REPORT
on the
GEOLOGY and GEOCHEMISTRY

of the

GOAT 1 TO GOAT 3 and I.R. 9 CLAIMS
(Record n° 3865-3867 and 6534)
1990

Located in the Telegraph Creek area
British Columbia
Liard Mining Division
NTS 104 G/12W and 13W

at
57° 46' North Latitude
131° 45' West Longitude

for
Integrated Resources Ltd.

700 T.D. Tower
10205 101 Str.
Edmonton Alberta
T5J-2Z1

by
Phil Van Angeren P.Geol.

December 21, 1990

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SUMMARY:

Placer gold deposits have been known to exist in the Telegraph Creek and Barrington River areas of northern British Columbia, since the late 1800's. Mineral exploration in the 1950's and early 1980's established that the prospects for the occurrence of precious and base-metal mineralization in this region are good. Porphyry, vein, and replacement type ores have become the main exploration targets. Pre-1990 investigations did not fully evaluate the extent of the potential for such ores in the vicinity of the Goat 1-3 and I.R. 9 claims near Mt.Barrington.

In 1986, Integrated Resources Ltd. staked the Goat 1,2 and 3 mineral claims; a total of 60 contiguous units. In 1989, they claimed I.R. 9 (12 units). The property covers the Barrington River canyon, at the mouth of which are the placer deposits, also owned by Integrated. Despite being a suspected source-area for this placer gold, the canyon had received little or no prior exploration.

Work on the property in 1990 was carried out intermittently between August 10 and October 5, by a four man crew. This involved geological mapping and the collection of 48 silt and 34 rock samples. Exploration is significantly hampered by extremely difficult terrain.

These claims are underlain by a thick sequence of bland-looking, Triassic sediments, intruded by a coeval to Jurassic-aged granodiorite pluton. Although the geology is deemed favourable for the presence of base-metal or precious-metal mineralization (porphyry and vein type), there is little evidence of alteration or hydrothermal activity; geological signatures often unique to metallization.

The prospects of encountering ore-mineralization on the property are considered to be less than encouraging. This is substantiated by uniformly low geochemical values and by a lack of the above mentioned geological signatures. The placer gold is believed to have originated from one or both of two major drainage basins (Barrington R. and Limpoke Cr.) and to have been deposited at its current location simultaneously with remobilized moraine material during a catastrophic flood event.

One significant gold anomaly bears further examination. It consists of a feldspar porphyry dike containing up to 1980 ppb Au (0.058 oz/t) in a grab sample. The potential exists there for vein and/or replacement mineralization similar to those of the Stonehouse or Polaris-Taku deposits. The dike and its environment need to be explored on this basis. A zinc-in-silt anomaly (8180 ppm) also requires further investigation. It may be related to vein or massive sulphide mineralization. These conclusions are conjectural at best.

Further work on the property should be limited to detailed evaluation of the aforementioned anomalies, although hazardous terrain will restrict activities. A short, helicopter-supported exploration program, geared to mapping and rock sampling, is recommended for 1991. This could be borne out for $20,000.".

INTRODUCTION:

The author has been retained by Integrated Resources Ltd. (Integrated) of Edmonton, Alberta, to complete this report regarding the preliminary geological exploration of their Goat 1 to 3 and I.R. 9 mineral claims located near Telegraph Creek, northwestern British Columbia (Figure 1).

Reconnaissance-level geological mapping and geochemical sampling (silt and rock) was completed on the four claims between August 10 and October 5 1990 (on an intermittent basis). The work was carried out by a four-man crew, supervised by the writer.

Records at the British Columbia Ministry of Energy, Mines and Petroleum Resources show the following claims to belong to Integrated Resources Ltd. (see Figure 2):

Claim Name	Record N°	Units	Record Date	Expiry Year
Goat 1	3865	20	Dec 5,1986	1990*
Goat 2	3866	20	Dec 5,1986	1990*
Goat 3	3867	20	Dec 5,1986	1990*
I.R. 9	6534	12	Oct 8,1989	1990*

* Prior to filing of this report.

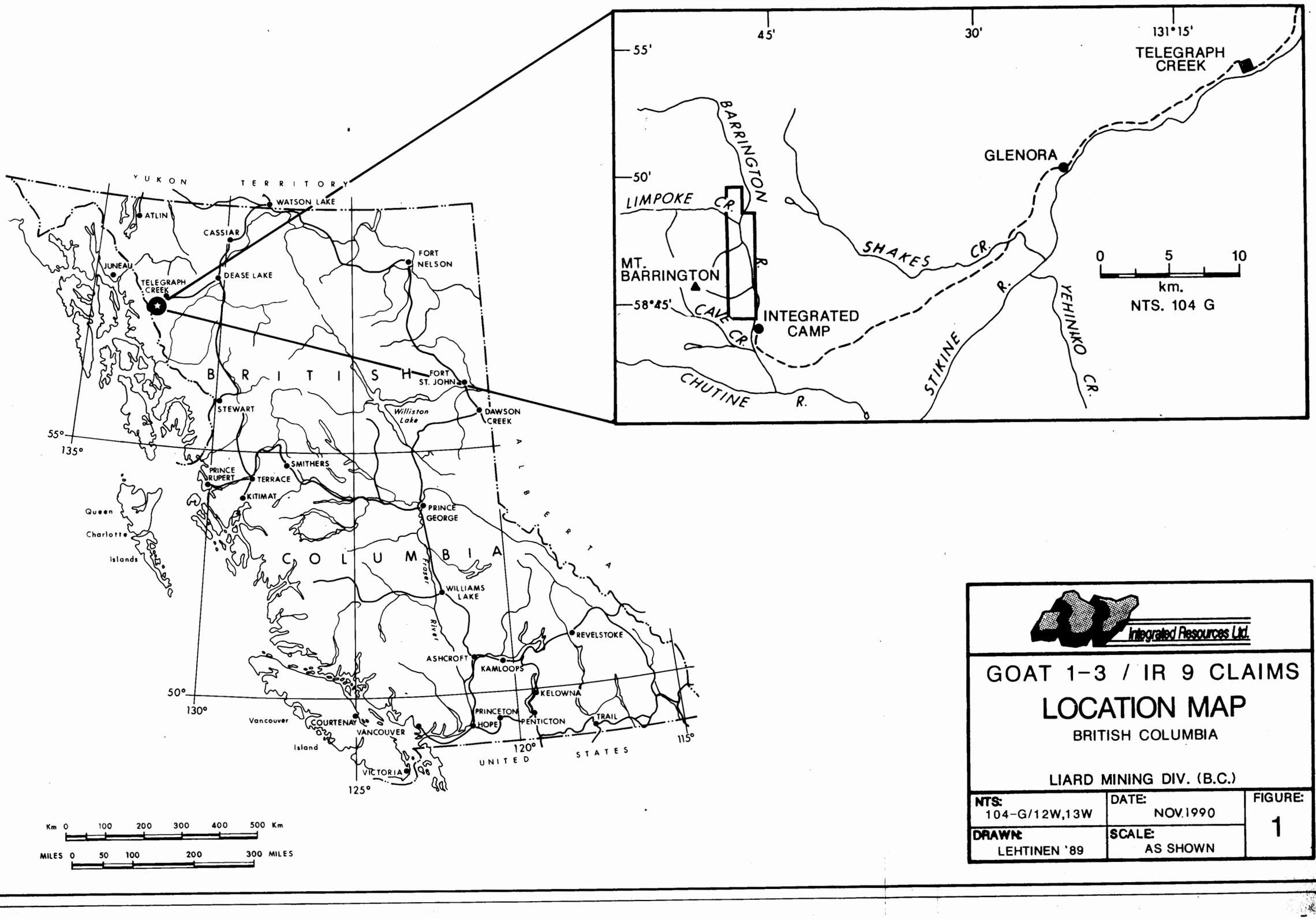
The legal aspects of these claims are not known to the author.

The property was staked over the Barrington River in 1986 and 1989 in an effort to cover the potential source areas of placer gold deposits located a few kilometres upstream from the mouth of the river.

LOCATION,ACCESS and PHYSIOGRAPHY:

The Goat 1-3 and I.R. 9 claims are located along the Barrington River canyon, centred 45 km west of Telegraph Creek and 11 km north of the junction of the Barrington and Chutine Rivers in northern British Columbia (figure 1). This is at latitude 57° 46' North and longitude 131° 45' West on NTS map sheet 104 G/12W, 13W in the Liard Mining Division. Mt.Barrington is situated 3 km to the west.

Access to the claim group is by helicopter from Integrateds' placer mining camp established on the Barrington River, 6 km to the south. The camp is itself reachable via an all-vehicle gravel road from Telegraph Creek. An airstrip suitable for small fixed-wing aircraft exists on the



Integrated Resources Ltd.

GOAT 1-3 / IR 9 CLAIMS

LOCATION MAP

BRITISH COLUMBIA

LIARD MINING DIV. (B.C.)

NTS: 104-G/12W,13W	DATE: NOV.1990	FIGURE: 1
DRAWN: LEHTINEN '89	SCALE: AS SHOWN	

road near the camp. Supplies, however, are obtained at Dease Lake, on Highway 37, some 90 km northeast of Telegraph Creek.

The claims are situated within the Boundary Ranges of the Coast Mountains where treeline varies from 1000 to 1200 m ASL and where active glaciation is locally prevalent above 1500 m. Vegetation consists of dense growths of stunted conifers, with alpine mosses and shrubs above the treeline.

Topography is rugged, ranging from 200 m at the camp to 1100 m at the western edge of the property. The claims cover a 300 m deep canyon, making foot-access virtually impossible. Work-areas are restricted to a few helicopter landing sites on gravel bars. Summers are short, cool and wet. Although snow accumulation is less pronounced than in the main Coast Ranges, shaded creeks may contain packed snow well into late summer.

EXPLORATION HISTORY:

Exploration history in the area dates back to the early 1890's when placer gold was discovered on Stikine River gravel bars below Telegraph Creek. Placer gold deposits in the lower Barrington River have been worked sporadically since 1903 (Lehtinen,1989). These are currently being mined by Integrated.

The area of interest was last mapped by a government agency (in this case the G.S.C.) in the early 1970's (Souther,1972).

Mineral exploration saw a peak in activities during the 1950's following the discovery of the Galore Creek porphyry copper deposit by Kennco Exploration Ltd. and Hudson Bay Mining & Smelting Co. Ltd.(in 1955). Galore Creek is situated 85 km south of Mt.Barrington. Some of the early "porphyry copper" exploration included the Mt.Barrington area. Kennco worked the old "Gordon" claims, situated near the mouth of Limpoke Cr in Goat 3 (Hallof,1966). This showing was reputed to host minor disseminated chalcopyrite in syenite. It is apparent that insufficient concentrations of copper were found in order to warrant continued work.

Exploration subsequently lay dormant until the early 1980's when regional silt-sampling surveys were conducted in the district in an effort to locate precious metal mineralization. Teck Corp., DuPont of Canada Exploration and more recently, Integrated Resources Ltd., have all staked and briefly explored the region centred on Mt.Barrington (Folk,1981; Strain,1981; Korenic,1982; Wetherly,1989 and Lehtinen,1989). Emphasis has been on gold-silver-bearing copper-porphyry and vein mineralization.

Strain and Korenic reported that mineralization consisted of sweat-like pods of massive, auriferous pyrrhotite in hornfelsed sediments. These were found to be collectively uneconomic by Korenic. Similar conclusions should have been drawn by Wetherly and Lehtinen.

Since acquisition, the Goat 1-3, I.R.9 claims have received little exploration save minor silt sampling and prospecting. The main deterrent to exploration is the hazardous terrain. The 1990 exploration program was conducted to obtain basic information on the geology and mineral potential of the claims. It was also speculated that placer gold in the Barrington River may have originated from the claim block. Work comprised prospecting, geological mapping and geochemical sampling.

REGIONAL GEOLOGY:

Geology:

The Telegraph Creek region was mapped by the Geological Survey of Canada in the early 1970's (Souther,1972). Geology in the Mt.Barrington area is shown in Figure 3. The following is derived mostly from Souther.

The district lies within the Stikine Arch, at the junction of the Intermontane Belt (accretion terrain) to the east and the Coast Plutonic Belt (island arc root) to the west. The Stikine Arch consists of late Paleozoic to mid-Jurassic oceanic volcanics and related sediments representing island arc and back-arc deposits. They are locally overlain by a variety of subareal volcanics and sediments of post-late Jurassic age. Most pre-Cretaceous strata are intruded by mid-Triassic to early Cretaceous plutons of varied affinities.

Stratigraphy:

The Paleozoic sediments comprise Permian sericite schist and greenstone, overlain by a thick formation of well-bedded limestone (units 2 & 3; fig.3).

The Permian sediments are unconformably overlain by mid-Triassic shales (4) and by ribbon-chert, argillite and minor limestone of probable late Triassic age (formations 5 to 7). These are in turn unconformably overlain by the late Triassic Stuhini Group which consists of andesitic volcanic and volcaniclastic rocks (units 8 and 9).

The Stuhini Group is locally overlain by Jurassic conglomerates and mafic volcanics (units 13 to 16) as well as Cretaceous subareal felsic volcanics (Sustut and Sloko Groups;20, 21 and 22). None of units 13 to 21 have been recognized in the Telegraph Creek area.

Intrusive Rocks:

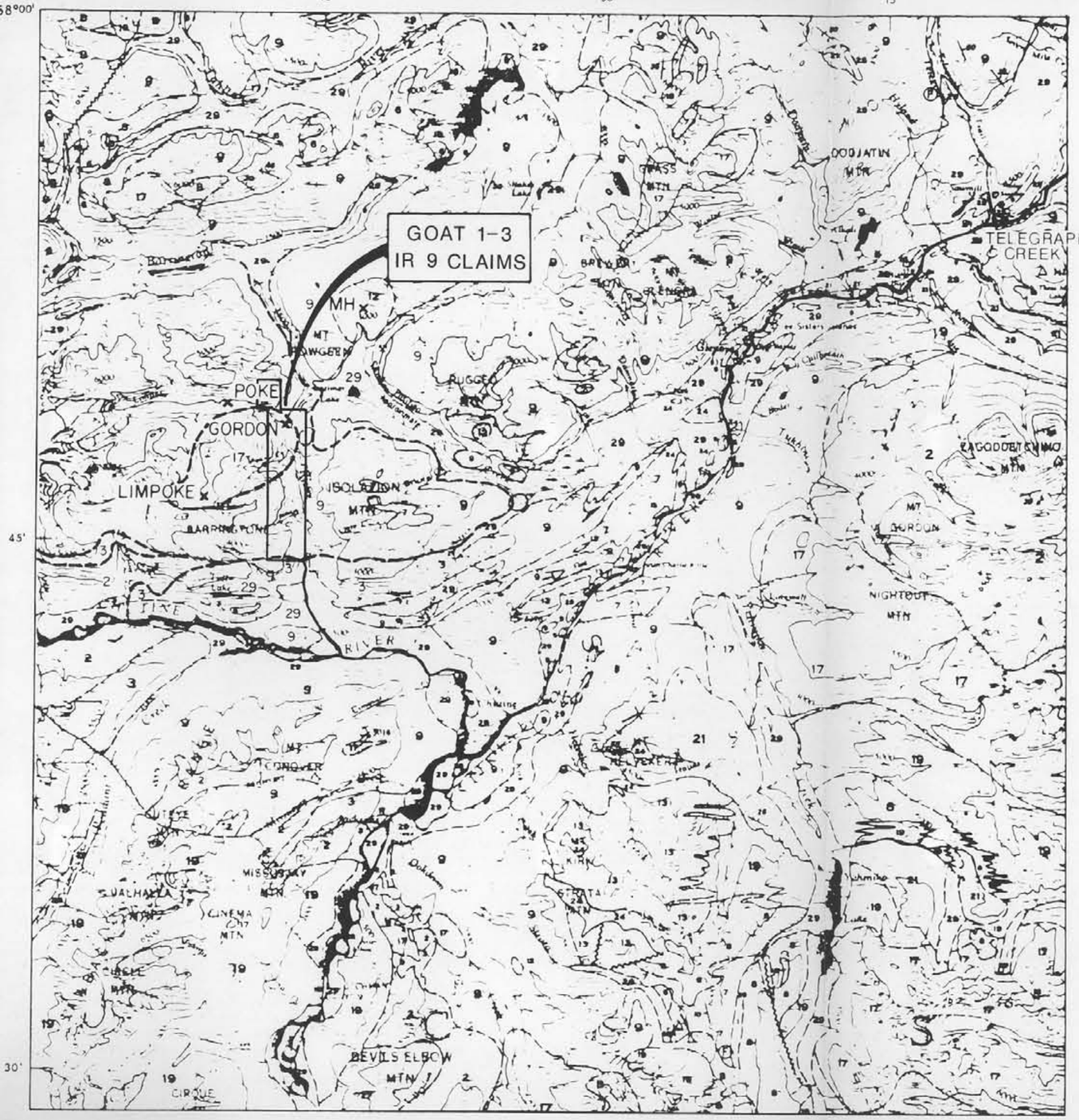
Three intrusive episodes characterize the region: a mid-Triassic to mid-Jurassic granodiorite and syenite suite believed to be coeval with the Stuhini Group (suites 10 to 12); the Jurassic to Tertiary Coast Plutonic Complex of dioritic affinities (suite 17); quartz monzonite, aplite and diorite plugs/dikes dated as post-Jurassic by Souther (units 19,22 and 23).

Upon closer examination, the large granodiorite plug (17) located due north of Mt.Barrington was revealed to consist mostly of granodiorite (10), syenite (12) and quartz-monzonite (12 or 19). Dikes of suites 22 and 23 are also prevalent in the neighbourhood.

Structure and Metamorphism:

Structural patterns in the region are dominated by isoclinal folds. This deformation has affected all stratified Stikine Arch formations and is evidenced by the west-trending, upright attitudes of Permian limestones and Stuhini Group strata. Intrusion of plutons has further deformed the host lithologies, with minor reverse and normal faulting.

Portions of unit 10 are weakly foliated. Post-intrusive deformation is characterized by regional-scale, vertical, north-



LEGEND
(Adapted from Souther, 1972)

QUATERNARY
PLEISTOCENE and RECENT

29 Fluviatile gravel; glacial outwash; colluvium

CRETACEOUS and TERTIARY

(SLOKO GROUP)
22/23 Biotite leucogranite, dikes and sills
Porphyritic andesite, dikes and sills

(SUSTUT GROUP)
21 Conglomerate; sandstone; shale

20 Quartz-feldspar porphyry; rhyolite; in part equivalent to 22

19 Biotite-hornblende quartz-monzonite

JURASSIC and/or CRETACEOUS

17 Granodiorite; quartz diorite; leucogranite

JURASSIC

13/16 Conglomerate; siltstone; basalt; greywacke

LATE TRIASSIC to MIDDLE JURASSIC

12 Syenite; orthoclase porphyry; monzonite

(HICKMAN BATHOLITH SUITE)
10/11 Hornblende granodiorite; diorite; pyroxenite

TRIASSIC
UPPER TRIASSIC

(STUHINI GROUP)
9 Undifferentiated sedimentary and volcanic rocks

8 Augite andesite tuffs, flows and related clastics

7 Siltstone; ribbon chert; greywacke; limestone

6 Limestone; impure limestone

5 Greywacke; siltstone; tuff; shale

MIDDLE TRIASSIC

4 Black shale; siltstone

PERMIAN

3 Thick bedded limestone

2 Phyllite; schist; greenstone

SCALE 1:250,000
MILES
0 5 10
0 5 10
KILOMETRES

SYMBOLS

Geological boundary (defined and approximate, assumed) .....
Bedding (horizontal, inclined, vertical, overturned) .....
Anticline .....
Syncline .....
Fault (defined and approximate, assumed) .....
Thrust fault, teeth on hanging-wall side (defined and approximate, assumed) .....
Fossil locality .....
Mineral property .....
Cluster .....

Integrated Resources Ltd.

MT. BARRINGTON AREA
REGIONAL GEOLOGY
LIARD MINING DIVISION, B.C.

ADAPTED FROM LEHTINEN 1989

DRAWN	NTS	DATE	FIG No.
JW	104G/2	NOV 1989	3

trending, faults and shear zones. Similar structures also strike northwest. Many are typified by orange-weathering, carbonate alteration.

All rocks have undergone zeolite regional metamorphism. Greenschist metamorphism is restricted to early Paleozoic formations (unit A). Quartz-biotite hornfelsing has occurred in the Stuhini group, at their contact with coeval and later intrusions. This is particularly evident on Mt.Barrington where prominent gossans define the hornfels.

Mineralization:

Mineral deposits commonly associated with the geological environment encountered near Mt.Barrington may be classed into four groups: porphyry copper-silver-gold deposits associated with syenitic and monzonitic intrusives (such as the Galore Creek deposits:Logan & Koyanagi,1989); auriferous, quartz-carbonate stockworks and replacements in shear zones (such as the Polaris-Taku:E.M.R.C,1984); massive, shear hosted polymetallic sulphide ores in Stuhini andesites (such as the Tulsequah Chief deposit: Souther,1971; E.M.R.C.,1984); skarn deposits in calcareous horizons (Ray,1990).

Mineral occurrences related to the Stuhini Group are associated with quartz-carbonate-albite replacements in shear zones within both volcanic rocks and felsic porphyries (eg; units 10-12). It is also noted that many of these are rich in arsenic, base metals and antimony. This has striking resemblances with the SNIP and STONEHOUSE deposits of the Iskut River district further south (see Alldrick et.al.,1989). Porphyry copper deposits,on the other hand,are garnetiferous and related to alkaline intrusive suites.

The prime goal at Goat 1-3, I.R. 9 was therefore to locate such environments.

PROPERTY GEOLOGY:

Despite inaccessible terrain, a rudimentary geology map of the Goat 1-3,I.R.9 claims was produced, as shown on Figure 4. Geological formations have been classed and "dated" on the basis of similarities to formations described by Souther (1972). The claim group is underlain almost exclusively by a felsic intrusion of probable Triassic-Jurassic age and by sediments belonging to the Stuhini Group. Groups B and 1 to 5 in figure 4 are believed to correspond to Southers' n° 3 and 7, 8, 10, 12, and 19 (respectively).

Stratigraphy:

The oldest strata on the property are thought to be the Permian carbonate shelf sediments of formation "B" at the southern edge of Goat 1. Green ribbon-chert and black siliceous siltstone (1a and 1b) dominate in the southern half of Goat 1-3. These sediments suggest a gradual shallowing of the seas during the Triassic era.

The sedimentary package gradually passes to mixed volcaniclastics and andesitic tuffs (2b;characteristic of the Stuhini group) indicating the development of a volcanic arc. These are in turn invaded by a felsic pluton.

All mapped formations are interstratified to some extent, suggesting coeval deposition. Furthermore, many contacts are fault-

controlled, making correlations difficult. Stratigraphic relationships are unclear at best.

Limestone - B

These are thick-bedded, bland, gritty and locally bioclastic limestones. They are in fault contact with the other formations.

Ribbon chert - 1a;

This formation is found in the centre of the claim block. It exceeds 500 m in thickness, is grey-green in color and consists of well-bedded, silty to microcrystalline chert. Minor disseminated pyrite is locally present.

Argillite and Siltstone - 1b;

This lithology outcrops throughout the area but is more dominant in the southern portion of Goat 1. Individual strata consist of black, argillaceous siltstones which are often cherty. Beds rarely exceed a few metres in thickness although the unit in general may attain 90 m. It may be correlative with Southers' n° 4.

Limestone - 1c;

This formation occurs as a small gossanous pendant of garnetiferous skarn in Goat 2 claim. Despite an interesting geological environment, no mineralization has been recognized within unit 1c.

Andesite - 2b;

The most prominent lithologies underlying I.R. 9 are massive dark green to maroon andesite (2b). Strata range in thickness from 1.0 m to more than 50 m and consist of "fine-ash" tuffs as well as greywackes. The exact relationship between sediments and volcanics is not clear and there is undoubtedly much deformation to complicate the geological picture.

Mineralization consists of small pockets of disseminated pyrrhotite and pyrite.

Intrusives:

The northern section of the property is underlain by a small, oval, multi-phase granodiorite pluton measuring up to 8 km along its northeast axis. The pluton is itself intruded by coeval and more recent plugs and dikes of mostly felsic affinities. Most obvious are syenomonzonites (4) and quartz-monzonite (5). Contact relationships between sediments and the various intrusive phases are unknown.

Granodiorite - 3a,3b;

The bulk of the pluton is composed of a fresh, equigranular, medium grained, biotite-hornblende granodiorite (3b). A more granitic equivalent (3a) outcrops as a

400 m wide, northeast trending zone or 'dike' south of Spann Cr. It may represent "granitized" granodiorite.

Mineralization in these units is restricted to small zones of magnetite disseminations.

Syenomonzonite - 4a;

These occur as crystal-crowded syenite dikes (4a) intruded into group 3. Dikes trend NE or NW, are under 5.0 m in width and are concentrated north of Limpoke Cr.

Unit 4a is a dense, fine-grained, grey, feldspathic intrusive, crowded with bladed orthoclase crystals (25% to 80%) to 10 cm in length.

Mineralization of note in 4a consists of localized bodies of disseminated pyrite ± chalcopyrite.

Quartz-monzonite - 5a;

This formation exists as a 500 m wide "plug" of fresh, white, leucocratic, biotite quartz-monzonite intruded into granodiorite near Spann Cr. No mineralization has yet been identified with unit 5a.

Structure and Metamorphism:

All Stuhini strata strike to the west, are steeply dipping and are affected by complex folding. Of note is the high degree of faulting which has disrupted sediments and volcanics alike. Most faults are NW-trending.

Faulting and shearing in the intrusive is dominantly north and NE-trending, parallel to jointing and to units 3a,5a.

Mineralization:

The mapped formations are not noticeably altered or mineralized except for a few rusty zones in a skarn body and in chert. None of these zones have been proven to be mineralized. A 5.0 m wide syenite dike at the north end of Goat 3 yielded up to 1.98 gm/T Au (0.058 oz/t) and 0.57% Cu over a 0.5 m width (samples n° 70818 & 819; figure 4). All other rock samples, from various altered or seemingly mineralized areas, returned insignificant results. The "Gordon" showing was not located.

Placer gold occurs at the mouth of the canyon near the south edge of Goat 1. The deposit is hosted in gravels consisting of very large boulders of granodiorite, chert and tuff (to 3.0 m in size). The first granodiorite outcrops are found at least 4.0 km upstream.

GEOCHEMISTRY:

A total of 48 silt samples and 34 rock samples were collected from the Goat 1-3 and I.R. 9 claims (see figure 4). Analytical procedures and results are tabulated in Appendix A.

Sampling procedures:

Silts were obtained as 500 gm samples from "silt bars" in both dry and active creeks. Numbers 70744 to 70752 were treated as heavy-sediments, after being wet-sieved to -10 mesh. Rocks were usually taken over true thickness (eg; chip sample) or as hand-sized "representative" samples (eg; grab). They averaged 3 kg in weight. Each silt specimen was placed in numbered, wet-strength, sample envelopes; rock samples were gathered in heavy plastic bags. All collection sites were flagged, indicating their respective sample numbers. Samples were shipped to Loring Laboratories of Calgary, Alberta for preparation and for analyses of Au, Ag, Cu, Pb, Zn and As.

Results:

All rock and silt samples were taken from areas of lithological change or from seemingly altered or mineralized structures. For most sites, elements occur at background concentrations. Heavy-conc. samples n° 70745 to 750 (135 to 1600 ppb Au) are from the Barrington River. These values indicate that gold is still being transported down the river and being redistributed on high-water bars.

Three silt specimens contain weak Au-Cu anomalies: n° 70821, 70824 and 102148. They are all derived from hornfelsed volcanics; a higher content of metals in these explains the anomalies (eg; rocks n° 70822 and 628 containing >1000 ppm Cu). The third sample may be spurious since adjacent silts are barren. A fourth sample, from a feeder to Jimmie Cr, returned 8180 ppm Zn (n° 70785). Source lithologies are argillites (lb). It is remotely possible that sedimentary-exhalative massive sulphide mineralization may account for this anomaly, however, no other example is known to occur in this age group. The anomaly is more than likely caused by a high zinc background in argillite.

An occasional quartz-carbonate vein may contain minor copper values (eg; n° 70628) but in general, no obvious, exposed zones of precious or base-metal mineralization was detected on the property. The skarn, chert and granodiorite exposures contain background concentrations of metals. Of significance is the previously mentioned, narrow, feldspar porphyry dike located at the north end of Goat 3 (n° 70818,819). This area bears further investigation although near-vertical topography will be a hindrance.

CONCLUSIONS and RECOMMENDATIONS:

Conclusions:

The claims are underlain by a thick sequence of marine sediments which have limited mineral potential. A large granodioritic pluton, intrusive into these strata, may be perceived as having better economic possibilities. There is, however, little evidence of structurally-controlled hydrothermal activity or of any major altered structures.

The auriferous feldspar porphyry dike at the north end of Goat 3 may be related to deep or shallow level mineralization. The porphyry dike and its wallrocks should be investigated in more detail for the presence of veins, stockworks or replacement zones. A geological environment corresponding to that of the Stonehouse or Polaris-Taku deposits is judged to offer the most promise (see Alldrick et.al.,1989 and Souther,1971). The only other anomaly worth considering is that of Jimmie Cr (zinc in silt). There is a remote possibility that massive sulphides may have acted as the causative source despite there being no deposit of this type previously documented in this age group.

The placer gold deposit at the mouth of the canyon was likely deposited as a result of a jökulhlaup (Lye et.al. 1990). This can be described as a catastrophic flood event wherein a glacial lake, possibly on Limpoke Cr or Barrington R., suddenly emptied down the canyon. This explains the mixture of large, intrusive and sedimentary type, moraine boulders which host the placer deposit. The indication is that the gold was redistributed with the remobilized moraine material and may therefore have originated from either or both of the Limpoke or Barrington river drainages.

In view of this observation and of the low metal values and lack of geological "signatures", it is concluded that the prospects for the occurrence of metallic mineralization on the Goat 1-3,I.R. 9 claims is limited. Only the north end of Goat 3 warrants additional exploration.

Recommendations:

As a result of the above conclusions and of the extreme hazard in working canyons, it is recommended that further work on these claims be restricted to the most promising areas. These regions, in the immediate vicinity of samples n° 70818 & 819 and 70785, warrant detailed mapping and channel sampling with special emphasis on veining and hydrothermal alteration patterns. A short, helicopter-supported program budgeted at approximately $20,000.^{00}$ is suggested for 1991.

Respectfully Submitted

Phil van Angeren P.Geol.

December 21, 1990

REFERENCES:

Alldrick D.J., Drown T.J., Grove E.W., Kruchkowski E.R. and Nichols R.F., 1989: "*Iskut-Sulphurets Gold.*"
The Northern Miner Magazine; January 1989, pp 46-49.

E.M.R.C., 1984: "*Canadian Mineral Deposits Not Being Mined in 1983.*"
Energy, Mines and Res. Can.; Mineral Bulletin MR 198, 1984.

Folk P., 1981: "*Geochemical Report on the LIMP 2 Claim.*"
B.C. Min. Res. Br.; Assessment Report n° 9,092.

Hallof P.G., 1966: "*Report on the Induced Polarization and Resistivity Survey on the GORDON Claim group, Limpoke Cr. Area.*"
B.C. Min. Res. Br.; Assessment Report n° 847.

Korenic J.A., 1982: "*Assessment Report of Geological, Geochemical and Geophysical Work Performed on the TUFF 1 Claim.*"
B.C. Min. Res. Br.; Assessment Report n° 10,475.

Lehtinen J., 1989: "*1989 Geological and Geochemical Report on the GOAT 1 to GOAT 11 Claims.*"
Private Report prepared for Integrated Resources; dated Nov. 1989.

Logan J.M. and Koyanagi V.M., 1989: "*Geology and Mineral Deposits of the Galore Creek Area, Northwestern B.C.*"
B.C. Min. of Energy, Mines and Pet. Res.; Geol. Field Work 1988, Paper 1989-1, pp 269-284.

Lye D., Jackson L.E. and Ward B., 1990: "*A Jökulhlaup Origin for Boulder Beds near Granite Canyon, Yukon Territory.*"
Geol. Surv. of Can.; in Current Research, Part E, Paper 90-1E, 1990, pp 271-278.

Ray G., 1990: "*West Coast Skarns.*"
The Northern Miner Magazine; April 1990, pp 22-27.

Souther J.G., 1971: "*Geology and Mineral Deposits of Tulsequah Map-Area, British Columbia.*"
Geol. Surv. Can.; Memoir 362.

Souther J.G., 1972: "*Telegraph Creek Map-Area, British Columbia.*"
Geol. Surv. of Can.; Paper 71-44.

Strain D.M.,1981: "*Geological and Geochemical Report on the TUFF Claims.*"
B.C. Min. Res. Br.; Assessment Report n° 9200.

Wetherly M., 1989: "*Qualifying Report on the GOAT Claims.*"
Private Report prepared for Integrated Resources; dated January 13, 1989.

STATEMENT of COSTS:

For the Goat 1-3 and I.R. 9 claims
During the period August 10-October 5, 1990

Wages:		
P. van Angeren P.Geol.		
7 d @ $280.00/d:	$1960.00	
J. Davies - geologist		
6 d @ $228.25/d:	1369.50	
T. Bell - prospector		
4 d @ $261.00/d:	1044.00	
R. Lewis - prospector		
4 d @ $261.00/d:	1044.00	
.....		$5417.50
Field Costs:		
Room and Board		
21 m.d. @ $75.00/md:	1575.00	
Misc. supplies		
& freight @ :	220.00	
Helicopter,		
TransNorth Air B-206		
7.7 hrs @ $646.50/hr:	4978.05	
Geochemical Analyses		
24 silts @ $19.45/smpl:	466.80	
24 silts @ $18.45/smpl:	442.80	
34 rocks @ $22.75/smpl:	773.50	
.....		$8456.15
Report Preparation:		
Metric Mapping		
map preparation @ :	603.70	
.....		$603.70
TOTAL:		**$14477.35**

Note: prospector wages include their own supplies and overhead costs. Helicopter costs include fuel.

December 21, 1990

Phil van Angeren P.Geol.

CERTIFICATE

I, ***Phil van Angeren***, residing at 2123 Deerside Dr. S.E., Calgary, Alberta hereby certify that:

i) I am a geologist having practised my profession for the last 14 years.

ii) I am a graduate of McGill University, Montreal, having graduated with a B.Sc. in Geology with Honours, in 1977.

iii) I have been a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 1985.

iv) I have no interests, direct or indirect, in the securities or properties of Integrated Resources Ltd., nor do I expect any.

v) I am the author of this document, which is based on personal examination of the property and on compilation of historical data made available by the company.

Signed and dated at Calgary, Alberta, on the 21st day of December, 1990.

Phil van Angeren P.Geol.

December 21, 1990

APPENDIX A

ANALYTICAL PROCEDURES

&

ANALYTICAL RESULTS

629 Beaverdam Rd. N.E.
Calgary, Alberta T2K 4W2

LORING LABORATORIES LTD.

Phone 274-2777

Preparation Procedures for Geochemical Samples

1 - Soil And Silts:

a) The soil sample bags are placed in dryer to dry at 105°C.

b) Each sample is passed through an 80 mesh nylon seive. The +80 mesh material is discarded.

c) The -80 mesh sample is placed into a coin envelope and delivered to the laboratory for analysis.

2 - Lake Sediments:

a) The sediment sample bags are placed into the dryer at 105°c until dry.

b) The dried material is transferred to a ring and puck pulverizer and ground to -200 mesh.

c) The -200 mesh pulp is then rolled for mixing, placed into a coin envelope, and taken to the laboratory for analysis.

3 - Rocks and Cores:

a) The samples are dried in aluminum disposable pans at 105°C.

b) They are then crushed to 1/8" in jaw crusher.

c) the 1/8" material is mixed and split to sample pulp size.

d) The sample is then pulverized to 100 mesh, using a ring and puck pulverizer.

e) The -100 mesh material is rolled on rolling mat and transferred to sample bag. The sample is then sent to the laboratory for analysis.

629 Beaverdam Rd. N.E.
Calgary 67, Alberta

LORING LABORATORIES LTD.

Phone 274-2777

METHODS OF ANALYSIS FOR GEOCHEMS

1. COPPER, LEAD, ZINC, NICKEL, COBALT, SILVER

500 milligrams of -80 mesh material are weighed into coor cups, placed in muffle at 500°C to remove organics. The oxidized samples are then transfered to test tubes, aqua regia added and digested in water bath at 100°C for three hours.

The test tubes are then bulked to the 10 ml. level, mixed and allowed to settle overnite.

The samples are then put through the atomic absorption with appropriate standards and reported in PPM.

2. MOLYBDENUM GEOCHEMS

The same sample weight is used; the organics are also removed; aqua regia is also used, but just prior to bulking up to 10 mls. volume, 3 mls. of aluminum chloride solution is added to enhance the molybdenum atom. After standing overnite the samples are put through the atomic absorption using a nitrous oxide and acetylene flame. Reported in PPM Mo.

629 Beaverdam Rd. N.E.
Calgary, Alberta T2K 4W2

LORING LABORATORIES LTD.

Phone 274-2777

Au Geochems (Soils & Sediments)

1. Weigh 10 g sample to fire assay crucible (carry blank)
2. Place crucibles in fire assay furnace at fusion temperature for 15 minutes.
3. Allow crucibles to cool on steel table.
4. Add 1 tablespoon flux and 1 inquart to each crucible.
5. Fuse for ½ hr. at fusion temperature.
6. Pour pots, remove slag and cupel.
7. Place beads into 50 ml flasks.
8. Pipette stds. and blank into 50 ml flasks.

   1 ml of 10 ppm = 1000 ppb
   1 ml of 5 ppm = 500
   1 ml of 1 ppm = 100
   0 ml = 0

9. Add 5 mls H2O, 3 mls HNO3 and place on 1 switch plate for 5 minutes. Take off plate. Add 5 mls HCl.
10. Digest until total dissolution approximately ½ hr.
11. Bulk flasks to approximately 25 mls with distilled H2O. Cool to room temperature.
12. Add 5 mls MIBK. Stopper and shake each flask for exactly 1 minute.
13. Allow MIBK to settle.
14. Set 1100 AA unit as follows:

    mu - 2428
    slit - .5
    lamp MA - 3
    flame - air-acetylene - extremely lean

Stds. 100 ppb - 10
1000 ppb - 100
500 ppb - reading

'As - digestion procedure'

1) WEIGH .5000 gm IN 150 ml BEAKER .

2) ADD .5 gm OF POTASSIUM CHLORATE (KClO3).

3) WET DOWN WITH DISTILLED WATER, ADD 15 ml NITRIC ACID (HNO3).

4) TAKE TO DRYNESS OVERNITE ON A 1 SWITCH HOT PLATE.

NEXT MORNING :

5) 1 SHOT (5 - 10 ml) OF HCl, LET DRY ON 1 SWITCH PLATE.
REPEAT THE ABOVE STEP.

6) WET DOWN, ADD 15 ml HCl, COVER AND BOIL ON A 2 SWITCH PLATE, FOR 10 MINUTES.

7) AFTER BOILING, WASH OFF LIDS AND TRANSFER TO 100 ml FLASKS WITH DISTILLED WATER, LET COOL.

8) BULK TO 100 ml WITH DIST. WATER AND SHAKE 20 TIMES.

SEE NEXT PAGE FOR ANALYSIS PROCEDURE.

SOLUTIONS:

- KI : 150 gm TO 1000 ml (DISTILLED WATER).
- SnCl2 : 80 gm INTO 2500 BEAKER, ADD 50 ml HCl AND DISSOLVE, TRANSFER SOLUTION TO A 200 ml FLASK AND BULK TO 200 ml WITH DISTILLED WATER.
- SDDC : DISSOLVE 5 gm SDDC INTO 1000 ml PYRIDINE AND SMELL THE FLOWERS.

As - SDDC analysis procedure

9) TRANSFER 25 ml OF THE SAMPLE TO A 125 ml ERLENMEYER AND ADD 25 ml OF DISTILLED WATER.

10) STANDARD: PIPET 1 ml OF 10 ppm STD. INTO 125 ml ERLENMEYER, ADD 49 ml OF DISTILLED H2O.
BLANK: 50 ml OF DISTILLED WATER INTO 125 ml ERLENMEYER.

11) ADD 5 ml CONCENTRATED HCl TO SAMPLES.
ADD 8-10 ml CONC. HCl TO THE STANDARD AND BLANK.

12) ADD 3 ml KI solution (150 gm/liter) TO SAMPLES, STD AND BLANK.

13) ADD 1 ml STANNOUS CHLORIDE (40%) TO ALL FLASKS.

14) LET SAMPLE STAND FOR 20 min TO ENSURE COMPLETE REDUCTION OF THE As AFTER THE SnCl2 HAS BEEN ADDED.

15) PUT 5 ml PYRIDINE SOLUTION (SDDC IN PYRIDINE) IN EACH CUVETTE.

16) PLACE 2 DROPS OF LEAD ACETATE SOLUTION INTO THE GLASS WOOL PLUG OF THE ARSENIC GENERATOR APPARATUS.

17) ADD 1 LEVEL SPOON OF ZINC METAL TO THE ERLENMEYER FLASK, AND QUICKLY PLACE STOPPER OF APPARATUS ON THE FLASK AND ENSURE THAT THE TIP OF THE APPARATUS IS IN THE PYRIDINE SOLUTION.

18) ENSURE A TIGHT SEAL HAS BEEN MADE, BY WATCHING FOR VIGOROUS BUBBLES.

19) ALLOW 30 min FOR REACTION (BUBBLING) TO REACH COMPLETION.

20) READ ABSORBANCE ON SPEC-20 @ 535 nm WAVELENGTH.

CALCULATION:

$$\frac{\text{ABSORBANCE OF SAMPLE} \times 10}{\text{ABSORBANCE OF STANDARD}} = \text{ug As}$$

$$\text{ppm As} = \frac{\text{ug As}}{\text{SAMPLE WEIGHT}} \times \frac{100}{\text{SAMPLE ALIQUOT}}$$

To: INTEGRATED RESOURCES,
700, 10205 - 101 Street
Edmonton, Alberta T5J 2Z1
Attn: Robert Lintell
cc: P. Van Angeren

File No. 33745
Date October 9, 1990
Samples Silt
Smithers Ref# 0032
Project GOAT 1-3/IR9

Certificate of Assay
LORING LABORATORIES LTD.

SAMPLE NO.	PPB Au	PPM Ag	PPM Cu	PPM Pb	PPM Zn	PPM As
Geochemical Analysis						
70627	<5	0.1	129	9	99	6
70744	15	1.5	94	18	108	24
70745	250	0.4	65	14	82	61
70746	585	0.9	57	20	80	57
70747	280	0.1	38	13	66	16
70748	135	0.4	45	9	60	27
70749	1600	1.1	53	16	85	22
70750	550	0.6	63	16	82	15
70751	5	0.4	39	7	53	1
70752	30	0.3	36	10	55	10
70776	10	1.7	125	-	215	31
70777	5	1.0	120	-	206	11
70778	5	1.2	171	-	255	21
70779	5	1.4	126	-	187	17
70780	5	1.6	145	-	285	44
70781	5	1.0	202	-	196	22
70782	5	1.7	136	-	278	35
70783	15	0.9	130	-	150	25
70784	5	0.4	219	-	146	16
70785	<5	0.5	218	-	8180	17
70786	15	1.5	140	-	220	52
70787	5	0.4	96	-	165	27
70807	5	0.2	85	4	109	17
70808	5	0.2	28	10	67	<1
70813	65	0.1	59	7	78	<1
70821	60	0.5	700	-	65	<1
70823	55	0.3	695	-	68	<1
70824	80	0.7	1040	-	57	5
70857	<5	0.2	25	-	69	<1
70858	30	0.9	188	-	440	113

I Hereby Certify that the above results are those assays made by me upon the herein described samples....

Rejects retained one month.
Pulps retained one month unless specific arrangements are made in advance.

Assayer

To: INTEGRATED RESOURCES,
700, 10205 - 101 Street
Edmonton, Alberta T5J 2Z1
Attn: Robert Lintell
cc: P. Van Angeren

File No. 33745
Date October 9, 1990
Samples Silt + Rock
Smithers Ref# 0032
Project GOAT 1-3/IR9

Certificate of Assay
LORING LABORATORIES LTD.

SAMPLE NO.	PPB Au	PPM Ag	PPM Cu	PPM Pb	PPM Zn	PPM As
Geochemical Analysis						
70867	50	0.3	69	6	69	28
70868	<5	0.2	68	4	64	5
70869	<5	0.4	108	8	116	19
70870	5	0.5	138	8	97	35
70871	25	0.4	199	6	86	60
70872	20	0.4	138	6	101	6
70887	<5	0.1	33	-	52	1
70893	5	0.2	95	-	60	<1
70909	5	0.9	111	5	160	8
70910	<5	0.7	245	24	196	35
70912	<5	0.5	146	17	89	5
70921	10	0.9	122	-	235	47
70922	5	0.6	100	-	180	46
70923	30	1.9	96	-	380	43
70924	10	1.0	145	-	228	42
70925	10	1.1	186	-	225	17
102145	<5	0.5	168	32	113	4
102148	485	0.6	167	16	125	7
66006	5	0.6	87	-	60	46
66007	<5	<0.1	56	-	84	1
66008	<5	<0.1	24	-	24	9
70626	110	0.3	244	-	107	23
70628	75	2.9	1390	-	60	72
70769	65	0.1	19	-	78	1
70770	10	<0.1	107	-	83	6
70771	<5	<0.1	11	-	67	<1
70772	<5	<0.1	52	-	73	1
70773	10	0.1	77	-	66	6
70806	90	0.5	301	-	42	15

I Hereby Certify that the above results are those assays made by me upon the herein described samples....

Rejects retained one month.
Pulps retained one month unless specific arrangements are made in advance.

Assayer

To: INTEGRATED RESOURCES,
700, 10205 - 101 Street
Edmonton, Alberta T5J 2Z1
Attn: Robert Lintell
cc: P. Van Angeren

File No. 33745
Date October 9, 1990
Samples Silt + Rock
Smithers Ref# 0032
Project GOAT 1-3/IR9

Certificate of Assay
LORING LABORATORIES LTD.

SAMPLE NO.	PPB Au	PPM Ag	PPM Cu	PPM Zn	PPM As
Geochemical Analysis					
70809	10	0.6	169	116	9
70810	25	0.2	44	60	13
70811	50	1.8	1650	41	46
70812	25	0.9	493	67	17
70814	5	0.2	137	31	11
70818	395	3.5	5700	15	5
70819	1980	1.0	700	25	<1
70820	190	2.4	4000	113	9
70822	30	1.8	1650	70	7
70853	<5	<0.1	7	31	<1
70854	15	<0.1	7	27	<1
70856	<5	<0.1	30	31	8
70888	<5	<0.1	12	43	<1
70889	<5	<0.1	7	29	1
70890	<5	<0.1	126	55	16
70891	10	0.4	145	50	50
70892	<5	0.1	29	25	<1
70911	45	1.5	662	116	<1
70913	50	3.6	687	98	5
102146	50	0.9	18	14	31
102147	<5	0.2	98	65	14
102149	10	0.4	219	83	9
102150	20	0.3	115	62	4

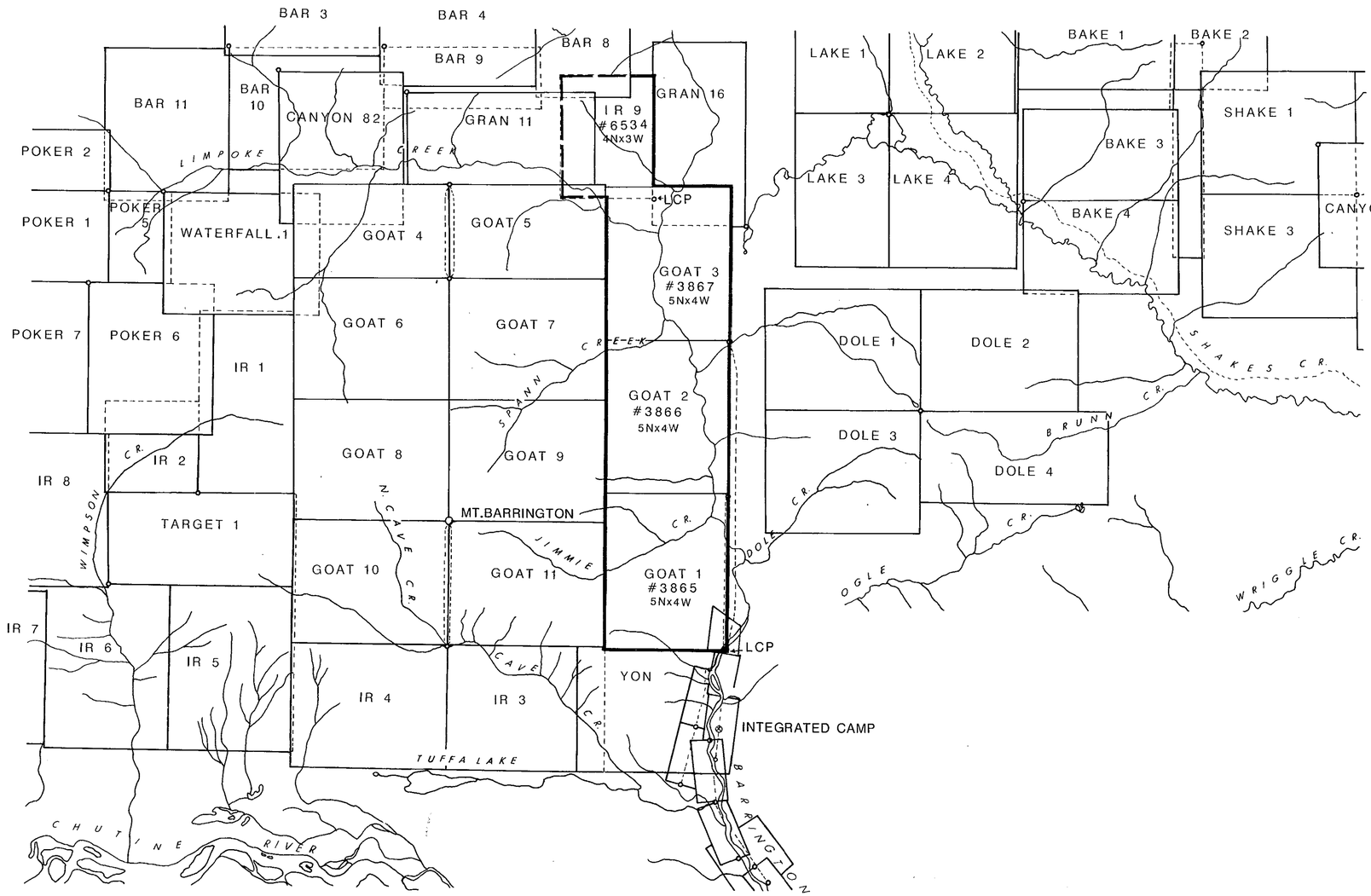
I Hereby Certify that the above results are those assays made by me upon the herein described samples....

ejects retained one month.
Pulps retained one month
unless specific arrangements
are made in advance.

Assayer

104G/13W | 104G/13E

131° 45'



104G/13W
57° 45'
104G/12W

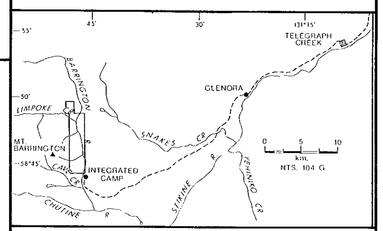
131° 45'

104G/12W | 104G/12E

104G/13E
57° 45'
104G/12E

20,809

GEOLOGICAL BRANCH
ASSESSMENT REPORT



1.0 0 1.0 2.0
kilometers

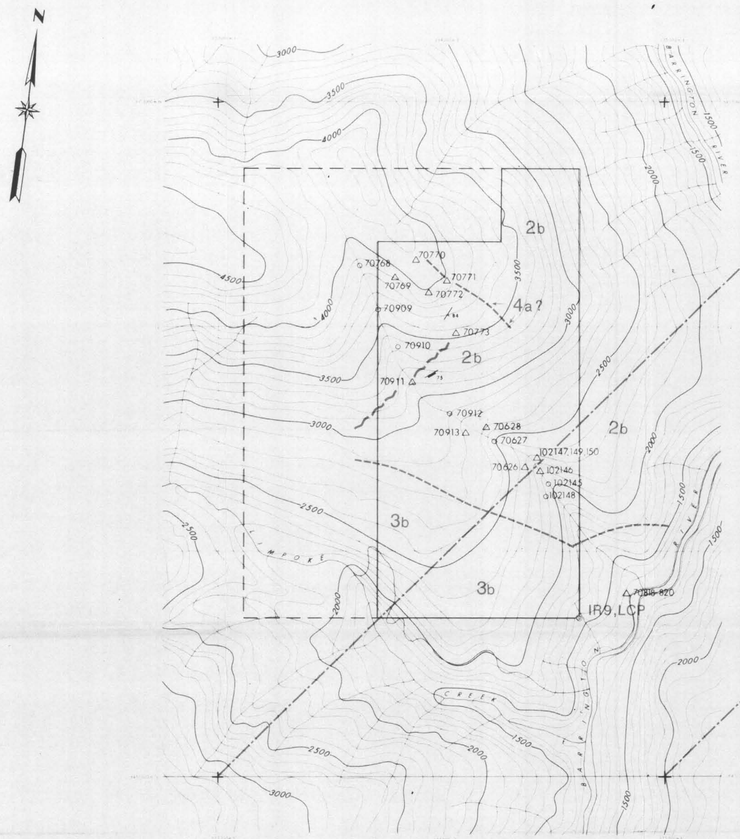
Integrated Resources Ltd.

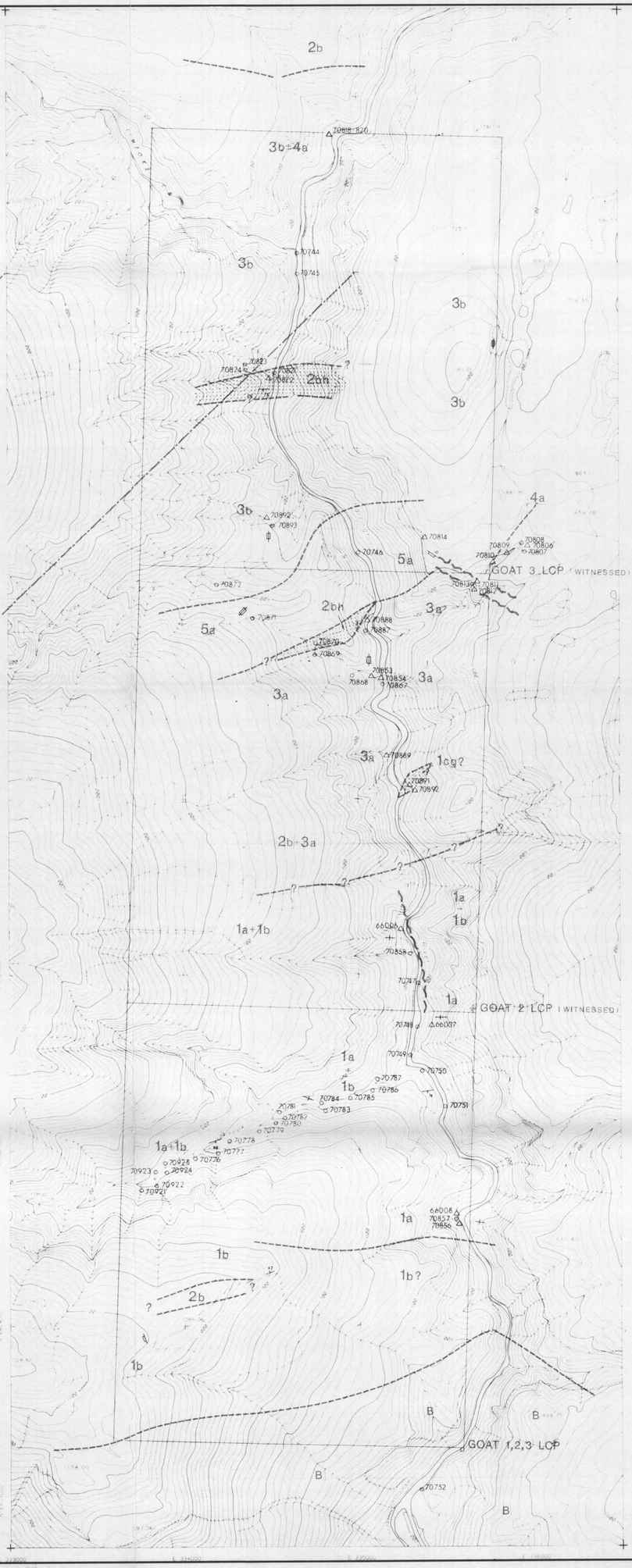
GOAT 1-3,IR9 CLAIMS

CLAIMS DISPOSITION

LIARD MINING DIV. (B.C.)

NTS: 104 G/ 12W-13W	DATE: NOV/1990	FIGURE: 2
DRAWN: PVA	SCALE: 1:50,000	





SOILS	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
10827	15	0.1	129	9	99	8
10744	15	1.5	94	19	108	24
10745	250	0.4	65	14	82	61
10746	585	0.4	57	20	80	57
10747	280	0.1	38	13	66	16
10748	135	0.4	45	9	80	21
10749	1900	1.1	53	16	85	22
10750	330	0.6	63	10	82	15
10751	5	0.4	39	7	53	1
10752	30	0.3	36	10	55	10
10776	10	1.1	125	-	215	31
10777	5	1.0	120	-	208	11
10778	5	1.2	171	-	255	21
10779	5	1.4	126	-	181	17
10780	5	1.8	145	-	285	44
10781	5	1.0	202	-	198	22
10782	5	1.1	130	-	218	35
10783	15	0.8	130	-	150	25
10784	5	0.4	219	-	145	16
10785	15	0.5	218	-	8180	17
10786	15	1.5	140	-	200	52
10787	5	0.4	96	4	185	27
10807	5	0.2	85	6	109	17
10808	5	0.2	28	10	81	<1
10813	65	0.1	59	7	78	<1
10821	90	0.5	730	-	65	<1
10823	55	0.3	690	-	68	<1
10824	80	0.7	1040	-	57	5
10857	<5	0.2	23	-	99	<1
10858	30	0.8	188	-	442	113
10861	50	0.3	86	6	86	28
10868	<5	0.2	68	4	54	5
10869	<5	0.4	108	8	118	19
10870	5	0.5	138	8	97	35
10871	25	0.4	199	8	88	90
10872	20	0.4	138	8	101	6
10881	<5	0.1	33	-	52	1
10883	5	0.2	93	-	80	<1
10909	5	0.9	111	5	150	8
10910	<5	0.7	245	24	198	35
10912	<5	0.5	148	17	89	3
10921	10	0.9	122	-	225	47
10922	5	0.8	100	-	180	45
10923	30	1.9	98	-	380	43
10924	10	1.0	145	-	228	42
10925	10	1.1	185	-	225	31
102145	5	0.5	168	32	113	4
102148	485	0.8	167	16	125	7

ROCKS	TYPE*	Au ppb	Ag ppm	Cu ppm	Zn ppm	As ppm
66006	G -chrt	5	0.8	87	-	60	45
66007	1.5-chrt	<5	<0.1	58	-	84	1
66008	0.5-chrt	<5	<0.1	24	-	24	9
70826	0.3-calv	110	0.3	244	-	101	23
70828	G -calv	75	2.9	1360	-	90	72
70769	G -ande	65	0.1	19	-	78	1
70770	G -ande	10	<0.1	101	-	83	6
70771	G - FP	<5	<0.1	11	-	57	<1
70772	G -ande	<5	<0.1	52	-	73	1
70773	G -ande	10	0.1	77	-	86	6
70806	0.5-ande	90	0.5	301	-	42	15

ROCKS	TYPE*	Au ppb	Ag ppm	Cu ppm	Zn ppm	As ppm
70809	0.5- FP	10	0.8	186	116	9
70810	G - FP	25	0.2	44	80	13
70811	G -ande	50	1.8	1650	41	48
70812	G -ande	25	0.8	483	87	11
70814	F -qtzv	5	0.2	127	31	11
70818	0.5- FP	395	3.5	5700	15	5
70819	G - FP	1985	1.0	700	25	<1
70820	F -qtzv	190	2.4	4000	113	9
70822	0.5-hnf	30	1.8	1850	70	7
70853	1.0-grd	<5	<0.1	7	31	<1
70854	1.0-grd	15	<0.1	7	27	<1
70858	1.0-chrt	<5	<0.1	30	21	9
70868	G - FP	<5	<0.1	12	43	<1
70869	G - FP	5	<0.1	7	29	1
70890	G -skrn	<5	<0.1	126	55	19
70891	G -skrn	10	0.4	145	50	30
70892	G -grd	<5	0.1	29	25	<1
70911	0.5-tcpp	45	1.5	862	118	11
70913	1.5-chrt	50	3.8	681	98	5
102146	F -calv	50	0.9	18	14	31
102147	0.2-calv	<5	0.2	88	65	14
102149	0.1-calv	10	0.4	279	83	9
102150	0.3-calv	20	0.3	115	62	4

* 1.5: width in metres
G: grab
chrt: chert
ande: andesite
grd: granodiorite
FP: feldspar porphyry
calv: carbonate vein
qtzv: quartz vein
skrn: skarn

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,809

LEGEND

LATE JURASSIC and/or CRETACEOUS

5 Quartz monzonite a;leucocratic

LATE TRIASSIC to MIDDLE JURASSIC

4 Syenomonzonite a;feldspar porphyry (crystal-crowded)

3 Granodiorite a;hornblende/biotite granite
b;biotite-hornblende granodiorite

LATE TRIASSIC (Stuhini Group)

2 Volcanic Rocks a;rhyolite tuffs +/- flows
b;andesite tuffs (ash & crystals)

1 Sediments a;chert (green)
b;argillite and siltstone
c;limestone

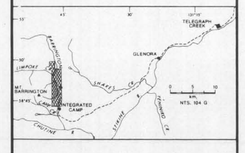
PERMIAN (Stikine Assemblage)

B Limestone

SYMBOLS

- Geological contact (defined, assumed)
- Bedding (inclination)
- Jointing (inclination)
- Fracturing (inclination)
- Fault/Shear zone (+/- breccia)
- Metamorphism h: biotite hornfels; g: garnet skarn
- Rock Sample (grab)
- Rock Sample (float)
- Silt Sample
- Heavy-Sediment Sample

Contour interval in metres



200 0 200 400
meters

Integrated Resources Ltd.

GOAT 1-3,IR9 CLAIMS

GEOLOGY & GEOCHEMISTRY

LIARD MINING DIV. (B.C.)

NTS: 104G 12W-13W	DATE: NOV.1990	FIGURE: 4
DRAWN: P.VA	SCALE: 1:10,000	