ARIS SUMMARY SHEET

Off Confidential: 89.03.16 istrict Geologist, Smithers ASSESSMENT REPORT 17477 MINING DIVISION: Skeena **ROPERTY**: Bow 56 23 00 129 48 00 LONG LAT LOCATION: 450599 UTM 09 6248818 104A05W NTS CAMP: 050 Stewart Camp ULAIM(S): Bow 1-39 Brucejack Gold OPERATOR(S): Kruchkowski, E.R.; Sinden, G.; Konkin, K. JUTHOR(S): EPORT YEAR: 1988, 67 Pages COMMODITIES SEARCHED FOR: Gold, Silver, Copper EOLOGICAL UUMMARY: The Bow Claims are underlain by favourable gold and copperbearing volcanic and sedimentary rocks of the Unuk River, Betty Creek and Salmon River formations, Hazelton Group. Pyrite, chalcopyrite and minor galena occur in quartz sulphide veins, quartzcarbonate-sericite-pyrite alteration zones, and shear zones. **WORK** Geochemical ONE: 114 sample(s) ;AU,AG ROCK 287 sample(s) ;AU,AG SILT Map(s) - 4; Scale(s) - 1:10000-- --

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GEOCHEMICAL REPORT ON THE BOW CLAIMS STEWART, BRITISH COLUMBIA SKEENA MINING DIVISION NTS 104A/5W LATITUDE 56° 31' LONGITUDE 129° 41'

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PREPARED FOR:

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E.R. KRUCHKOWSKI CONSULTING LTD. 23 Templeside Bay N.E. Calgary, Alberta TIY 3L6

Calgary, Alberta April, 1988

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SUMMARY

The claims are located approximately 50 kilometers north-northeast of Stewart, British Columbia along Todd Creek in the Skeena Mining Division.

During October 1987 E.R. Kruchkowski personnel carried out reconnaissance stream sediment sampling, prospecting and rock geochemical sampling programs on the BOW Claims situated in the Skeena Mining Division of Northern British Columbia.

The Bow Claims are underlained by favorable gold and copper bearing volcanic and sedimentary units of the Unuk River, Betty Creek and Salmon River Formations of the Hazelton Group intruded by various granitic rocks.

The potential of encountering mineralized quartz sulphide veins, quartz-carbonatesericite-pyrite altered zones and/or mineralized shear zones is considered good in the light of the anomalous silt sample BGS-KK-09 which assayed .188 ounces per ton gold.

The claims are adjacent to the known Todd Creek gold-copper deposit held in joint venture between Golden Nevada Resources and Noranda. Recent drilling intersections returned assay values varying from 0.117 - 0.348 ounces per ton gold and 0.23% - 1.50% copper over widths up to 32.6 feet.

Further work on the Bow Claims is recommended for 1988. The work should include the following: - detailed silt geochemical sampling - prospecting

- trenching
- geological mapping

INTRODUCTION

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This report is based on data obtained from field observations and samples collected from the Bow Claims and located in northern British Columbia approximately 50 kilometers by air north-northeast of Stewart, B.C., situated on the west side of Bowser Lake along the headwaters of Todd Creek.

E.R. Kruchkowski Consulting personnel carried out a program of stream sediment sampling, prospecting, rock geochemical sampling and trenching during October of 1987. The results of this work are presented within this report. Geochemical analysis were performed by Loring Laboratories Ltd. of Calgary, Alberta and Acme Analytical Laboratories Ltd. of Vancouver, British Columbia.

Location, Access and Physiography

The Bow Claims are located in Northwestern British Columbia, 50 kilometers north of Stewart, British Columbia, in the Skeena Mining Division, NTS 104A/5W (Figure 1).

The property is situated on the west side of Bowser Lake along the headwaters of Todd Creek at latitude 56°31', longitude 129°46'.

At present access is by helicopter based in Stewart, British Columbia. A 38 kilometer summer road extending to the Tide Lake Airstrip from Stewart, B.C. can be used to reduce mobilization/demobilization expenses (approximately 22 km southwest of the headwaters of Todd Creek).

A newly constructed winter road cuts through the property. This road extends from the Cassiar-Stewart highway, east of Bowser Lake to the Newhawk Mining Camp, west of Brucejack Lake. The road has yet to be tested by the author.



The terrain is extremely rugged and steep with elevations ranging from 1300 feet to 7000 feet. Treeline is at 4000 feet.

Vegetation at the lower elevations consists of fir, hemlock and spruce while at upper elevations vegetation is limited to thin brush and minor hemlock.

Water supply is plentiful as several glacial run-off streams drain into Bowser River and Todd Creek.

Property Ownership

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The Todd Creek property consists of 656 units (Figure 2).

<u>Claim Name</u>	Record No.	No. of Units	Record Date
Bow 1	6001(3)	20	March 19, 1987
Bow 2	6002(3)	20	A
Bow 3	6003(3)	20	1
Bow 4	6004(3)	20	
Bow 5	6005(3)	20	
Bow 6	6006(3)	20	
Bow 7	6007(3)	20	
Bow 8	6008(3)	16	
Bow 9	6009(3)	12	
Bow 10	6010(3)	12	
Bow 11	6011(3)	16	
Bow 12	6012(3)	20	
Bow 13	6013(3)	20	
Bow 14	6014(3)	20	
Bow 15	6015(3)	20	
Bow 16	6016(3)	16	
Bow 17	6017(3)	16	
Bow 18	6018(3)	16	
Bow 19	6019(3)	16	1
Bow 20	6020(3)	20	
Bow 21	6021(3)	20	
Bow 22	6022(3)	20	
Bow 23	6023(3)	20	
Bow 24	6024(3)	8	1
Bow 25	6025(3)	12	
Bow 26	6026(3)	12	
Bow 27	6027(3)	12	
Bow 28	6028(3)	12	J
Bow 29	6029(3)	· 18	¥
Bow 30	6030(3)	18	March 19, 1987



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<u>Claim Name</u>	Record No.	No. of Units	Record Date
Bow 31	6031(3)	5	March 19, 1987
Bow 32	6032(3)	15	A^
Bow 33	6033(3)	20	
Bow 34	6034(3)	20	
Bow 35	6035(3)	20	
Bow 36	6036(3)	20	
Bow 37	6037 (3)	20	
Bow 38	6038(3)	9	l V
Bow 39	6039 (3)	15	March 19, 1987

Brucejack Gold holds a 50% working interest in the Todd Creek property.

<u>History</u>

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The property history is relatively recent as follows:

- 1960 Newmont MiningCorporation conducted an exploration program consisting of diamond drilling (1150 feet), surface trenching and packsack drilling.
- 1969 Wilf Christians staked 6 claims for Kerr Addison Mines to cover the Newmont showings. No known work was conducted. Kerr Addison Mines transferred the claims to Wilf Christians who, in turn, transferred title to C.S. Powney. Trenching was carried out to fulfill assessment work.
- 1971 A.G. Hodgson conducted a two day geological mapping and sampling program. Values up to 2.0% copper and 0.25 oz/ton gold across narrow widths were obtained.
- 1981 60 units were staked by Dennis Gorc and transferred to Riocanex Incorporated. Detailed mapping, prospecting, silt sampling and rock sampling programs were carried out. These claims were later dropped and picked up by Noranda.
- 1987 Golden Nevada Resources Inc. entered into an agreement with Noranda Exploration to acquire 50% interest in the Todd Creek property.

Surface trenching and diamond drilling programs were conducted. Surface trenching returned values of 0.214 oz/ton gold over 14.7 feet. Drill results returned values up to .348 oz/ton gold over 5.7 feet.

Personnel & Operations

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Personnel involved during the 1987 program were as follows:

- E.R. Kruchkowski Consulting Ltd.
 - E.R. Kruchkowski, Geologist
 Oct. 14 Oct. 27
 - K. Konkin, Geologist Oct. 14 - Oct. 27
 - B. Budhanin, Geologist Oct. 14 - Oct. 27
 - G. Sinden, Geological technologist Oct. 14 - Oct. 27
 - F. LongPre, Prospector Oct. 14 - Oct. 27
 - D. Blanc, Assistant Oct. 14 - Oct. 27
 - D. Brown, Blaster Oct. 14 - Oct. 27
 - Conrad Hoffman, Assistant Oct. 14 - Oct. 27
 - B. Johannson, Assistant Oct. 14 - Oct. 27

Personnel involved in the project were accommodated in a tent camp located on the Bow 21 claim block and utilized a Vancouver Island Bell 206 Jet Ranger and a Bell 204 for transportation to and from the work site. Supplies for the program were purchased in Stewart, British Columbia. Π

GEOLOGICAL SURVEYS

Regional Geology

The Bow Claims lie in the Stewart area east of the Coast Crystalline Complex and within the western boundary of the Bowser Basin. Rocks in the area belong to the Mesozoic Hazelton Group and have been intruded by plugs of both Cenozoic and Mesozoic age.

At the base of the Hazelton Group is the Lower Jurassic marine (submergent) and non-marine (emergent) volcaniclastic Unuk River Formation. This is overlain at steep discordant angles by a second, lithologically very similar, Middle Jurassic volcanic cycle (the Betty Creek Formation), in turn overlain by Middle and Upper Jurassic non-marine and marine sediments (with minor volcanics) of the Salmon River.

The oldest rocks in the area belong to the Lower Jurassic Unuk River Formation which forms a north-northwesterly trending belt extending from Alice Arm to the Iskut River. It consists of green, red and purple volcanic breccia, volcanic conglomerate, sandstone and siltstone with minor crystal and lithic tuff, limestone, chert and coal. Also included in the sequence are pillow lavas and volcanic flows.

In the property area the Unuk River Formation is unconformably overlain by Lower Middle and Middle Jurassic rocks from the Betty Creek and Salmon River Formations, respectively. The Betty Creek Formation is another cycle of trough-filling submarine pillow lavas, broken pillow breccias, andesitic and basaltic flows, green, red, purple and black volcanic breccia, with self erosional conglomerate, sandstone and siltstone, and minor crystal and lithic tuffs, chert, limestone and lava. The overlying Salmon River Formation is a late to post volcanic episode of banded, predominately dark coloured, siltstone, greywacke, sandstone, intercalated

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calcarenite, minor limestone, argillite, conglomerate, littoral deposits, volcanic sediments and minor flows.

According to E.W. Grove, the majority of the rocks from the Hazelton Group were derived from the erosion of andesitic volcanoes subsequently deposited as overlapping lenticular beds varying laterally in grain size from breccia to siltstone.

There are various intrusives in the area. The granodiorites of the Coast Plutonic Complex largely engulf the Mesozoic volcanic terrain to the west. East of these, smaller intrusive plugs range from quartz monzonite to granite to highly felsic; some are, likely, related late phase offshoots of the Coast plutonism, others are synvolcanic or Tertiary. Double plunging, northwesterlytrending synclinal folds of the Salmon River and underlying Betty Creek Formations dominate the structural setting of the area. These folds are locally disrupted by small east-overthrusts (Tippy Lake, Knipple Lake) on strikes parallel to the major fold axis, cross-axis steep wrench faults which locally turn beds, selective tectonization of tuff units, and major northwest faults which turn beds. Figure 4 shows the Regional Geology.

Local Geology

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The property area is underlain by rocks belonging to the Hazelton Group. Volcanic sediments, volcanic flows and sedimentary units of the Unuk River, Betty Creek and Salmon River Formations are encountered.

The southeastern region of the property area contains red, purple and green volcanic breccia, conglomerate, siltstone, sandstone, lithic tuff and crystal tuff. The lithic and crystal tuffs are weakly to strongly silicified along sheared or faulted zones, particularly along exposed valley bottoms. Barren milky-white

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quartz veins intrude these rocks of the Unuk River Formation along the southern portion of Todd Creek. Several gossanous, very well silicified zones are encountered along Todd Creek on the Eastern region of the property. These pyritic, silicified gossans appear to be hosted by the Betty Creek Formation of similar description to the rocks of the Unuk River Formation.

The northeastern regions encompass siltstone, greywacke and sandstones of the sedimentary Salmon River Formation. The siltstone and argillite units are black, fissil and contain belemnites and cherty concretions. The unit locally oxidizes a limonitic orange colour.

The central region of the property area includes volcanic breccias, siltstone and sandstones of the Betty Creek and Unuk River Formations. Locally minor wedges of sandstone, siltstone and greywacke of the Salmon River Formation appear.

The western section of the property is predominately crystal and lithic tuff with volcanic breccia, sandstone, and minor siltstone. Various small unmapped eocene feldspar porphyry plugs, stocks and dykes are encountered throughout the property.

A small wedge of schist, phyllite and semischist, sericitically altered, is located on the north valley wall of Bowser River. The property area is sheared and offset by regional block faulting.

Mineralization

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The Stewart area of British Columbia has been the focus of considerable mineral exploration, especially for precious metals, since the turn of the century. Currently several precious metal prospects in the area are being

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explored. The important developments in the area in recent years included the mining at the Granduc Mine, the start-up of the Scottie Gold Mine in 1981, the ongoing exploration of the Silbak-Premier and Big Missouri prospects by Westmin Mineral Resources and the exploration of the Sulphurets camp by Newhawk-Granduc and Catear Resources.

1. Silbak-Premier - During the period 1918 to 1968, 4,670,170 tons of ore were mined containing 1,804,318 ounces of gold, 40,863,280 ounces of silver, 4,083,635 pounds of copper, 54,628,047 pounds of lead and 17,468,730 pounds of zinc. The property is currently under exploration by Westmin Resources Ltd.

The ore is restricted to several sulphide-rich shoots enclosed within essentially barren quartz-pyrite zones. Both the ore shoots and the surrounding barren quartz zones are enclosed by irregular zones of quartzpyrite-sericite alteration. The ore shoots consist of sphalerite, galena, chalcopyrite, pyrrhotite, argentite, tetrahedrite, mercury and electrum within a gang of quartz-calcite-barite.

Three types of ore occurred in the mine including: (1) stephanite native silver (2) "black sulphide" ore, and (3) lower grade siliceous ore. The surface bonanza ores (stephanite-native silver) and the black sulphide ores contained up to 5% mercury. Silver content within galena averaged 1 oz/ton but ranged up to 55 oz/ton.

In recent years, some geologists have interpreted the ore zones as volcanogenic exhalations.

2. Big Missouri - From 1927 to 1942 the Big Missouri Mine produced 847,615 tons of ore containing 58,384 ounces of gold, 52,677 ounces of silver, and 2,712 pounds of lead. The prospect is currently being

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explored by Westmin Resources; in 1983 this company published open pit reserves of 1.9 million tons averaging 0.1 oz/ton gold.

The ore body has been described as a 200-foot fracture zone laced with quartz-calcite veinlets. The veinlets contain varying but generally small amounts of galena, sphalerite and chalcopyrite. The ore occurs within chloritic schists which have been sericitized, silicified, and pyritized. Silicification would appear to be the most persistent form of alteration. Recent talks by Harlan Meade of Westmin Resources indicate the possibility that the Big Missouri might contain a number of small lenses of exhalative sulphides with associated alteration zones.

3. Scottie Gold - The Scottie Gold Mine began operation in 1981 at which time reserves were reported as 175,000 tons grading 0.75 oz/ton gold.

Mineralization is described as consisting of erratic, discontinuous masses of sulphide mineralization occuring within siliceous replacement bodies. Sulphides include pyrrhotite, pyrite, arsenopyrite and chalcopyrite with minor sphalerite and galena.

4. Granduc Mine - The Granduc Mine was opened by Esso Minerals Ltd. in 1980 at which time the indicated reserves were 10,890,000 tons using a cut-off of 1.79% copper. The mine closed again in 1983.

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5. Cumberland-Daly - Gold-silver-lead-zinc mineralization was also found near the mouth of Sulphurets Creek, about ten kilometers east of the Esso Minerals prospects. These showings, discovered in the 1930's, include two types. One type consists of sheared fissure veins containing quartz, calcite, barite, pyrite, galena, sphalerite, stibnite, tetrahedrite, and argentite. These mineralized lenses are small and irregular but can carry high amounts of silver. The second type consists of quartz replacement zones containing pyrite, pyrrhotite, chalcopyrite, sphalerite, galena and gold. A grab sample from one of these returned 0.26 oz/ton gold, 2.4 oz/ton silver in addition to some base metals.

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6. Tom MacKay - This prospect is owned by Stikine Silver Ltd. In 1973 the inferred reserves were reported as 107,200 tonnes using a 0.25 oz/ton gold cut-off.

The mineralization consists of stockworks of quartz veins irregularly mineralized with pyrite, tetrahedrite, spahlerite, galena, chalcopyrite and arsenopyrite. These stockworks occur within prominent oxidized knolls or domes.

7. Goat Ridge Mine - This mine, owned by Noradco Mines Ltd., has undergone sporadic development since 1978. In 1979 indicated reserves were estimated at between 500,000 and 1,000,000 tonnes grading 1% to 2% lead, 4% zinc and 80 gm/ton silver.

Mineralization consists of sphalerite, arsenopyrite, pyrite, galena, freibergeite within three siderite-quartz-calcite veins.

8. Newhawk- Granduc - The deposits are as follows:

ZONE	CATEGORY	TONS	AU OZ/T	AG <u>OZ/T</u>
West	Drill Indicated	535,765	0.332	21.06
West Total	Inferred	<u>480,965</u> 1,016,730	$\frac{0.332}{0.332}$	$\frac{21.06}{21.06}$
West -				
Zone Shore Gossan	Inferred Inferred	539,776 27,639	0.263 1.940	27.23 3.51
Hill Total Brucejack area	Indicated & Inferred	1,584,145	0.336	22.86

ZONE	CATEGORY	TONS	AU <u>oz/t</u>	AG OZ/T
Golden	Drill To ligate 1	146,437	0.837	2.56
KOCKEL	Drill Drierred	145,479	0.837	2.56
Total Golden	Rocket	291,916	0.837	2.56

The above gold-silver discoveries are structurally controlled, epithermalmesothermal veins occuring in areas of syenodiorite intrusions and associated with areas of intense sericite (quartz-pyrite)alteration.

Economic Geology

No significant in place gold or silver mineralization has been located, at present, on the property.

During 1987 work concentrated on silt sampling and on finding previously undiscovered quartz sulphide veins, quartz-carbonate-sericite-pyrite altered zones and mineralized shear zones.

Silt sampling has returned values as high as .188 ounce per ton gold. Rock geochemical samples in the vicinity of Golden Nevada's property produced assays up to .160 ounce per ton gold. Other areas returned silver assays of up to 6.80 ounce per ton silver.

Trenching was conducted over a highly silicified pyritic gossan zone located on the west shore of Todd Creek. This zone which is situated 260 meters south of camp failed to yield any significant gold or silver values.

The work program to date has assisted in delineating high priority areas.

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A deposit of very similar nature occurs to the south on Golden Nevada/ Noranda's adjacent Todd Creek property.

Recent results released by Golden Nevada Resources Inc. outlined three mineralized zones on their Todd Creek property.

The South zone is a 900 meter long and 15 meter wide fault controlled quartz-sericite-pyrite alteration zone. Chip sampling averaged 0.119 ounces per ton gold over 270 meters and 0.65% copper across three meters.

The North zone returned values of 0.153 ounces per ton gold across three meters in a quartz sulphide vein system.

The Mid zone consists of mineralized shear zones and quartz sulphide veins with values up to 0.96 ounces per ton gold. Boulders from a quartzcarbonate-sericite-pyrite alteration zone graded up to 0.845 ounces per ton gold. Some of the trench results are:

TRENCH	WIDTH FEET	GOLD OZ/T	CU <u>×</u>
8	19.7	0.174	0.49
10	29.5	0.109	1.20
11	14.7	0.214	0.52
13	9.8	0.128	0.23
15	9.8	0.130	0.66

Drilling on the South zone substantiated surface assays. Grades of gold mineralization improved with depth. Some of the drilling results are:

HOLE NO	INTERSECTION FEET	WIDTH FEET	GOLD OZ/T	COPPER %
_		F 7	0.3/8	1 50
5	181.0-187.3	4.9	0.117	0.70
8	190.6-210.8	20.2	0.200	0.23
0	including			
	196.5-203.1	6.6	0.317	0.40
9	196.5-203.1	6.6	0.317	0.40
-	232.8-265.4	32.6	0.183	0.32
	including			
	234.4-237.7	3.3	0.181	0.97
	244.3-246.5	2.2	0.160	0.28
	256.8-262.1	5.3	0.238	0.57

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Brucejack Gold's Todd Creek property presents good economic potential citing encouraging results from Golden Nevada's property as an example of a deposit similar mineralogically and structurally. A good possibility exists that auriferous quartz sulphide veins and auriferous quartz-carbonate-sericitepyrite alteration zones may be discovered. The property is an excellent gold exploration target. Further work is essential to explore the Todd Creek property to determine its true economic potential.

Rock Geochemistry

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_ Chip somples within 1 metre radiug

A total of 114 rock geochemical samples were collected from the Bow Claims during October 1987. The samples were selected on the basis of mineralization and or alteration.

The samples were shipped to Loring Laboratories Ltd. of Calgary, Alberta where they were crushed, split and ground to a -80 mesh. The samples were then analysed using standard geochemical methods (Appendix 1).

Results of the program indicate anomalous gold and silver values in the survey area. The sample sites are shown on Figure 4 to Figure 9.

The samples have been statistically treated and plotted on cumulative frequency graph paper. The lower or normal distribution values which plot as a straight line were used to determine background and anomalous values. Based on the plots in Appendix IV the anomalous and background values are as follows:

Metal	Background	Anomalous
Gold	10 ppb	100 ppb
Silver	.8 ppm	1.7 ppm

Using the above threshold number, weakly anomalous values are considered being 1-2 times threshold, moderately anomalous 2-3 times threshold and strongly anomalous as greater than 3 times threshold. As a result the geochemical program indicates several gold and silver anomalies ranging from weak to strong on the Bow 10, 20, 21, 23 and Bow 31 claims. Sampling of trenches west of the Bow 31 Claim returned several moderate to strong gold and silver anomalies. Sampling was carried out in order to evaluate the economic potential of the Bow Claims.

In comparison to the 1974-1976 Granduc Surveys and the Bighorn 1987 survey on their Sulphurets properties the Bow Claims results were remarkably similar in terms of background and anomalous values for gold and silver in rocks. The Granduc survey indicated that results over 1 ppm silver and 100 ppb gold were anomalous, while Bighorn's results indicate results over 2.6 ppm silver and 105 ppb gold were considered anomalous. The above survey compares very closely with the 1.7 ppm silver and 100 ppb gold found in the Brucejack Gold survey.

Silt Geochemistry

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Samples taken with a trowel, from active channel, seleened noto gold pran, bagged

A total of 287 silt samples were collected during the course of the rock geochemical program. These samples were collected and placed in numbered kraft sample bags and subsequently shipped to Loring Laboraties Ltd. of Calgary, Alberta. They were dried, crushed and ground to a -80 mesh. The samples were then analysed using standard geochemical methods for Au and Ag. (Appendix 1)

The results are plotted on cumulative frequency graph paper with the straight line plot considered the normal distribution. Using these plots indicates the following background and threshold volumes:

<u>Metal</u>	Background	Threshold
Gold	10 ppb	25 ppb
Silver	0.3 ppm	1.0 ppm

Using the above threshold number, weakly anomalous values were considered as 1-2 times threshold, moderately anomalous as 2-3 times threshold and strongly anomalous as greater than 3 times threshold. The silt sampling program highlighted several areas worthy of followup. Numerous weak to strongly anomalous gold and silver values were found on the Bow 2, 4, 5, 7, 20, 21, 23 and 33 claims.

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Anomalies occuring on the Bowser River and Todd Creek may be concentrations due to winnowing action.

Bow 21 had several intersecting highly anomalous gold and silver values. Results up to 0.188 oz per ton gold and 3.8 ppm silver were obtained from a creek draining east into Todd Creek.

It is recommended that all areas of anomalous gold in rocks and silts be investigated by further sampling.



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CONCLUSIONS

1. The area is underlain by favourable gold and copper bearing volcanic and sedimentary units of the Unuk River, Betty Creek and Salmon River Formations.

2. The claims are adjacent to recent gold-copper discoveries to the south on the Golden Nevada Resources/Noranda joint venture. Drilling had intersected assays varying from 0.117-0.348 ounce per ton gold and 0.23% - 1.50% copper over widths up to 32.6 feet.

3. Rock geochemical samples taken while prospecting returned values up to 0.16 ounce per ton gold and 6.80 ounce per ton silver.

4. Silt sampling yielded an anomalous value of .188 ounces per ton gold.

5. A further program consisting of prospecting, silt geochemistry, geological mapping and trenching is recommended for the property.

RECOMMENDATIONS

1. Detailed Silt Geochemistry

Sampling should be conducted every 50 meters along stream beds on the property.

2. Prospecting

All structural features on the property should be carefully prospected in order to evaluate the mineral potential. Special attention should be given to quartz sulphide veins, quartz-carbonate-sericite-pyrite altered zones and mineralized shear zones.

3. Trenching

Trenching would be conducted in areas of newly discovered mineralization to obtain fresh samples for assaying as well as evaluation for indicator minerals.

4. Geological Mapping

The property should be mapped in conjunction with silt sampling and prospecting programs. Detailed mapping would be conducted in areas of newly discovered mineralization.

STATEMENT OF EXPENDITURES

Personnel

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E. Kruchkowski K. Konkin B. Buchanon G. Sinden F. LongPre D. Brown D. Blanc B. Johannson C. Hoffman	Geologist Geologist Geologist Geotechnologist Blaster Assistant Assistant Assistant	14 days @ \$400/da 14 days @ \$200/da 14 days @ \$200/da 14 days @ \$165/da 14 days @ \$150/da 14 days @ \$185/da 14 days @ \$150/da 14 days @ \$150/da 14 days @ \$125/da	ay \$5,600.00 ay 2,800.00 ay 2,800.00 ay 2,310.00 ay 2,100.00 ay 2,590.00 ay 2,100.00 ay 2,100.00 ay 2,100.00 ay 2,100.00 ay 2,100.00 ay 2,100.00 ay 1,750.00
			\$24,150.00
Food \$20 per day x 12	26 man days		2,560.00
Camp \$25 per day x 12	26 man days		3,150,00
Geochemical Ana \$15 per sample :	lysis x 472 samples		7,080,00
Helicopter 20.9 hours at \$ 4.5 hours at \$	590 per hour (<u>B</u> ell 1200 per hour (Bell	206) 1 204 <u>)</u>	12,331.Q0 5,400, <u>0</u> 0
Generator Rental \$15 per day x 14	l 4 days		210.00
Cobra Drill Rent \$90 per day x 14	tal 4 days		1,260.00
Fuel, explosives	6		1,000.00
Freight			200.00
Communications/Expediting Costs			500.00
Consumable Supplies			1,500,00
Mob/Demob - Pro r	ated		5,000.00
Report writing/I)rafting/Administra	ition	5,000.00
		· .	\$69,341.00

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Claim Group	Number of Units	% of Work to be Applied	Cost of Work to be Applied
Bow 1, 2, 3, 4	80	12.195	\$ 7,999.92
Bow 33, 34, 35,	95	14.482	9,500.20
Bow 24, 25, 27, 28, 29, 30,	100	15.244	10,000.06
Bow 20, 21, 22,	92	14.024	9,199.74
Bow 9, 10, 11, 12, 13, 14	100	15.244	10,000.06
Bow 8, 15, 16,	100	15.244	10,000.06
Bow 5, 6, 7,	89	13.567	8,899.96
57, 50			
Total	656 units	100%	\$65,600.00

STATEMENT OF COSTS TO BE APPLIED TO CLAIM GROUPINGS

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REFERENCES

GROVE, E.W., 1986 Geology and Mineral Deposits of the Unuk River - Salmon River -Anyox Area British Columbia Ministry of Energy, Mines and Petroleum Resources Bulletin No. 63 HODGSON, A.G., 1971 Geological Report on Todd Group of Claims - Stewart Area -Skeena Mining Division, B.C. WOODCOCK, J.R.; GORC, D., 1982 Riocanex Incorporated Geological Report on Todd Creek Property on 104A-5W WOODCOCK, J.R., 1984 Geological Report on Todd Creek Property -Skeena Mining Division on 104A-5W LISLE, T.E., 1986 Square Gold Explorations Inc. Geological Report on the AM-Virgina K Mineral Claims Skeena Mining Division - Latitude 56°17'; Longitude 129°53'; NTS 104A/5W MINISTER OF MINES AND PETROLEUM RESOURCES Province of British Columbia Annual Report 1960 WORLD INVESTMENT NEWS - Volume 1 - Issue 12 - November 1987 VANCOUVER STOCKWATCH NEWS RELEASES -September 11, 1987 November 6, 1987 November 13, 1987

I, EDWARD R. KRUCHKOWSKI, Geologist, residing at 23 Templeside Bay, N.E., in the City of Calgary, in the Province of Alberta, hereby certify that:

- I received a Bachelor of Science degree in Geology from the University of Alberta in 1972.
- 2. I have been practising my profession continuously since graduation.
- I am a member of the Association of Professional Engineers,
 Geologists and Geophysicists of Alberta.
- 4. I am a consulting geologist on behalf of Brucejack Gold Ltd.
- 5. This report is based on a review of reports, documents, maps and other technical data on the property area and on my experience and knowledge of the area obtained during programs in 1974 - 1987.

June 13, 1988

H

E.R. Kruchkowski, B.Sc.

CERTIFICATE

I, KENNETH J. KONKIN, Geologist, residing at 4117 Burkeridge Place, in the City of West Vancouver, in the Province of British Columbia, hereby certify that:

- I received a Bachelor of Science degree in Geology from the University of British Columbia in 1985.
- 2. I have been practicing my profession continuously since graduation.
- 3. I am a consulting geologist working on behalf of E.R. Kruchkowski Consulting Ltd.
- 4. This report is based on a review of reports, documents, maps and other technical data, and field work carried out by myself from June 26 to October 23, 1987, and on my experience and knowledge. of the area.
- 5. I hold no direct interest in the property.

June 13, 1988

[] []

KONKIN, B.Sc.

CERTIFICATE

I, GORDON W. SINDEN, currently residing at 2607 - 123, 10th Avenue S.W., Calgary, Alberta T2R 1K8, hereby certify that:

- I am a geological technologist and have practiced my profession since 1977.
- I am a graduate of the Northern Alberta Institute of Technology (1977) in Mineral Resources Technology.
- 3. I am a Registered Engineering Technologist with the Alberta Society of Engineering Technologists.
- 4. This report is based on a review of reports, documents, maps and other technical data on the property area and my own experience and knowledge of the area obtained during programs in 1982 - 1987.
- 5. I visited the Bow Claims from October 14 to October 27 and carried out the work described in this report.

June 13, 1908

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Gordon W. Sinden, R.E.T.

APPENDIX I

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ANALYTICAL INFORMATION

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LABORATORY:	Loring Laborat Calgary, Alber	ories Ltd. ta
MESH SIZE:	-80/stream sed -80/rocks	iments
EXTRACTION:	For Cu:	HN03/HC104 to dryness taken up in HC1
	For Pb/Zn:	Nitric-Perchloric dissolution to dryness, taken up in dilute HCl
	For Au/Ag:	Fire Assay fusion, cupellation and acid dissolution of precious metal bead.
ANALYSIS:	Atomic absorpt	ion

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LABORATORY:	Acme Analytical Laboratories Vancouver, British Columbia
PROCEDURE:	.500 Gram sample is digested with 3ML 3-1-2 HCL-HN03-H20 at 95 Deg.C for one hour and is diluted to 10 ml with water. This leach is partial for MN FE CA P LA CR MG BA TI B W and limited for NA and K. Au detection Limit by ICP is 3 ppm. sample type: P1-3 rock P4-5 soil Au Analysis by AA from 10 gram sample

ANALYSIS:

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APPENDIX II

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ROCK GEOCHEMICAL ANALYSIS

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Γ	•
L	To: BRUCEJACK GOLD LTD.,
٢	400, 255 - 17th Avenue S.W.,
L	Calgary, Alberta 728 278
(
Į	ATTN: Ed Kruchköwski
]



File No	30616
Date	November 9, 1987
Samples	Rock

LORING LABORATORIES LTD.

[Page # 1.	•
Ē	SAMPLE No.	OZ./TON GOLD	OZ./10N SILVER
	"Rock Samples"		
Ц	"Assay Analysis"		
	BG -DB-01	.001	.05
Γh	02	.003	.05
	04	Trace	.03
Ļ.	~ 08	.002	.01
l) 12	Trace	.02
Ч	16	Trace	.04
Ļ	BGR-GS- 1	.001	.05
Д	2	Trace	.05
IJ	3	.002	.04
Д	4	Trace	.06
	5	.003	Trace
	8	.002	.04
\prod	9	.008	.03
	10	.001	.05
Π	11	Trace	.14
	12	Trace	.06
Π	13	Trace	.04
Ļ	14	Trace	.01
h	15		.03
	<u>`</u>	ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES	

Rejects Retained one month.

Pulps Retained one month Intess specific arrangements made in advance,

Assaver

To:BRUCEJACK'GOLD LTD.,		File No. <u>30616</u>
400, 255 - 17th Avenue S.W.,		Date November 9, 1987
Calgary, Alberta T2S 2T8	TD.	Samples Rock
ATTN: Ed Kruchkowski	Lifica .	-
]	S ASSAY	

LORING LABORATORIES LTD.

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Page # 2

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SAMPLE No.	OZ./TON GOLD	OZ./TON SILVER
BGR-GS-16	Trace	.09
BGR-KK- 1	.001	.03
2	.001	.04
3	Trace	.05
4	.002	.04
5	Trace	.05
б	.001	.10
7	.002	.02
8	Trace	.02
9	Trace	.04
10	.003	Trace
11	.002	.05
12	.002	.04
13	.001	.05
14	.107	. 25
15	.007	.04
16	.160	Trace
17	.002	.02
18	.030	.36
19	.002	Trace
, 2 <mark>0</mark>	.017 I Hereby U assays made by mi	.72 ertify that the above results are those upon the Herein described samples

Rejects Retained onemonth.

Pulps Retained one muth unless specific arrangements made in advance.

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To: BRUCEJACK_GOLD_LTD
- 400, 255 - 17th Avenue S.W.,
Calgary, Alberta T2S 2T8
ATTN: Ed Kruchkowski



File No.	30616
Date	<u>November 9, 1987</u>
Samples	Rock

Set ASSAY on LORING LABORATORIES LTD.

		07 /TON		
	SAMPLE No.	GOLD	OZ./TON STEVER	
	RG _RR_02	002		
	02		.08	
	03	Irace	.05	
-	04	.002	.03	
	05	.003	.03	
	. 06	.001	Trace	
~ ~	07	Trace	.04	
L ./	, 08	.001	.01	
Π	09	.002	Trace	
	10	.003	.07	
	11	.001	.02	
	12	.007	Trace	
	13	.004	.05	
	14	Trace .	.03	j
_	15	.002	.04	
Ĺ	16	.003	.04	
_	17	.001	.08	
Π	18	.002	.03	
	19	.004	6.80	
Π	20	.006	2.60	
L	· 21	.002	2.37	
	22	J Hereby Certify that the above results are those	. 1.62	
\bigcap)	ASSAIS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES		

Page # 3

Rejects Retained one month.

Put is Retained one month un iss specific arrangements made in advance.

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	To: BRUCEJACK GOLD LTD,
Π	400, 255 - 17th Avenue S.W.,
	-algary, Alberta <u>128,218</u>
	ATTN: Ed Kruchkowski



File	No.	30616
Date		November 9, 1987
Samp	oles	Rock

LORING LABORATORIES LTD.

	·	Page #	4 -
	SAMPLE No.	OZ./YON GOLD	OZ./TON SILVER
Ţ	BG -BB-23	.002	1.58
	24	.001	.57
Ĩ	25	.002	6.21
Π	26	Trace	3.86
	27	.001	2.95
\square	28	.002	.03
L _'	29	.004	.04
Ь	30	.001	.02
Н			
រុ			
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Π		I Thereby (Tartify your Su	· · · · ·
		ASSAYS MADE BY ME UPON THE HEREI	N DESCRIBED SAMPLES
L.] Reject	s Retained one month.		-
Pulps	Retained one month		A S
Liniess made	specific arrangements in advance,	·	
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-1	To:BRUCEJACK_GOLD_LTD.,
ì	400, 255 - 17th Avenue S.W.,
4	Calgary, Alberta T2S 2T8
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1	ATTN: Ed Kruchkowski



File No.	30616-1
Date	November 20, 1987
Samples	Rock

LORING LABORATORIES LTD.

Page # 1

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		······································	· · · · · · · · · · · · · · · · · · ·
SAMPLE No.	% Cu	% Pb	Žn
" <u>Assay Analysis</u> "		· ·	
BG-DB-01	.01	.02 ·	.01
02	Trace	.02	Trace
04	Trace	.01	.02
08	Trace	.05	Trace
- 12	Trace	.01	Trace
16	Trace	.02	.01
- BGR-GS- 1	Trace	.02	.02
- 2	Trace	.01	Trace
3	Trace	. 02	Trace
4	Trace	.02	.01
5	Trace	.03	.01
8	Trace	.02	.01
9	Trace	.02	.01
10	Trace	.02	.02
11	Trace	.04	.03
12	Trace	.18	.01
13	Trace	.03	.02
14	Trace	.04	.01
15	Trace	.04	.01
16	Trace I Hereby Assays made e	.02 Certify that the above results are the by Mé upon the herein described samples .	.01 fose

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Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

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LORING LABORATORIES LTD.

		•	
SAMPLE No.	,% Cu	% Pb	% Zn
BGR-KK- 1	Trace	.03	.01
2	Trace	.02	.01
3	Trace	.03	.01
4	Trace	.02	Trace
5	Trace	.03	Trace
6	Trace	.02	.06
7	Trace	• .04	.02
8	Trace	.02	.01
9	Trace	.03	.02
10	Trace	.03	.01 ·
11	.01	.04	.01
12	Trace	.03	.02
13	Trace	.03	Trace
14	1.88	.05	.03
15	.01	.04	.01
16	.57	.18	.24
17	.06	.03	.03
18	2.62	.03	.05
19	.51	.05	.05
20	1.35	.07	.14
BG-BB- 02	.08 J Hereby U Assays made by m	.29 ertify that the above results a e upon the herein described sampi	.02 RE THOSE .ES

Page # 2

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

Assayer



ATIN: Ed Kruchkowski

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File No.	30616-1
Date	November 20, 1987
Samples	Rock

LORING LABORATORIES LTD.

ASSAY

Page # 3

dy.

		<u></u>		
SAMPL	E No.	% Cu	% Pb	z Zn
BG-BB-	03	.03	.02	.01
	04	.02	.02	.01
	05	.01	.02	.01
	06	.01	.22	.03
	07	.01	.02	.01
N N	08	.01	.03	Trace
)	09	.01	.02	Trace
	10	Trace	.02	.02
	11	.01	.02	.01
	12	.01	.62	.01
	13	Trace	.01	.10
	14	Trace	.01	.01
	15	.01	.01	.02
	16	Trace	.02	.01
	17	Trace	.03	.01
	18	Trace	.02	.17
	19	.03	.49	.06
	20	.01	.21	.08
	21	.01	.52	.08
	22	.01	.66	.12
	23	Trace · Il Merehn	.03 (Apriifn that the above results are th	.01
<u>۱</u>		ASSAYS MADE B	Y ME UPON THE HEREIN DESCRIBED SAMPLES .	

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance,

Assayer

To: <u>BRUCEJĄCK GOLD LTD.</u> <u>400, 255 - 17th Avenue S.W.</u> , <u>Calgary, Alberta</u> <u>T2S 2T8</u>
ATTN: Ed Kruchkowski



File No.	30616-1
Date	<u>November 20, 1</u> 987
Samples	Rock

Stificate ASSAY % LORING LABORATORIES LTD.

Page # 3

Assayer

Page # 3 -				
SAMPLE No.	% Cu	% Pb	% Zn	
BG-BB- 24	Trace	.31	.08	
25	Trace	.35	.05	
26	Trace	.03	.03	
27	Trace	.20	.07	
28	Trace	.02	.01	
29	Trace	.02	.01	
) 30	.01	.02	.04	
	I Hereby C Assays made by mi	ertify that the above results ari E upon the herein described sample	E THOSE S	

	To: B	RUCE	ACK	<u>GOL D</u>	LTD.,		
7	400	, 25	5 -	17th	Avenue	S.W	<u>.</u>
	Cal	gary,	Alf	perta	T2S	278	
, _)			,			•
]	AT.1	N:6	<u>d K</u> r	uchko	o <u>wski</u>		



File No	30685
Date	December 10, 1987
Samples .	Rock

LORING LABORATORIES LTD.

Page # 1

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L .			
n	SAMPLE No.	PPB Au	PPM Ag
	" <u>Rock Samples</u> "		
Π	<u>Geochemical Analysis</u>		
L	BG-BB-31	NIL	0.3 NT1
Π	32	NIL NIL	0.1
LI	34	10	0.1 0.1
["	35	NIL NIL	0.2
L _/	37	5 N TI	0.3 0.2
	39	10	0.3
IJ	40	NIL NTI	0.6
n	42	NIL	0.2 1.1
IJ	43	NIL NIL	0.8
n	45	5 'NTI	1.4
	40	NIL	0.3
	48 49	NIL	0.3
	50	30 NTI	1.0
П	51	NIL	NIL
U	53	NIL 35	1.1
	55	NIL	0.2
	56 57		0.2
m	58	NIL I Baraby (Partify that the ABOVE RESULTS ARE THOSE	0.4
		ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES	
ſ)		······

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

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Assayer

To: <u>BRUCEJACK GOLD</u> 400, 255 - 17th Av Calgary, Alberta ATTN: Ed Kruchkows	LTD., venue S.W., T2S 2T8 ski ski	ASSAY ASSAY	File No. <u>306</u> Date <u>Dec</u> Samples <u>Roc</u>	<u>s85</u> cember 10, 1987 ck
		Page # 2		、
SAMPLE No.	PPB Au			PPM Ag
BG-BB-59 60 BGR-GS-17 18 19 20 21 22 23 24 23 24 25 6 7	NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL			0.4 0.8 1.1 0.6 0.8 0.9 0.6 0.5 1.3 1.1 0.7 0.4 0.5
)	· J JA Assays	ereby Certify that the made by me upon the herein	ABOVE RESULTS ARE THOS DESCRIBED SAMPLES	SE
Rejects Retained one month. Pulps Retained one month unless specific arrangements made in advance,			Son Jen	<u> </u>

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APPENDIX III

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SILT GEOCHEMICAL ANALYSIS

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Go:BRUCEJACK GOLD L. 400, 255 - 17th A Calgary, Alberta	T2S 2T8 File No. 30615 T2S 2T8 TTD.	
	x x x x x x x x x x x x x x x x x x x	
	LORING LABORATORIES LID.	
<u>[</u>	Page # 1	
SAMPLE No.	OZ./TON GOLD	
	· · ·	
LÍ .		
	· ·	
L "Silt Sample"	· · ·	
Assay Analysis"		
ВGS-КК-09	.188	
	·	
		Í
	I Hereby Certify that the above results are those assays made by me upon the herein described samples	
Rejects Retained one month.	· · · · · · · · · · · · · · · · · · ·	I
Pulps Retained one month d less specific arrangements n_de in advance.	i for la for	

To: <u>BRUCEJACK GOLD LTD</u> 400, 255 - 17th Avenue S.W.,		File No. <u>30615</u> Date November 9, 1987
Calgary, Alberta T2S 2T8	TD.	Samples Silt
ATTN: Ed Kruchkowski	xificar	·
	St ASSAY 2	

LORING LABORATORIES LTD.

Page # 2

Π			Page # 2
ы п	SAMPLE No.	PPB- Au	ррм Ад
	"Silt Samples"		
п	Geochemical Analysis		
	BGS-DB- 3	NIL	0.2
-	6	NIL	0.2
	10	NIL	0.1
_	11	NIL	0.2
	13	NIL	0.2
╸	15	NIL	0.1
Π	1/	NIL NTI	U.1 0.1
L.	19	5	0.3
Π	20 21	NIL 5	0.4
	22	NIL	0.2
Π	23		0.2
	25	NIL	0.4
	. 26		. 1.4
	28	NIL	0.7
	29	5	13.2
\Box	31	NIL	7.0
	32	NIL.	1.2
	33 34	NIL 5	1.6 · 0.5
	35	NIL	4.2
	30	NIL I Borohn Mortif	9.5
		ASSAYS MADE BY ME UPO	Y THE HEREIN DESCRIBE) SAMPLES
F.	<u>}</u>		

Rejects Retained one month.

,

Pulps Retained one month unless specific arrangements made in advance.

Assayer

	To: BRUCE	JACK GO	LD'LTD.	
	400, 255	<u>- 17th</u>	Avenue S	.W.,
	<u>Calgary, A</u>	lbèrta	<u>T2S 2T</u>	8
È			•	
L	AIIN: Ed I	ruchkov	<u>vski</u>	



File No	30615
Date	November 9, 1987
Samples .	Silt

LORING LABORATORIES LTD.

Page # 3

BGS-DB-38 NIL 39 NIL 40 NIL 41 NIL 42 NIL 43 NIL 44 NIL 45 NIL 46 NIL 47 NIL 48 NIL 49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	PΑ
39 NIL 40 NIL 41 NIL 42 NIL 43 NIL 44 NIL 45 NIL 46 NIL 47 NIL 48 NIL 49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	14 6
40 NIL 41 NIL 42 NIL 43 NIL 44 NIL 45 NIL 46 NIL 47 NIL 48 NIL 49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	14.0 6 0
41 NIL 42 NIL 43 NIL 44 NIL 45 NIL 46 NIL 47 NIL 48 NIL 50 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	0.0
42 NIL 43 NIL 44 NIL 45 NIL 46 NIL 47 NIL 48 NIL 49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	0.2
43 NIL 44 NIL 45 NIL 46 NIL 47 NIL 48 NIL 49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	0.2
44 NIL 45 NIL 46 NIL 47 NIL 48 NIL 49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	0.1
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46 NIL 47 NIL 48 NIL 49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	0.1
47 NIL 48 NIL 49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	0.1
48 NIL 49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL	0.1
49 NIL 50 NIL 51 NIL 52 NIL 53 NIL 53 NIL 54 NIL 55 5 56 NIL 57 NIL 58 NIL 59 5 60 NIL 61 NIL 62 NIL 63 35	0.1
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81 65	0.2
85 5	0.2
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· 」 如 如 ereby Ucritity that the above results are those	
ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES	

Pulps Retained one month mless specific arrangements nade in advance.

Assayer

To: _BRUCEJACK GOLD. LTD_,	• •
400,25517th Avenue	<u></u> ,
	2 <u>18</u>
ATTN: Ed Kruchkowski	

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File	No.	30615
Date		<u>November 9, 1987</u>
Samp	oles	Silt



LORING LABORATORIES LTD.

Page	#	4
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SAN	IPLE No.	РРВ Аu	РРМ
SAM BGS	IPLE No. -GS-01 02 03 04 05 06 07 08 09 10 11 12 13 14	PPB Au NIL NIL 5 NIL NIL	PPM Ag 0.2 0.3 0.5 0.7 0.2 0.2 0.2 0.3 0.5 0.1 0.1 0.1 0.1 0.3 0.2 0.2
	14 15 16 17 18 19 20 21 22 23 23 24	NIL NIL 5 NIL 5 NIL 5 NIL NIL 5	0.2 0.1 NIL 0.1 0.8 0.2 0.3 0.5 0.1 0.3
]] 	25 26 27 28 29 30 31	NIL 10 5 5 NIL NIL 10 J Hereby Clertify that the above results are those Assays made by me upon the herein described samples	0.3 0.6 0.8 0.6 0.8 0.7 0.8 1.2

Lejects Retained one month.

Pulps Retained one month nless specific arrangements ade in advance.

... V Assayer

Fo: BRUCEJACK GOLD LTD.
-400, 255 - 17th Avenue S.W.,
Calgary, Alberta T2S 2T8
Ω
ATTN: Ed Kruchkowski



File No.	30615
Date	November 9, 1987
Samples .	Silt

LORING LABORATORIES LTD.

Page # 5

	SAMPLE No	. PPB	• PPM
∩—		Au	Ag
L	BGS-GS-32	10	1 4
	33		- 1.4 1.4
Π	34	NTI NTI	1.4
	35		0.0
	36	5	0.4
	37	10	0.4
	38	NIL	0.5
	39	5	0.0
	40	5	0.4
	BGS-KK-01	750	1 4
- /	02	350	0.8
	03	80	0.6
	04	115	0.6
	05	20	0.4
m	06	5	0.4
	07	845	2.1
أحط	08	285	0.8
_	09	+1000	3.8
	10	760	2.3
	11	710	1.0
	12	75	0.7
	13	105	0.7
Lj	14	5	0.5
•	15	895	0.8
	16	15	0.4
	1/	100	0.6
	18	285	0.9
	19	135	1.1
	20	90	2.2
	21	45 .	1.1
	22		0.9
		I mereby Certity that the above results are those	
		ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES	
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		•	
ejects	Retained one month.		
ulps f	Retained one month		

t ess specific arrangements re-de in advance.

field for an and Assayer

	To: BRUCEJACK GOLD LTD.
	.400, 255 - 17th Avenue S,W,,
٦	Calgary, Alberta J2S 2T8
.'	· · ·
	ATTN: Ed Kruchkowski

Π



DateNovember 9, 1987 Samples <u>Silt</u>

LORING LABORATORIES LTD.

Page # 6

		
SAMPLE No.	PPB Au	РРМ
BGS-KK-23 BG -FL-11 12 13 14 15 16 17 18 19 21 22 42 42 43 44 45 46 47 48 49 50	25 NIL NIL S 5 S NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL	0.7 0.3 0.1 0.3 0.1 0.2 0.3 0.2 0.3 0.1 0.3 0.1 0.2 0.1 0.2 0.1 0.1 0.3 0.2 0.1 0.1 0.3 0.2 0.1 0.2 0.1 0.3 0.1 0.2 0.3 0.1 0.3 0.1 0.2 0.3 0.1 0.3 0.1 0.2 0.1 0.3 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1
)	I Hereby Certify that the above results are those assays made by me upon the herein described samples	
Rejects Retained one month. Puips Retained one month unless specific arrangements made in advance.	and in the second	× • • • • • •

Assaver

	To: BRUCEJACK GOLD LT 400, 255 - 17th Ave Calgary, Alberta 1	D., nue S.W., 2S 2T8 File No. 30681 Date December 10, 1987 Samples Silt
	ATTN: Ed Kruchkows	i
		LUKING LABORATORIES LID.
[],		Page # 1 .:
Л	SAMPLE No.	GOLD
		· · ·
\square	"Silt Sample"	
	" <u>Assay Analysis</u> "	
	KGS-F2-80 BGS-DB-72	.128
		J Hereby Clertify that the above results are those assays made by me upon the herein described samples
	Rejects Retained one month.	13
	Pulps Retained one month unless specific arrangements made in advance,	Assayer





File No.	30681
Date	
Samples .	Silt

LORING LABORATORIES LTD.

ASSAY

0x

	Page # 2	•
SAMPLE No.	PPB Au	 DDM
"Silt Samples"		Ag
Geochemical Analysis		
BGS-GS-41	N 7 1	
42	5	0.3
43	NIL	0.6
45	NIL. NTI	0.4
46	NIL	0.3
47		0.3
49	NIL	0.4
50	NIL	0.5
52	NIL. NTI	0.4
53	NIL	0.7
55		0.5
56	NIL	0.2
57	NIL	0.3
59	15	0.3
60	NIL	0.2
62	N I L N T I	0.2
63	NIL	0.1
65		0.5
66	10	0.3
67 68	NIL	0.4
· · · · ·	Il Horohn (I will a	N1L 0.2
	ASSAYS MADE BY ME UPON THE UPON	VE RESULTS ARE THOSE
)l	HE GION THE HEREIN DES	CRIBED SAMPLES

eu one month, Pulps Retained one month

inless specific arrangements nade in advance.

Assaver

$\left[\right]$	
1-3	To: BRUCEJACK GOLD LTD.
Π	<u>400, 255 - 17th Avenue S.W.,</u>
Ś	Calgary, Alberta 12S 218
	ATTN: Ed Kruchkowski

Γ



File No	30681		
Date	December	10,	1987
Samples .	Silt		

LORING LABORATORIES LTD.

Page # 3

r	SAMPLE No.	Au	PPM Ag	
	BGS-GS-69	NIL	0.1	
	70	NIL	0.2	
	71	NIL	0.1	
	72	15	0.3	
P -1	73	NIL	0.2 -	
11	74	NIL	0.1	
6	75	NIL	0.1	
	76	NIL	0.2	
$[\neg]$	77	NIL	NIL	
L_{T}	78	NIL	. 0.3	
	79	30	0.2	
П	80	10	0.7	
	81	NIL	0,5	
	82	NIL	0.3	
r l	83	NIL	0.4	
	84	NIL	0.5	
4	85	NIL	0.4 ·	
4	86	NIL	0.6	
11	87	5	0.4	
L)	88	15	0.4	
	89	NIL	0.3	
Π	90	5	0.3	
L) –	91	NIL	0.2	
	92	· 10	0.3	
r †	BGS-DB-66	145	0.1	
	67	5	0.1	
٦Ĺ	68	NIL	0.3	
جل	69	NIL	0.2	
	70	NIL	0.3	
<u>`</u>]	71	5	0.2	
4	72	725	0.2	
11		J Hereby Certify that the	E ABOVE RESULTS ARE THOSE	
		ASSAYS MADE BY ME UPON THE HERE	IN DESCRIBED SAMPLES	
\cap				
1-	•			
	te Datained and mouth			
Pulps Retained one month			A.S.	
made	in advance.		Etal gener	
			Assayer	

	To: <u>BRUCEJACK GOLD</u> 400, 255 - 17th A Calgary, Alberta ATTN: Ed Kruchkov	<u>LTD.,</u> Avenue S.W., T2S 2T8 vski	ASSAY or	File No. <u>30681</u> Date <u>December 10, 19</u> 87 Samples <u>Silt</u>
[] []		LORINO	G LABORATORIES	LTD.
		РРВ		РРМ
		Au	· · · · · · · · · · · · · · · · · · ·	Ag
	BGS-DB-73 74 75	55		0.2 0.2
	75 76 77	NIL		0.3 NIL
	77 78 79	700		0.1 NIL
	80 81	NIL		0.1 0.1
) 82	SS NIL		0.2
П	84 85	NIL NIL		0.1 0.5
	86	NIL 10		1.0 0.3
	88 80	NIL		0.3 0.5
	90 01	130		0.3 0.4
	92 PCS EL 01	10		0.4 0.8
	02	NIL		0.4 0.3
	05	NIL NIL		0.3 2.7
	06			0.3 0.5
-	08	NIL NIL		0.4
	10 23	NIL NIL		0.3
	- 24	NIL I Here	by Mertify that the above	0.1

ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance,

Lo 10 Assayer

	TO BRUCEJACK GOLD LTD
ព	400, 255 - 17th Avenue S.W.,
Ļ	-Çaïgary, Alberta T2S 218
ک ا	
	ATTN: Ed Kruchkowski



File No	30681
Date	December 10, 1987
Samples	Silt

LORING LABORATORIES LTD.

Page # 5

PPM Ag
Aŭ
0.2
0.2
NIL
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unless specific arrangements made in advance.

Assayer -----بصير

To: BRUCEJACK GOLD LTD.,	File No
☐ 400, 255 - 17th Avenue S.W.,	Date December 10, 1987
Calgary, Alberta 12S 218	Samples Silt
	Samples
ATTN: Ed Kruchkowski	
	t _e
L · SSAY	the second se
LORING LABORAT	tories L td.

Page # 6

[]			Page # 6												
SA	MPLE No.	PPB Au		PPM Ag											
	S-FL-69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92	NIL NIL NIL NIL NIL NIL NIL 995 NIL +1000 NIL +1000 NIL NIL NIL 105 NIL NIL 110 NIL NIL NIL NIL		0.3 0.2 0.6 0.3 0.3 0.5 0.8 0.3 0.3 0.5 0.8 0.9 0.7 0.8 0.9 0.7 0.8 0.9 0.7 0.8 0.9 0.7 0.8 0.9 0.7 0.8 0.9 0.7 0.8 0.9 0.7 0.8 0.5 1.2 0.2											
		J Her Assays ma	eby Certify that the above results are those and by me upon the herein described samples												
Rejects Re	tained one month.		·												
Pulps Reta unless spe made in ac	ined one month cific arrangements Ivance,		Assayer	• •											

FILE # 87-5109

SAKPLEI	KO PPH	CU PPM	PD PPN	ZH PPX	45 PPX	NI K q q	00 PPK	KH FPN	FE I	AS PPH	й 1991	AU PPM	тн 7 9 К	SR PPN	C0 PPM	SB PFM	81 77K	у 2 2 1	CA Z	P I	LA PPN	CR PFN	X6 1	8A 795	TI I	8 K91	AL X	NA X	X	C Li 1 PPH	i AUL		
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ASSAY CERTIFICATE

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APPENDIX IV

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CUMULATIVE FREQUENCY CHARTS



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SILVER IN ROCK

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BOW CLAIMS

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K+ KEUFFEL & ESSER CO. MAR IN USA

GOLD IN SILT



BOW CLAIMS

6 8003

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K*E REUFFEL & ESSER CO. MADE IN 124

SILVER IN SILT







