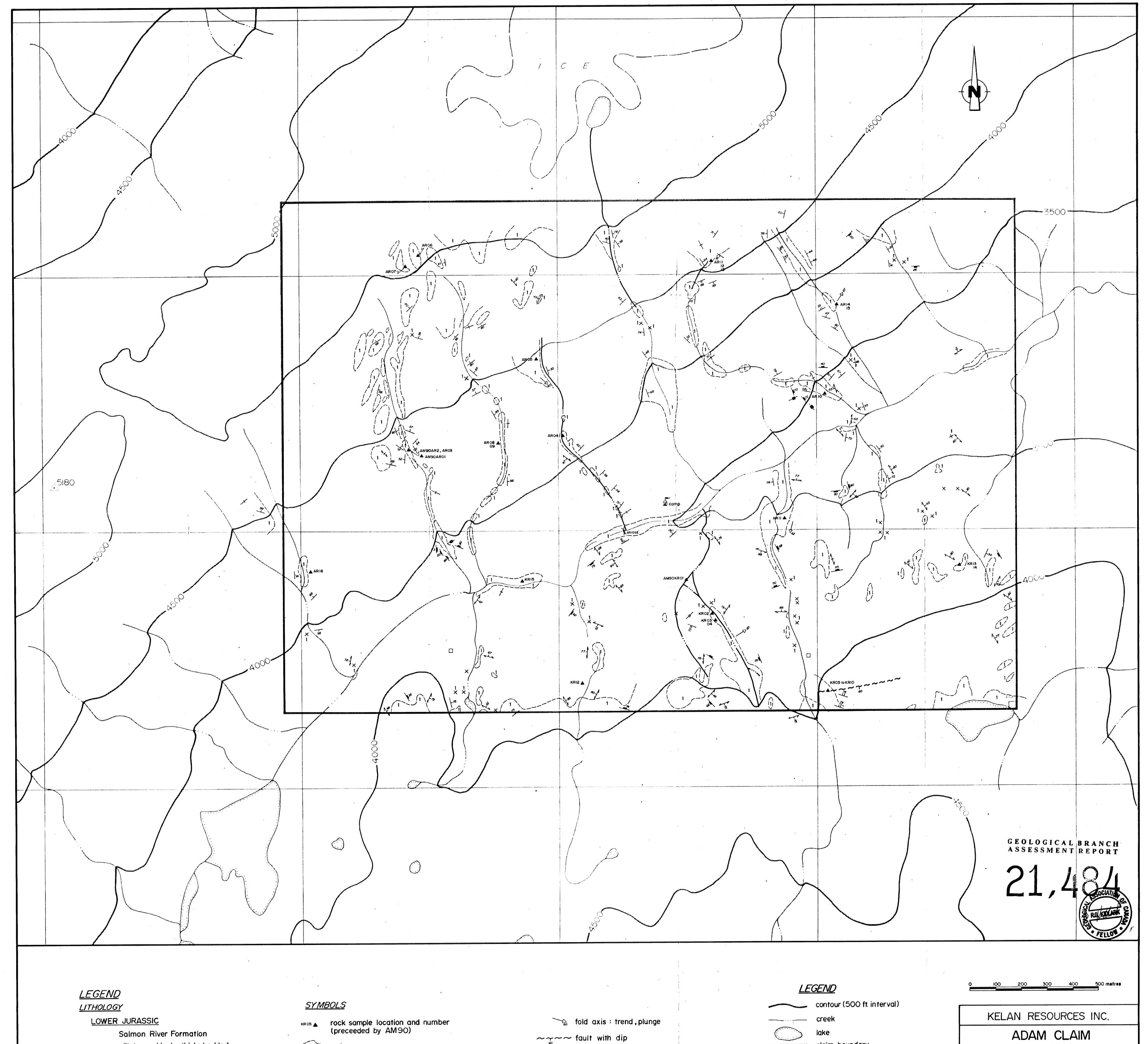
The machine is calibrated using six known standards and a blank. Another blank, which was digested with the samples, and a standard are tested before any samples to confirm the calibration. A maximum of 20 samples are analysed, and then a standard, also digested with the samples, is run. A known standard with characteristics best matching the samples is chosen and tested. Another 20 samples are analysed, with the last one being a random reweigh of one of the samples. The standard used at the beginning is rerun. This procedure is repeated for all of the samples.

# Method of Gold analysis by Fire Assay / AAS

- (a) 20.0 to 30.0 grams of sample is mixed with a combination of fluxes in a fusion pot. The sample is then fused at high temperature to form a lead "button".
- (b) The precious metals are extracted by cupellation. Any Silver is dissolved by nitric acid and decanted. The gold bead is then dissolved in boiling concentrated aqua regia solution heated by a hot water bath.
- (c) The gold in solution is determined with an Atomic Absorption Spectrometer. The gold value, in parts per billion, is calculated by comparision with a set of known gold standards.

### QUALITY CONTROL

Every fusion of 24 pots contains 22 samples, one internal standard or blank, and a random reweigh of one of the samples. Samples with anomalous gold values greater than 500 ppb are automatically checked by Fire Assay/AA methods. Samples with gold values greater than 10000 ppb are automatically checked by Fire Assay/Gravimetric methods.



siltstone - black, thinly bedded, sandstone, mudstone, sandy siltstone

outcrop

bedding (inclined, vertical)

joints (inclined, vertical)

foliation (inclined, vertical)

--- quartz vein (inclined, vertical)

claim boundary

Liard M.D., B.C.

GEOLOGY and ROCK SAMPLE LOCATION

7.S. 104 B/9 1:5000 August 1990 RELIANCE GEOLOGICAL SERVICES INC.

