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GEOLOGICAL AND GEOCHEMICAL REPORT on the MJ 1 to 16 CLAIMS STIKINE RIVER AREA Liard Mining Division Latitude 57°37' North Longitude 131°45' West British Columbia

October 31, 1988

on behalf of INTERNATIONAL PHOENIX ENERGY CORP. Vancouver, British Columbia

by

J. W. Davis, M.Sc., P.Geol., F.GAC

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#### ABSTRACT

A gold property consisting of 16 claims was acquired to encompass several precious metals showings adjacent to the Stikine River in northwestern British Columbia. The geology of the MJ claims consists of a succession of Paleozoic sediments overlain by Triassic clastic, carbonate, and volcanic units intruded by Jurassic to Tertiary intrusive rocks. In certain respects, the gold, silver, and copper mineralization located in this area bears a resemblance to the Iskut River gold camp to the south.

There has been little precious metals exploration in this area since 1935. The helicopter-supported exploration program carried out was designed to be a reconnaissance evaluation of the gold potential of the property. Exploration consisted of re-locating previous trenches and workings, geological mapping, sampling, and geochemical analysis directed toward identifying gold mineralization.

Special attention was given to the Lucky Strike and the Drapich showings which are located within the boundaries of the property. Rock samples were acquired not only from surface exposures of these showings but in the case of the Drapich, two adits were re-opened and sampled underground. However, resampling of these showings, while confirming the presence of geochemically significant gold values, did not yield ore-grade results.

Prospecting on the remainder of the property resulted in the discovery of a number of occurrences grading in excess of 0.05 oz/ton gold. The best value returned from grab samples collected by prospecting was 0.33 oz/ton gold from a sample on the MJ 14 claim. Other significant results include 0.059 oz/ton gold and 7.88% copper obtained from the "JR" showing on the MJ 15 claim. Five mineralized boulders, grading from 0.057 to 0.144 oz/ton gold, were located on the MJ 16 claim. While two of these boulders were glacially transported and thus difficult to trace to their source, the remaining three would appear to have had a local source. Another new occurrence, grading 0.072 oz/ton gold, was delineated from bedrock samples taken in the northern part of the MJ 3 claim.



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Stream sediment geochemical sampling was undertaken on the property. The precious metals anomalies identified from this survey correspond in most cases to areas where prospecting has yielded significant results. However, there are several new areas which require additional evaluation.

Based on the results received to date from this reconnaissance program, a second-phase exploration program should be undertaken. This program should include detailed prospecting, geological mapping, trenching, and geochemical sampling on the new gold occurrences and on those areas identified as anomalous by the stream sediment geochemical survey results. .

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- I Summary of Personnel /and/ Summary of Expenditures II Rock Sample Descriptions
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#### **INTRODUCTION**

At the request of International Phoenix Energy Corp., Taiga Consultants Ltd. undertook a geological evaluation of the MJ 1 to 16 claims located in northwestern British Columbia (Figure 1). The objective of this reconnaissance exploration program was to provide an initial evaluation of the gold potential of this property.

#### Property Status

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The MJ claims are located in the Liard Mining Division of British Columbia (Figure 2) within NTS 104-G/12. The property is currently registered in the name of Prolific Resources Ltd. of Vancouver, British Columbia. The property consists of 16 claims encompassing 271 units with a total area of 6,775 hectares (16,741 acres). A description of the claims is tabulated below:

Cla Nor	im 10	Record	No.of	Data of Record	Assessment	Assessment
<u>Ingu</u>	<u>ie</u>	Muniber	UNILS	Date of Record	<u>Required</u>	Due Date
MJ	1	4/8/	18	July 13, 1988	\$ 1,800	July 13, 1989
MJ	2	4788	18	July 13, 1988	1,800	July 13, 1989
MJ	3	4789	18	July 13, 1988	1,800	July 13, 1989
MJ	4	4790	18	July 13, 1988	1,800	July 13, 1989
MJ	5	4791	18	July 13, 1988	1,800	July 13, 1989
MJ	6	4792	18	July 13, 1988	1,800	July 13, 1989
MJ	7	4793	18	July 13, 1988	1,800	July 13, 1989
MJ	8	4794	18	July 13, 1988	1,800	July 13, 1989
MJ	9	4795	18	July 13, 1988	1,800	July 13, 1989
MJ	10	4796	18	July 13, 1988	1,800	July 13, 1989
MJ	11	4797	18	July 13, 1988	1,800	July 13, 1989
MJ	12	4798	9	July 13, 1988	900	July 13, 1989
MJ	13	4799	12	July 13, 1988	1,200	July 13, 1989
MJ	14	4800	12	July 13, 1988	1,200	July 13, 1989
MJ	15	4801	20	July 13, 1988	2,000	July 13, 1989
MJ	16	4802	20	July 13, 1988	2,000	July 13, 1989
			271 u	nits	\$27,100	

#### TABLE 1 - Claims Data

International Phoenix Energy Corp. has entered into a joint venture agreement with Prolific Resources Ltd. whereby each company will hold a 50% interest in the aforementioned claims by equally funding exploration expendi-





FIGURE 1 MJ CLAIMS REGIONAL LOCATION MAP STIKINE RIVER AREA, BRITISH COLUMBIA 2



tures. Minimum assessment requirements on the claims are \$100/unit/year in the first three-year period and \$200/unit/year in each year thereafter. Thus, the minimum exploration commitment for the first year is \$27,100 on or before July 13, 1989.

## Location and Access

The claims are located approximately 42 km southwest of the town of Telegraph Creek in northwestern British Columbia. The property is situated in NTS 104-G/12, centered about 57 37' North latitude and 131 45' West longitude. Access to the claims is via aircraft or boat from Telegraph Creek. Road access exists within approximately 35 km of the property at the village of Glenora located 17 km west-southwest of Telegraph Creek. The road then continues to Dease Lake, which is along the Cassiar-Stewart Road. Limited infrastructure necessary to support a field program exists at Telegraph Creek including an air strip.

## **Physiography**

Regionally, the Coast Mountains form an area of extreme topographic relief characterized by rugged peaks ranging in elevation from 1,830 m to 2,743 m ASL (6000'-9000'). These peaks are surrounded by lower, more rounded summits which are intersected by deeply incised valleys, intervalley ridges, and spurs. The Coast Mountains consist predominantly of crystalline rocks, and as such do not exhibit regular long linear ridges typical of mountains composed of sedimentary strata.

The MJ 1 to 16 claims are located within the Boundary Ranges of the Coast Mountains between the Stikine and Chutine Rivers. The highest point on the property is Mt.Conover at 1,890 m (6200') ASL, and the lowest elevation is found along the Stikine River at approximately 107 m (350') ASL. Approximately 150 m upslope from the Stikine River, bedrock exposure is good to excellent. Below this level, bedrock is locally covered by alluvial debris. Two main



creeks form the drainage pattern on the property. Missusjay Creek flows through the centre of the claims from southwest to northeast, cutting a steepwalled canyon prior to emptying into the Stikine River. The smaller Misterjay Creek drains smaller streams and runoff from Mt.Conover, then empties into Missusjay Creek in the centre of the property. The Stikine River forms the drainage basin for the entire map-sheet (NTS 104-G NW). In the vicinity of the claims, the Stikine River forms a braided course with shifting gravel bars and islands.

The Coast Mountains were subjected to both continental and alpine glaciation. Evidence of this can be found in the form of glacially rounded summits, U-shaped valleys, and truncated spurs. Even the highest peaks were once covered by continental ice. Erosion has removed most glacial deposits and subsequent alpine glaciation has modified original landforms. Drumlins and fluted ground moraine in major valleys indicate that the direction of the last ice movements were the same as present-day drainage patterns.



### HISTORY OF EXPLORATION

The town of Telegraph Creek, 35 km northeast of the MJ 1 to 16 claims, was historically the northern limit of navigation for prospectors travelling to the Klondike during the goldrush in 1896.

Within the map-area, placer gold was discovered along the gravel bars of the Stikine River, south of Telegraph Creek in 1873. All prospecting was directed primarily towards placer gold deposits. In 1898, L. Kirk discovered mineralized and brecciated fissure veins. These veins (August and Mountain Goat claims - B.C. Mineral Inventory Map 104G, occurrences 10 and 19) are located southeast of the MJ claims across the Stikine River. The thin (less than 0.75 m wide) mineralized zones assayed up to 63.8 g/t gold, 7.2 g/t silver, and 2.1% copper.

In 1914, J. Bodel discovered lead, zinc, silver, copper, and gold mineralization in a skarn located south of the MJ claims (Stikine, Devil's Elbow occurrences [Minfile ID 104G-012]; Apex occurrence [Minfile ID 104G-013). Work on these occurrences continued until 1932. The best assays were 0.7 g/t gold, 20.6 g/t silver, and 4% zinc over 3.7 metres.

In 1929, F. Jackson staked a shear zone along Conover Creek containing zinc, lead, copper, silver, and gold mineralization (Jackson/Bik/Conover Creek/ Lady Jane occurrences, Minfile ID 104G-009,-025). Assays as high as 0.7 g/ton gold, 82.3 g/t silver, and 0.4% copper are reported.

Within the current claims, a skarn containing copper/lead/zinc/silver was staked by S. Barrington in 1930. This is the Drapich occurrence (Minfile ID 104G 011). Chalcopyrite, sphalerite, galena, malachite, azurite, hematite, magnetite, pyrite, and pyrrhotite are reported to occur in lenses less than one metre thick along granodiorite which has intruded limestone. Assays reported from this occurrence are 55 g/t silver and trace gold.

The Lucky Strike occurrence (Minfile ID 104G-020) was staked in 1931 by S. Barrington and is covered by the MJ 1 to 16 claims. This occurrence



consists of a polymetallic brecciated fissure vein containing quartz and occasional specks of native gold, galena, sphalerite, and pyrrhotite. Assays reported were 6.8 g/t gold and 1.3 g/t silver. A representative sample assayed by the Geological Survey of Canada yielded values of 0.3 g/t Au, 1.5% Cu, 5.5% Pb, and 7.8% Zn.

A third mineral showing, Conover Mountain (Minfile ID 104G-064), is also located on the property. Kerr (1948) reports quartz-calcite veins with chalcopyrite within Upper Triassic volcanics at this location.

The exact positions of these various showings with respect to the property are illustrated on Figure 3.

Reconnaissance federal-government mapping at a scale of 1:250,000 was completed by J. G. Souther (1971) of the Geological Survey of Canada. Aeromagnetic coverage for the area is provided at a scale of 1:50,000 (Map 9249G) and at a scale of 1:250,000 (Map 7788G).

In 1988, a stream sediment geochemical survey (O.F. 1646) was released by the G.S.C. One highly anomalous (90th percentile) sample is delineated near the headwaters of Misterjay Creek on the property. Strongly anomalous values were returned for nickel, cobalt, molybdenum, vanadium, and tin along with weakly anomalous values for copper, silver, lead, arsenic, and tungsten.

Previous exploration in the area has been directed toward evaluating the base metals potential. While the polymetallic fissure veins discovered to date have little economic potential for base metals, interesting precious metals values have been reported. The gold discoveries in the Iskut River gold camp to the south in a similar geological setting has given substantial impetus to the exploration for gold in this region. The host rock for the vein-type gold mineralization in the Iskut area is the "Snippaker" volcanic assemblage which is Upper Triassic to Lower Jurassic in age. The Upper Triassic andesitic volcanics and associated sediments belonging to Unit 9 within the property would appear to be equivalent. The veins in the Iskut area are polymetallic containing gold- and silver-bearing pyrite, along with chalcopyrite, and mag-





netite, and lesser amounts of galena and sphalerite in a gangue of quartzsericite-carbonate. A similar style of mineralized vein system occurs within the property, particularly on the Lucky Strike showing.

To the northwest of the property, the Tulsequah Chief and the Polaris-Taku gold deposits also have a general similarity to the geology and style of mineralization reported from the Stikine claims. Gold mineralization at the Tulsequah Chief deposit is polymetallic massive sulphides localized at the intersection of cross-fractures with a sequence of Triassic volcanics. Other gold occurrences in this area consist of quartz veins and skarns at the contact between intrusions and upper Paleozoic carbonate units. The Polaris-Taku gold deposit consists of a folded vein system hosted by volcanics and volcaniclastic rock units which are Upper Triassic in age.

Given the limited exploration previously directed toward gold and the presence of gold in a geological setting similar to the other gold camps in this region, there appears to be excellent potential for the discovery of precious metals within the property.

#### REGIONAL GEOLOGY

The following summary of the geology of the Telegraph Creek area is taken from Souther (1971):

The map-area, bounded by latitudes 57° and 58°N and longitudes 130° and 132°W, includes parts of the Coast Mountains, Stikine Plateau, and Hazelton Mountains. It lies across the axis of the northeasterly trending Stikine Arch, a lobe of crystalline and metamorphic rocks that remained relatively positive throughout most of Mesozoic time.

Coast Mountains in the southwestern part of the map-area are underlain mainly by granitic rocks that range in age from Triassic to Tertiary and contain pendants of metamorphosed late Paleozoic and Mesozoic sedimentary and volcanic rocks.

Mississippian and Permian strata (comprising phyllite, thick limestone units, and minor volcanics) crop out in the central and western part of the map-area. They are overlain unconformably by an extremely thick succession of Upper Triassic to Middle Jurassic eugeosynclinal sediments and andesitic volcanics that underlie most of the northern and eastern part of the map-area.

Late Jurassic clastic sediments, deposited in the Bowser Successor Basin, are exposed in Hazelton Mountains east of the Iskut River.

Cretaceous and Tertiary non-marine clastic sediments and early Tertiary volcanics are preserved in fault blocks and as erosional remnants on some of the higher peaks.

Late Tertiary, Pleistocene, and Recent volcanism has produced large, complex piles of undeformed lava flows and pyroclastic rocks ranging in composition from rhyolite to basalt.

The stratigraphy of the area is summarized on Table 2. Structurally, all of these units have undergone polyphase deformation with early structures overprinted by later stages of deformation. Upper Paleozoic units are characterized by moderately tight, symmetrical northerly to northwesterly trending folds. The Mesozoic rock units have been broken into a mosaic of fault-bounded blocks which exhibit little structural continuity. The structural style in any given block is determined by the competency of rock units within each block. Tertiary deformation consisting of additional folds and faults then affected the entire pre-Tertiary succession. The geology of the MJ claims, based on regional geological mapping, is illustrated in Figure 3. MJ 1-16 Claims

Period or Epoch Group/Formation Lithology Pleistocene Unconsolidated glacial and alluvial deposits 29 and Recent 28 Hot spring deposits, tuffa 27 Olivine basalt, flows, and tephra Tertiary and 26 Rhyolite and dacite flows, lava domes and pyro-Quaternary clastic rocks; minor basalt 25 Upper Tertiary Basalt flows and pyroclastic rocks; and Pleistocene minor rhyolite Cretaceous and Tertiary SLOKO GROUP 24 Rhyolite, trachyte, and dacite flows; pyroclastics Upper Cretaceous Lower Tertiary 23 Biotite andesite lava domes, flows, sills 22 Biotite leucogranite intrusions SUSTUT GROUP 21 Conglomerate, quartzose sandstone, arkose 20 Felsite, quartz-feldspar porphyry 19 Biotite-hornblende guartz monzonite Jurassic and/or 18 Hornblende diorite Cretaceous 17 Granodiorite, quartz diorite; minor diorite, leucogranite, and migmatite Jurassic Middle? and Upper 16 Chert-pebble conglomerate, grit, greywacke, BOWSER GROUP siltstone, and shale Middle 115 Basalt, basaltic andesite; mainly pillow lava Shale; minor siltstone, siliceous, calcareous Lower and 14 Middle and ferruginous siltstone Lower 13 Conglomerate, grit, gryewacke, basaltic and andesitic volcanic rocks; peperites 12 Syenite, orthoclase porphyry, monzonite, HICKMAN pyroxenite 11 Hornblende-quartz diorite, hornblende-pyroxene diorite, amphibole BATHOLITH 10 Hornblende granodiorite; minor hornblende quartz diorite Triassic Undifferentiated volcanic and sedimentary rocks; Upper includes units 5 to 8 8 Augite andesite flows, pyroclastic rocks and derived sediments; minor greywacke, siltstone, and conglomerate 7 Siltstone, siliceous siltstone, ribbon chert, calcareous and dolomitic siltstone, greywacke, volcaniclastic rocks and minor limestone Limestone, fetid limestone, shale 6 Greywacke, siltstone, shale; minor conglomerate, tuff and volcanic sandstone Middle 4 Shale, concretionary shale; minor calcareous shale and siltstone Permian Limestone, minor chert and tuff 3 Permian and Phyllite, argillaceous quartzite, quartz-sericite 2 and chlorite schist, greenstone, minor chert, Mississippian schistose tuff and limestone 1 Limestone, crinoidal limestone, ferruginous lime-Mississippian stone; tuff, chert, phyllite Amphibolite, amphibolite gneiss age unknown, probably А pre-Lower Jurassic В Ultramafic rocks; peridotite, dunite, serpentinite

TABLE 2 - TABLE OF FORMATIONS

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#### PROPERTY GEOLOGY

The geology of the property is illustrated on Map 1 (back pocket). This map is compiled from field observations, air photograph interpretation, and available federal government mapping. There are five lithologic subdivisions exposed on the MJ claims, ranging in age from Mississippian to Early Tertiary. Structurally, the area has been deformed by folding, faulting, and igneous intrusion to produce the current configuration.

The oldest rock units exposed are a sequence of Mississippian to Permian phyllite, quartzite, schist, greenstone, with minor chert and limestone (Unit 2). Within the property area, phyllite, quartzite, chert, and tuffaceous rocks belonging to this unit have been observed.

This sequence of rocks is overlain by a Permian succession (Unit 3) of limestone, minor chert, and tuff. The total thickness of this unit is estimated at between 300 and 600 metres (1,000'-2,000').

Unconformably overlying these Paleozoic units is a 3,000 m thick (10,000') succession of Upper Triassic volcanic and sedimentary rocks (Unit 9). The lower part of this unit consists of greywacke, siltstone, and shale, with minor conglomerate, tuff, and volcaniclastics. The upper sequence consists predominantly of andesitic volcanic flows and pyroclastics along with derived sediments consisting of minor greywacke, siltstone, and conglomerate.

All older sedimentary and volcanic rock units are intruded by a series of plutons (Unit 17) varying in composition from granodiorite, quartz diorite, diorite, and granite. The age of these intrusions is Jurassic but may include some Cretaceous plutonic bodies. A second series of quartz monzonite intrusions (Unit 19) is present in the southwest part of the MJ claims. These intrusions are considered to be of Upper Cretaceous to Lower Tertiary in age.

The elongate east-northeast distribution of these rock units evident from regional mapping (see Figure 3) was considered indicative of the orientation of structures within the area. Subsequent geological mapping completed this



summer confirmed this interpretation. Both folds and faults observed during this program were oriented in a predominant east-northeast direction as is shown on Map 1. Similarly, the distribution of intrusive bodies being elongate in an east-northeast direction is consistent with this structural pattern.

During the field program, numerous gossans were noted within the area. The locations of these gossans were plotted on the accompanying geological map (Map 1), and were prospected during the course of the field evaluation.

### EXPLORATION RESULTS

A helicopter-supported reconnaissance exploration program consisting of geological mapping, prospecting, and geochemical sampling was completed on the MJ claims. Areas of known mineralization were relocated and sampled. Adits were re-opened, geologically mapped, and systematically sampled. Prospecting was completed on a reconnaissance basis on the property. A stream sediment geochemical survey was carried out within the area.

### Adit Exploration

The initial phase of exploration consisted of attempting to re-locate and sample the Lucky Strike, Drapich, and Conover Mountain occurrences; the latter was not found.

The Lucky Strike occurrence consists of numerous parallel quartz veins ranging from 5 cm to 75 cm wide with minor sulphides hosted by argillite. Analysis of rock geochemical samples from these veins yielded values comparable to those reported previously by the Geological Survey of Canada. The G.S.C. reported a value of 0.3 g/tonne gold from a representative sample from this showing. The highest values reported from samples taken during the current program were 0.5 to 0.6 g/tonne gold. The vein systems encountered are locally closely spaced and wide enough to be of interest, and although only highly anomalous gold results have been obtained thus far, there is sufficient encouragement to justify some additional exploration in this area.

The Drapich showing was also relocated and sampled. Both adits completed in the 1930's were found, re-opened, and systematically sampled. The location of the Drapich showing is noted on Map 1. Surface and underground plan maps of the showing along with rock geochemical results are illustrated on Figures 4 to 6. Essentially, this showing consists of shear-controlled sulphide mineralization along the contact between granodiorite and recrystallized Permian limestone. Lenses and pods of massive sulphides including pyrite, pyrrhotite, chalcopyrite, sphalerite, and trace galena were located along these







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shears. Secondary malachite and azurite were locally abundant, particularly in underground workings. These adits were geologically mapped and chip samples were taken at one-metre intervals from the side walls.

The best gold result was obtained from the upper Adit 2, from one of the massive sulphide lenses previously described. Analysis of this sample yielded values of 1120 ppb Au, 45.8 ppm Ag, and 0.30% Cu. Numerous geochemically anomalous samples ranging from 145 to 685 ppb Au were obtained from both surface and adit samples. The results from this initial sampling are considered sufficiently encouraging to warrant more detailed exploration in the vicinity of this showing.

### Rock Geochemical Sampling

Reconnaissance prospecting and geochemical sampling were completed over most upland areas of the claims where rock exposures are relatively abundant. This procedure yielded the most significant results obtained during this exploration program. A boulder sampled near a ridge crest on the MJ 14 claim yielded a value of 0.33 oz/ton gold. This sample (WM-25) was a chloritized phyllite with 1% pyrite and chalcopyrite with minor secondary malachite. In addition to gold, this sample was enriched in silver (12 ppm) and copper (0.30%). Unfortunately, due to the brevity of the program and the normal delays in obtaining analytical results, the analyses of this sample were unavailable in time to evaluate the significance of this discovery.

Toward the west, on the MJ 15 claim, the "JR" showing was discovered. This sulphide-rich sheared andesite is mineralized over a 5 to 7 m width, strikes at 050° A, and is exposed for a distance of 15 m. One of the initial grab samples (JR-14) returned a value of 0.059 oz/ton gold, 1.02 oz/ton silver, and 7.88% copper. Systematic sampling across this zone, as illustrated in Figure 7, resulted in the delineation of high copper and silver values but only geochemically anomalous gold values. Again, these initial results are deemed significant enough to justify additional detailed exploration evaluation in this area.



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ASSAY <u>VALUES</u>	1	I	I	I	I	I	ł	1	I	1	1
Au(ppb)	140	135	85	505	30	30	25	10	50	45	
Ag (ppm)	21.9	14	16.6	84.9	2.2	1.3	1.8	0.3	30	40	15
Cu ( %)	2.65	1.85	0.98	3.10	0.37	0.27	0.38	0.12	0.29	1.50	0.2
Pb (ppm)	18	24	31	15	16	17	15	12	15	17	10
Zn (ppm)	141	255	262	210	172	119	134	113	134	138	69
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South of the "JR" showing on the MJ 16 claim, two boulder samples (WM-16 and WM-17) were collected from a south-facing slope which yielded significant gold, silver, and base metal results. These samples were from two sulphiderich quartz boulders. The best sample result was for WM-16 which returned values of 0.111 oz/ton Au, 2.10 oz/ton Ag, 5% Pb, and 3.39% Zn. From the descriptions of the boulders, it can be inferred that this vein or veins are at least 15 cm wide. Further detailed prospecting, trenching, and geochemical sampling will be required to determine the location and significance of this mineralization.

In the southern part of the MJ 16 claim, three additional boulder samples were acquired which returned significant gold results. Two of these samples (WM-9 and DM12), which assayed 0.064 and 0.122 oz/ton Au respectively, were collected from a glacial moraine. Sample WM-9 was a large 30 x 50 cm quartz breccia boulder with pyrite, chalcopyrite, pyrrhotite, arsenopyrite, sphalerite and galena. In addition to gold, significant values for silver, copper, lead, and zinc were reported. Sample DM-12 was a quartz boulder with 10.1 oz/ton silver, along with significant copper and zinc values in addition to gold. The source of these boulders is towards the southwest, i.e., up-ice direction of the glacier. The extreme ruggedness of the mountains in that direction would make locating the source difficult.

The third sample (DM-16) was a grey quartzite boulder with 3% disseminated pyrrhotite grading 0.144 oz/ton Au. From the location of this boulder, as shown on Map 1, this boulder is either glacial in origin or talus. In either case, the source is likely off the current property. Future exploration should be directed toward locating the source of this mineralized boulder. In the interim, an additional claim should be staked south of the MJ 16 claim.

A number of geochemically anomalous rock samples were collected from the northern part of the MJ 3 claim. These samples consist of mafic volcanics with from 2% to 5% sulphides consisting of pyrite and chalcopyrite. The best value obtained in this area was from sample WM-39 which assayed 0.072 oz/ton Au, 1.93 oz/ton Ag, and 1.75% Cu. Other bedrock samples acquired nearby yielded analytical values of from 270 to 580 ppb Au along with significant silver and

copper values. Given these initial results, further detailed mapping, prospecting, trenching, and sampling are required.

#### Stream Sediment Sampling

Stream sediment geochemical sampling and prospecting were carried out on the property as part of the evaluation of the lowland areas. Stream sediment samples were collected at 100 m intervals on selected streams. These sediments were then analyzed for gold and silver, and the results have been plotted on Map 1. Rather than complete a statistical analysis of the geochemical results obtained during this survey, the designation of anomalous values is based on the regional G.S.C. survey results in Open File 1646. On this basis, gold values in excess of 35 ppb Au are deemed anomalous based on a sample population of 1217. This value (35 ppb) represents the 90th percentile level determined during the regional survey and exceeds the mean plus one standard deviation. Similarly, silver concentrations above 0.5 ppm are taken as anomalous, which in this case, represented the 95th percentile level, or the mean plus two standard deviations.

Based on these criteria, a number of areas have been delineated as having anomalous precious metals values. The strongest anomalies were detected from two streams draining the northern part of the MJ 3 claim. A total of ten anomalous gold values (ranging from 35 to 140 ppb Au) along with two anomalous silver values (0.5 ppm) were detected in this area. As previously noted, a series of bedrock samples were collected upslope from these stream sediment anomalies; the bedrock samples returned gold values ranging from 270 to 2480 ppb Au and up to 33.3 ppm Ag. This stream sediment geochemical data thus confirms and re-inforces the significance of this area for future exploration.

Two anomalous stream sediment samples were identified on the adjacent MJ 1 claim. The stream drains the south slope of the same ridge which yielded anomalous values on the MJ 3 claim. This may be indicative of more widespread gold mineralization along the ridge.

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A series of six stream sediment anomalies, ranging from 35 to 80 ppb Au, were delineated along the headwaters of Misterjay Creek on the MJ 1 and MJ 16 claims. This is the same area where the regional geochemical survey detected a 37 ppb gold value. Several significant gold values, up to 0.122 oz/ton Au, have been determined from boulder samples in the glacial moraine in the headwaters of Misterjay Creek. The stream geochemical anomalies may be related to such mineralized boulders in the end moraine of this glacier. The source of these boulders is probably southwest of the MJ 16 claim.

The tributary to Misterjay Creek, draining the northern part of the MJ 16 claim and part of the MJ 1 claim, was sampled and returned three scattered anomalous values of 40 to 60 ppb Au. Prospecting in the headwaters of this stream has resulted in the discovery of two mineralized boulders grading 0.057 and 0.111 oz/ton Au. One of the anomalous stream sediment samples was in fact taken immediately downstream from the area these mineralized boulders were located. Again, the coincidence of these anomalous stream sediment anomalies on initial prospecting success identifies this area as a target for future exploration.

Toward the north, on the MJ 15 claim, anomalous gold values of 40 and 65 ppb and a silver value of 0.6 ppm were delineated immediately downstream of the "JR" showing in stream sediments. This coincidence again demonstrates the effectiveness of both prospecting and stream sediment sampling in locating gold mineralization on the property.

Two anomalous gold-in-stream-sediment values were detected in the northern part of the MJ 2 claim. This stream drains toward the south and becomes a tributary of Missusjay Creek. Prospecting along the east-west trending ridge at the headwaters of this stream has resulted in the location of two bedrock samples (DM-54 and WM-47) which returned anomalous gold values of 100 and 865 ppb. Based on the coincidence of these anomalies, further exploration should be completed in this area.

Three anomalous gold values were detected in Missusjay Creek on the MJ 2 and MJ 4 claims. Two of these samples were taken downstream of the previously



mentioned tributary; however, the third was taken just above this tributary. Thus, there exists the possibility that another source may be responsible for the third sample. Further exploration in this area is therefore indicated.

The final series of anomalous stream sediment results were obtained from Three anomalous samples ranging from 35 to 55 ppb Au were the MJ 7 claim. identified. Since only limited prospecting has been carried out in this area to date, the presence of these anomalies indicates further exploration is required.

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### SUMMARY AND RECOMMENDATIONS

The MJ claims were staked in 1988 in order to cover several polymetallic vein systems with known gold values. The available regional geological mapping indicated the property has a similar geological setting and possibly equivalent units to the Iskut River gold camp. Historically, most exploration carried out in this area was directed toward base metals targets with little attention to evaluating the precious metals potential. Thus, previous assessment reports mention only "occasional specks of native gold" or trace values of gold and silver.

Based on these considerations, a reconnaissance exploration program was undertaken directed toward evaluating the gold potential of the MJ claims. This program consisted of geological mapping, prospecting, and geochemical sampling. Reconnaissance geological mapping of the property was completed along with detailed mapping of specific showings. Prospecting was completed on the better exposed parts of the property. Geochemical sampling consisted of analyzing rock samples collected by prospectors, continuous chip sampling of showings, and systematic silt sampling of streams on the property.

The Lucky Strike and Drapich showings were re-located and sampled. The highest gold value obtained from the Lucky Strike showing was 616 ppb. The trenches and adits comprising the Drapich showing were re-located and sampled. The highest value obtained from these samples was 1120 ppb Au over a one-metre interval.

Prospecting and rock geochemical sampling of the claims resulted in the discovery of a number of new showings and the re-location of the Lucky Strike and Drapich showings. The most significant result was obtained on the MJ 14 claims where a pyritic phyllite boulder returned a value of 0.33 oz/ton Au and 0.3% Cu. Samples taken from the "JR" showing on the MJ 15 claim returned values of 0.059 oz/ton Au and up to 7.88% Cu from a mineralized shear zone.

On the MJ 16 claim, two samples of quartz vein material assayed 0.059 and 0.111 oz/ton Au respectively, along with high lead and zinc values. Several





mineralized boulders were collected from a glacial moraine located on the southern part of the MJ 16 claim. These samples (WM-9 and DM-12) assayed 0.064 and 0.122 oz/ton Au respectively. Another boulder sample (DM-16) was located in the southeastern part of the MJ 16 claim and assayed 0.144 oz/ton Au.

On the MJ 3 claim, a bedrock sample (WM-39) was taken which returned an assay of 0.072 oz/ton Au.

In addition to these high gold values, numerous geochemically anomalous rock samples returning values between 100 and 900 ppb Au were collected during the program.

Stream sediment sampling was completed during this program. These samples were analyzed and used to define areas of anomalous gold and silver values. In almost every instance, the anomalies thus identified corresponded to areas where significant gold values had been obtained by prospecting.

Based on the encouraging gold results obtained to date, additional exploration of these claims is warranted. The emphasis of this exploration should be on an evaluation of the occurrences delineated during the program. This evaluation should include detailed prospecting, geological mapping, trenching, and rock geochemical sampling. In addition, follow-up prospecting is required on several stream sediment anomalies.

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## CERTIFICATE

I, James Wilson Davis, of 116 MacEwan Drive N.W. in the City of Calgary in the Province of Alberta, do hereby certify that:

- 1. I am a Consulting Geologist with the firm of Taiga Consultants Ltd. with offices at Suite 400, 534 17th Avenue S.W., Calgary, Alberta.
- 2. I am a graduate of St.Louis University, B.Sc. Geology (1967) and M.Sc. Geology (1969), and I have practised my profession continuously since graduation.
- 3. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta; and I am a Fellow of the Geological Association of Canada.
- 4. I am the author of the report entitled "Geological and Geochemical Report on the MJ 1 to 16 claims, Stikine River Area, Liard Mining Division, British Columbia", dated October 31, 1988. I personally directed the exploration program carried out on the MJ 1 to 16 claims during August and September 1988.
- 5. I do not own or expect to receive any interest (direct, indirect, or contingent) in the property described herein nor in the securities of **INTERNATIONAL PHOENIX ENERGY CORP.** in respect of services rendered in the preparation of this report.

DATED at Calgary, Alberta, this 31st day of October, A.D. 1988.

Respectfully submitted,

PERN TAIGA	AIT TO PRACTICE CONSULTANTS LTD.
Signature	Nov: 3, 1988
Date	amale Ram
PERMIT	NUMBER: P 2399
The Associati Geologists a	on of Professional Engineers, and Geochysicists of Alberta



### **BIBLIOGRAPHY**

British Columbia Ministry of Energy Mines & Petroleum Resources: Mineral Inventory: 104G

- 009 Jackson/Bik/Lady Jane
- 010 August
- 011 Drapich
- 012 Stikine/Devil's Elbow/Peach Apricot/Tonapah
- 013 Apex
- 019 Mountain Goat
- 020 Stikine Copper/Lucky Strike
- 025 Lady Jane/Bik (Conover Creek)/Jackson
- 064 Conover Mountain

Davis, J.W. (Aug.8,1988): Geological Evaluation of the MJ 1 to 16 Claims, Stikine River Area, Liard Mining Division, British Columbia; <u>for</u> International Phoenix Energy Corp. (private company report)

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- Aeromagnetic Map 7788G scale 1:250,000
- Aeromagnetic Map 9249G scale 1: 50,000
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# A P P E N D I X I

Summary of Personnel Summary of Expenditures

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# SUMMARY OF PERSONNEL

<u>Name</u>	<u>Position</u>	<u>Dates</u>	<u>Man Days</u>
J. W. Davis, P.Geol. Calgary, Alberta	Project Supervisor	Aug.21-Sep.06	16.0
M. D. Jamieson Calgary, Alberta	Assistant Geologist	Aug.21-Aug.27	6.0
C. L. Swanson Calgary, Alberta	Assistant Geologist	Aug.21-Sep.06	16.0
Don McLeod LaRonge, Sask.	Prospector	Aug.21-Sep.07	16.5
James Roberts Stanley Mission, Sask.	Prospector	Aug.21-Sep.07	16.5
Brian Fyke Calgary, Alberta	Prospector	Aug.21-Aug.27	6.0
Wally McLeod Stanley Mission, Sask.	Prospector	Aug.21-Sep.07	16.5
Irvine Roberts Stanley Mission, Sask.	Prospector	Aug.21-Sep.07	16.5
Dennis McLeod Stanley Mission, Sask.	Labourer	Aug.21-Sep.07	16.5
Vanessa Willett Calgary Alberta	Labourer	Aug.21-Sep.06	16.0
cargary, Alberta		TOTAL MAN DAYS	5 142.5

SUMMARY OF EXPENDITURES

Pre-Field Logistics, assembly of personnel and gear, data compilation 2,770.00 Field Personnel Project Geologist 16.0 man days @ \$450/day 7,200.00 Assistant Geologists 22.0 man days @ \$275/day 6,050.00 Prospectors 72.0 man days @ \$250/day 18,000.00 Labourers 32.5 man days @ \$195/day 6,337.50 37,587.50 Camp & Accommodation 130 man days @ \$50/day 6,500.00 Travel Expenses (mob & demob) 5,958.64 Equipment Rental Prospecting Equipment 15 days @ \$ 5/day 75.00 Generator 15 days @ \$15/day 225.00 Chainsaw 15 days @ \$ 6/day 90.00 Water Pump 15 days @ \$ 6/day 90.00 FM Radio-Telephone 5 days @ \$10/day 50.00 HF Radio-Telephone 15 days @ \$ 9/day 135.00 665.00 Aircraft Support Helicopter 19,660.94 Fixed-Wing 4,753.25 24,414.19 Fuel 6,762.31 Geochemical Analyses 6,172.00 Miscellaneous Disposable Field Supplies and Lumber 2,591.17 Communications 450.10 Maps and Reproductions 204.64 Expediting and Freight 9,095.04 5,849.13 Post-Field Data compilation, report writing, drafting, secretarial 8,713.51 Administration 5,255.04 TOTAL EXPENDITURES \$113,893.23

# APPENDIX II

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Rock Sample Descriptions

Rock Sample Descriptions

		Au ppb	Ag ppm	
A1	0.0- 1.Om	25	<0.10	white limestone, coarsely crystalline, malachite and azurite staining (0,14% (u)
A1	1.0- 2.0m	15	0.20	sheared limestone, malachite and
A1	2.0- 3.0m	25	<0.10	massive white limestone
AI	3.0- 4.0m	5	<0.10	as above
Al	4.0- 5.0m	15	<0.10	as above
Al	5.0- 6.0m	5	<0.10	as above
AI	6.0- 7.0m	245	0.20	dark grey argillite, weak limonite staining
A1	7.0- 8.Om	210	2.80	diorite, highly propylitically altered, with sheared chlorite and limestone; contact between limestone and diorite
A1	8.0- 9.0m	80	0.20	dark grev argillite. limonite staining
A1	9.0-10.0m	240	1.70	as above, secondary azurite and malachite (0.24% Cu)
A1	10.0-11.Om	15	<0.10	argillite, dark grev, intenselv altered
A1	11.0-12.0m	60	1.10	as above (0.13% Cu)
A1	12.0-13.0m	35	<0.10	diorite, intensely propylitically altered, slightly porphyritic
A1	13.0-14.Om	10	<0.10	as above
A1	14.0-15.0m	15	<0.10	as above
A1	15.0-16.Om	15	<0.10	as above, calcite veining, 5 mm wide, 5 to 10 cm spaced
A1	16.0-17.Om	10	<0.10	as above, intense propylitic alteration
A1	17.0-18.Om	15	<0.10	as above, grading into calcite veined dark green argillite
A1	18.0-19.0m	55	0.20	shear zone in argillically altered diorite
A1	19.0-20.0m	25	<0.10	diorite, intensely propylitically altered
A1	20.0-21.Om	15	0.10	diorite, mod. propylitically altered
A1	21.0-22.0m	5	0.10	as above
A1	22.0-23.0m	15	<0.10	diorite, weakly propylitically altered
A2	1.5- 2.5m	1120	45.80	shear zone, limonite stained, 4-5 cm wide quartz-carbonate(-siderite) vein material, 2% finely diss Py and Cpy (0.033 oz/T Au, 1.34 oz/T Ag. 0.30% Cu)
A2	2.5- 3.5m	625	30.70	shear zone, extensively limonite stained, at contact between limestone and diorite, argillically altered and bleached diorite clasts, 6-8 cm massive sulphide lenses (0.90 oz/T Ag. 0.14% Cu)
A2	3.5- 4.5m	280	6.20	diorite, extremely argillically altered, limonite staining (0.24% Cu)
A2	4.5- 5.5m	305	4.30	diorite, argillically altered, limonite stained (0.37% Cu)
A2	5.5- 6.5m	685	34.00	as above, secondary malachite/azurite

Page 1

Rock Sample Descriptions

		Au ppb	Ag ppm	
	•			(0.99 oz/T Ag, 0.61% Cu, 0.10% Zn)
BF-01		10	0.34	outcrop, quartz-calcite-tremolite vein,
BF-02		12	0.60	as above, 1% diss Py, in dark grey
BF-03		18	0.47	outcrop, medium grey phyllite, limonite
BF-04		4	0.09	outcrop, massive white crystalline
BF-05		4	0.43	as above, outcrop, white crystalline calcite vein, limonite stained, in pale
BF-06		50	0.21	outcrop, calcite quartz, limonite stained, 1% Py as blebs and diss
CS-05		215	4.10	massive sulphide boulder, 90% Py in
CS-06		495	6.30	massive sulphide boulder, 90% Py,
JR Sho	wing: CS-07	to CS.	.17	
CS-07	0.0-0.5m	140	21.90	0.0-0.1m calcite vein, coarsely crystalline, limonite stained; 0.1-0.5m andesite, propylitically altered, 33% sulphides: 15% Py, 15% Cpy, 3% Mag (2,65% (u)
CS-08	0.5-1.Om	135	14.00	as in CS-07, grading to relatively unmineralized (1% Py, 1% Cpy) andesite, sulphides as veinlets (1 85% Cu)
CS-09	1.0-1.5m	85	16.60	unmineralized to 1.2m then brecciated shear zone with 20 cm intense malachite/ azurite/limonite staining, 5% Cpy, 1% Py as blebs in quartz-calcite matrix, grades to massive sulphides at 1.5m (0.98% Cu)
CS-10	1.5-2.Om	505	84.90	massive sulphides to 1.9m grading to 5% Cpy, 1% Py as stringers in porphyritic andesite at 2 0m (2.48 oz/T Ag 3.10% (u)
CS-11	2.0-2.5m	30	2.20	3-5% Cpy, $3-5%$ Py as stringers and veinlets in andesite (0.37% Cu)
CS-12	2.5-3.Om	30	1.30	as above, 1-3% Cpy, 1% Py as diss
CS-13	3.0-3.5m	25	1.80	andesite porphyry, propylitically altered, 1-3% diss Cpy and Py and occ blebs of massive sulphides (up to 3 cm x 7 cm) (0.38% Cu)
CS-14	3.5-4.Om	10	0.30	andesite porphyry, intensely propylitic- ally altered, 1-3% diss Py (0.12% Cu)
CS-15	4.0-4.5m	50	3.00	as above (0.29% Cu)
CS-16	4.5-5.Om	45	2.00	as above to 4.75m; 4.75-5.0m shear zone with minor malachite and azurite

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	Au ppb	Ag ppm	
	16	0.20	staining (1.50% Cu)
C3-17 5.0-5.5m	10	0.20	continuation of above shear zone
CS-18	<5	<0.10	white quartz vein in outcrop, up to 10 cm wide
CS-27	<5	<0.10	outcrop, 4 m wide massive white calcite unit, sheared
CS-28	270	12.50	quartz-calcite boulder, extensive limonite staining, 1-3% diss Py, trace Gn, trace Specularite (1.33% Pb, 3.60% Zn)
CS-29	50	0.50	outcrop, porphyritic volcanic, intensely propylitically altered, 10% finely diss Py
CS-30	10	0.20	outcrop, volcaniclastic, grey, silicified, 4 cm white quartz vein, trace Py and Mag
DM-01	16	0.25	outcrop of 30 cm wide white calcite vein, sucrosic in med.grey limestone, 1-3% diss Pv
DM-02	16	0.27	outcrop, blocky medium grey limestone, 1-3% diss Py
DM-03	10	0.18	outcrop, as above, 5-10% biotite clasts
DM-04	672	18.60	boulder, massive Po/Py, unidentified black earthy massive mineral (possibly manganese sulphide, or Aspy)
DM-05	105	0.40	pink quartzite boulder, trace Py
DM-06	15	0.30	v.f.g. grey quartzite boulder, trace Py
	50 120	0.20	as above
DM-08	75	0.10	outcrop, as above trace Asny
DM-10	50	<0.10	outcrop, as above
DM-11	160	63.00	pinkish grey quartzitic argillite boulder, 1-2% Py, limonite staining; 0.58% Cu, 0.87% Pb, 1.95% Zn
DM-12	4200	347.00	boulder, quartz vein with 3% Cpy, 1% Sph, 3% Po, trace bornite (0.122 oz/T Au, 10.1 oz/T Aq, 0.15% Cu, 3.94% Pb, 3.25% Zn)
DM-13	60	2.70	boulder, quartz breccia, grey argillite fragments (mineralized), 10% Sph, 5% Gn
DM-14	545	21.20	boulder, calc-silicate, 4 mm actinolite crystals, 1% Po; 1.3% Cu
DM-15	45	0.90	quartz breccia boulder, of grey argillite clasts and lenses of Cpy/calcite with secondary malachite and limonite staining
DM-16	4940	3.00	grey quartzite boulder, f.g., 3% finely diss Po (0.144 oz/T Au, 0.31% Cu)
DM-17	1070	1.80	calc-silicate boulder, 1-3% Cpy in quartz lenses, secondary malachite and limonite staining
DM-18	535	13.50	brecciated quartz vein in outcrop; 1% diss Cpy/Gn, secondary malachite (0.11% Cu)
DM-19	15	<0.10	quartz vein in outcrop, trace Gal, Py, Sph

	Au ppb	Ag ppm	
DM-20	480	138.00	outcrop of white quartz vein, vuggy, trace Cpy, Py, Gn (4.03 oz/T Ag, 1.71% Cu,
DM-21	55	0.40	dark green chert boulder, extensively propylitically altered and silicified,
DM-22	975	36.00	outcrop, green-grey argillite, trace Cpy, 1-2% Sph and Gn in calcite veining (1 55% Ph 1 46% 7n)
DM-23	35	<0.10	outcrop of dark green basaltic phyllite, extensive limonite staining (5x3 m area), 1-3% diss Pv. trace Po
DM-24	195	0.60	outcrop, 40-50% massive sulphides (40% Py, 10% Mag) in a quartz matrix adjacent to 4 mm calcite vein
DM-25	5	<0.10	outcrop of massive sulphides in 7 mm vein, 30% Py blebs, 10% Mag, minor Po in chlor- itized (propylitically altered) volcanic
DM-26	85	1.60	outcrop, pyritized andesite, 1-3% Py, trace Po and bornite
DM-27	40	3.30	outcrop, 3 cm quartz-carbonate (calcite- siderite) vein, in silicified dark-green argillite 1% Pv 1-3% (pv (0.80% (u))
DM-28	20	0.20	outcrop, calcite breccia, dark green chloritized mafic fragments, 3-5% Cpy (0.17% Cu)
DM-29	15	0.10	outcron, as above, 1% Pv
DM-30	15	<0.10	chalcedonic quartz boulder, medium grey, slightly brecciated, 1-3% diss Py
DM-31	45	0.90	felsenmeer, dark green mafic tuff, chloritized. 1-3% diss Py (0.66% Cu)
DM-32	20	<0.10	felsenmeer, rhyolite porphyry, intensely silicified. 1-3% diss Py
DM-33	185	14.30	felsenmeer, quartz-epidote-galena veinlets up to 5 mm wide in a mafic volcanic, slightly brecciated (1.68% Pb)
DM-34	20	0.10	3 cm wide white calcite vein in mafic volcanic boulder, 1-3% Cpy, trace Py, bornite, galena
DM-36	15	4.50	outcrop, quartz breccia vein up to 7 cm wide, 1- 3% Cpy, fragments of chloritized mafic volcanics (0.38% Cu)
DM-37	15	3.00	outcrop, as above (0.18% Cu)
DM-38	50	0.60	outcrop, weakly brecciated light grey chalcedonic quartz, 5% f.g. Py along fractures in a 1.5 m x 25 m zone
DM-39	45	0.20	outcrop, grey-beige alteration clay, fragments of chalcedonic quartz
DM-40	25	0.20	chip sample across DM-39, limonite stain
DM-41	45	0.20	outcrop, as above
DM-42	15	<0.10	outcrop, light grey quartz, finely

	Au ppb	Ag ppm	
			crystalline, sucrosic, weakly brecciated.
DM-43	10	0.60	1-3% f.g. Py as fracture filling outcrop, mafic volcanic, intensely pro- pylitically altered, limonite stained,
DM-44	60	<0.10	outcrop, mafic volcanic, intensely propylitically altered, limonite stained,
DM-45	25	0.30	outcrop, as above, bleached
DM-46	20	0.10	outcrop, cherty tuff, silicified, bleached, 10-15% Py
DM-47	75	0.10	outcrop, as above
DM-48	25	<0.10	outcrop, volcanic, limonite stained, propylitically altered, 7-10% Py
DM-49	20	<0.10	outcrop, 10% Py in limonite stained medium grey chert
DM-50	20	<0.10	outcrop, volcanic porphyry, propylitically altered, 5-10% Py
DM-51	105	0.60	outcrop, phyric mafic volcanic, rusty weathering
DM-52	15	0.30	outcrop, as above
DM-53	55	<0.10	outcrop, dark grey argillite, 2-3% f.g. Py along fractures (0.11% Cu)
DM-54	100	1.20	outcrop, mafic volcanic, limonite stained, 1-3% diss Py, trace Po
DM-55	15	0.10	as above
DRM-01	428	7.80	<pre>massive sulphide boulder, Py/Po, grey to black f.g. metallic mineral (Aspy?)</pre>
DRM-29	20	0.70	talus, quartz vein, white, chloritized argillite fragments, limonite staining, trace Py
DRM-30	230	0.90	talus, as above
DRM-31	10	0.20	talus, as above
DRM-38	5	0.20	talus, 6 cm wide quartz vein, trace Py, in greyish green silicified argillite
DRM-39	20	0.20	talus, as above
IR-01	120	0.10	quartzite boulder, pink, 2% diss Py
IR-31	60	<0.10	medium grey argillite boulder, siliceous, limonite staining, trace Py, trace Po
IR-35	5	0.60	argillite boulder, silicified, biotite- rich, veinlets of epidote and 5% Cpy
IR-38	70	0.20	grey argillite boulder, silicified, limonite staining, 3% Po, trace Cpy
IR-42	20	<0.10	medium grey tuff boulder, silicified, 1% Pv. trace Po. limonite stain
IR-92	5	0.20	mafic volcanic boulder (as JR-92), sili- cified, limonite stained, quartz veining up to 1 cm wide, trace Pv
IR-93	15	0.20	volcanic boulder (as JR-93), medium grey,

17 - F

	Au ppb	Ag ppm	
			silicified, porphyritic, 1–3% diss Py, limonite staining
IR-94	30	0.40	as above (as JR-94)
IR-95	55	0.90	andesite boulder (as JR-95), porphyritic, limonite stained, 1-2% diss Py (0.10% Cu)
10 A1	Å	0.21	9 om wide white guents wein wuggy limon
JR-01	4	0.31	ite staining, in dk.grey argillite outcrop
	Z	0.20	as above
JK-03	4	0.23	vein limonite stained trace Pv
JR-04	154	0.39	outcrop, medium grey 16 cm wide quartz vein, limonite staining, vuggy, trace Py
JR-05	96	0.21	as JR-03
JR-06	42	0.23	as JR-05; 1-3% Py
JR-10	235	32.00	outcrop, quartz breccia, limonite and malachite stained, dark green andesite fragments, 5% Cpy, trace Po (0.93 oz/T Ag, 2.36% Cu)
JR-11	275	16.00	as above, euhedral quartz crystals up to 5 cm long as fracture filling (1.4% Cu)
JR-12	245	21.20	as JR-10 (2.2% Cu)
JR-13	200	27.20	as above, trace bornite (4.33% Cu)
JR-14	2040	35.00	as above, 10% Cpy, 3% Po (0.059 oz/T Au, 1.02 oz/T Ag, 7.88% Cu)
JR-16	25	0.20	qtz breccia boulder, trace Py (0.16% Cu)
JR-17	5	<0.10	outcrop, as above
JR-18	55	<0.10	boulder, as above
JR-19	145	<0.10	quartz-calcite breccia boulder, vuggy, trace Py
JR-26	345	2.30	quartz vein boulder, vuggy, limonite staining, euhedral quartz crystals, 5–10% diss Pv (0,11% Cu)
JR-28	29	<0.10	outcrop, silicified grey tuff, minor Py, limonite staining
JR-62	10	0.10	outcrop, regularly spaced (1-2 cm) calcite veinlets in dark grey siltstone, 1-3% diss Pv
JR-73	60	4.60	andesite porphyry boulder, silicified, secondary malachite and azurite, 1% Cpy and Py (0.64% Cu)
JR-74	25	0.70	outcrop, as above, only 1-2% Py
JR-75	15	<0.10	boulder, bleached and silicified volcanic, trace Py
JR-76	205	1.90	outcrop, andesite porphyry, medium greyish green, rusty weather, 2-3% Py (0.12% Cu)
JR-77	35	0.60	outcrop, rhyolite porphyry, 3% Py
JR-78	60	0.50	outcrop, mafic tuff, 30% diss Py (0.17% Cu)
JR-90	20	<0.10	lithic tuff boulder, 1% diss Py, limonite and hematite stain (0.13% Cu)

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	Au ppb	Ag ppm	
MJ-88-1	12	0.23	outcrop, massive dark grey limestone, limonite stained, 3-5% Py (blebs and diss)
T-88-1 T-88-2	70 10	1.20 <0.10	outcrop, massive sulphides outcrop, massive white crystalline lime- stone, secondary malachite stain
T-88-3 T-88-4	145 480	0.10 0.80	outcrop, dark grey andesitic dyke as above; silicified, trace Py, Cpy, Sph (0.11% Cu)
WM-01	8	0.44	outcrop, 5 cm wide zone, limestone, finely laminated, dark grey, limonite stained, 1% diss Pv
WM-02	10	0.52	outcrop, calcite vein, massive, white, coarsely crystalline. limonite stained
WM-03 WM-04	4 616	0.30 0.59	outcrop, as WM-01 outcrop, 1 m wide white calcite-quartz vein, coarsely crystalline, limonite stained, 3-5% Pv as parallel veinlets
WM-05	538	0.71	outcrop, as above
WM-06	42	0.24	outcrop, as above, 1x1 m pod
WM-07	65	3.90	50x80 cm quartz boulder, 5% Py, 7% Cpy, 5% Po, 3% Gn, 2% bornite, and 3% Sph as blebs and pods in the quartz (1.63 oz/T Ag, 0.74% Cu, 0.22% Pb, 0.76% Zn) 20x40 cm talus; white to grey actinolite
			marble, 2–3% Po, trace Cpy, limonite staining
WM-09	2210	71.00	30x50 cm talus, quartz breccia, pinkish grey argillite clasts with diss sulphides, 3% Sph, trace Py, trace Gn, 1% Aspy (0.064 oz/T Au, 2.07 oz/T Ag, 0.95% Pb, 0.17% 7n)
WM-10	385	4.50	20x20 cm boulder, as above, more finely brecciated, no Gn
WM-11	35	1.10	30x30 cm talus, as WM-08 (0.13% Cu)
WM-12	165	45.00	l0x20 cm quartz/calc-silicate boulder, 5% Cpy, trace Po (1.31 oz/T Ag, 1.54% Cu, 0.22% Zn)
WM-13	90	17.10	48x40 cm quartz boulder, 3% Cpy, 3% Sph, 3% Po (0.24% Cu, 0.69% Zn)
WM-14	55	14.20	white quartz boulder, rusty weathering, 5% Sph, 2% Cpy (0.18% Cu, 0.43% Zn)
WM-15	60	0.80	outcrop, 50 cm wide quartz vein, limonite staining, trace Py, Sph, Gn
WM-16	3820	72.00	20x15 cm white quartz boulder, vuggy, limonite staining, 5% Gn, 3% Sph, trace Cpy (0.111 oz/T Au, 2.10 oz/T Ag, 5.00% Pb, 3.39% Zn)
WM-17	1950	33.00	15x15cm white quartz boulder, sucrosic,

	Au ppb	Ag ppm	
			limonite and plumbojarosite staining, 2% Gn, 1% Sph, trace Py (0.057 oz/T Au, 0.96 oz/T Ag, 2.43% Pb, 4.97% 7n)
WM-18	95	0.60	outcrop 5 m wide medium grey diorite, pro- pylitically altered, equigranular, 1% diss Pv. limonite staining
WM-19	60	0.60	outcrop, as above
WM-20	55	0.70	outcrop, 4 m wide andesite porphyry, propylitically altered, silicified, 1% diss Py
WM-21	60	18.30	outcrop, 50 cm wide chloritized mafic volcanic, dark limonite staining, mala- chite, 3% Cpy, Mag, trace tetrahedrite (2.18% Cu)
WM-22	95	10.70	outcrop, 1 m wide zone of quartz stringers in an intensely chloritized mafic volcanic, 3% Cpy, malachite and
WM-23	110	8.20	25x20 cm boulder, mafic siltstone or volcanic, sheared, chloritized, silici- fied 1-3% diss Py (0.53% Cu)
WM-24	40	24.80	20x20 cm quartz boulder, vuggy, rusty weathering, 1-2% Gn, trace Py (0.82% Pb, 1 23% 7n)
WM-25	11300	12.00	30x10 cm phyllite boulder, dark green to black, chloritized, 1% Py/Cpy, secondary malachite (0.330 oz/T Au. 0.30% Cu)
WM-26	85	1.00	outcrop, light grey alteration clay, chalcedonic quartz fragments
WM-27	65	0.10	outcrop, light grey chalcedonic quartz, sheared, 1-2% finely diss Py
WM-28	30	<0.10	outcrop, grey to pink quartz, finely crystalline (sucrosic), weakly brecciated, 1% diss Py
WM-29	15	<0.10	outcrop, grey chalcedonic quartz, finely sheared, limonite staining, 1% finely diss Pv
WM-30	20	<0.10	outcrop, amethystine quartz breccia, limonite staining
WM-31	15	0.20	medium grey quartz boulder, rusty weathering, 1- 3% finely diss Py, minor hematite staining
WM-32	35	0.30	outcrop, as above, limonite and plumbo- iarosite staining
WM-33	180	18.30	outcrop, mafic volcanic, slightly brecciated, quartz veinlets, 5% Cpy, limonite stain, in a 1x0.3m pod (2.48% Cu)
WM-34	765	30.00	outcrop, as above, 1x.2m pod (4.17% Cu)
WM-35	60	0.70	outcrop, phyric andesite porphyry, 1-2% Py
WM-36	575	0.30	outcrop, volcanic tuff, bleached, altered, 4-5% diss Py

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	Au ppb	Ag ppm	
WM-37	150	<0.10	outcrop, greyish green andesite porphyry, propylitically altered, 1-2% finely diss Pv
WM-38	290	26.90	outcrop, mafic volcanic, propylitically altered, 1-2% Cpy, 3% Py, secondary malachite and azurite (1.90% Cu)
WM-39	2480	33.30	outcrop, as above, with chrysocolla and malachite (0.072 oz/T Au, 1.93 oz/T Ag, 1.75% Cu)
WM-40	580	20.40	outcrop, as above (1.10% Cu)
WM-41	270	9.90	outcrop, as above (0.66% Cu)
WM-42	25	0.10	outcrop, lithic tuff, silicified, trace Py
WM-43	300	9.00	outcrop, andesite porphyry, propylitically altered, siliceous, 1-2% Cpy, 1-3% Py, secondary malachite and limonite staining (1.50% Cu)
WM-44	380	11.20	outcrop, as above (1.20% Cu)
WM-45	30	<0.10	outcrop, andesite porphyry, weakly propylitically altered, 1-2% Py, occ 1-2 mm quartz veinlets
WM-46	35	0.20	outcrop, as above
WM-47	865	5.50	outcrop, mafic volcanic, 1-3% diss Py over 40 cm wide zone, limonite staining

MJ 1 to 16

## APPENDIX I I I

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# Certificates of Analyses

	Job#: 88	-375					
	Project:	BC-88-7					
	Sample	Au	Ag				
	Number	рръ	ppm _	·	. ·	-	•
J-8 JR88-	-1	4	0.31 /				
	2	2	0.20				
	3	4	0.23				
	4	154	0.394				
	5	96	0.21/				
	б	42	0.23/				
WM88-	-2	10	0.52-				
	3	4	0.30/				
MJ10 DM88	1	16	0.25/				
NU 10 DHOO	2	16	0.27				
	з	10	0.18/	~7			
	4	672	18.6	· !			
J 12 DMR	1	428	7.80				
MJ-88-	1	12	0.23				
MRS J BF	1	10	0.34 🗸				
	2	12	0.60/				
	3	18	0.47 1				
	4	4	0.09/				
	5	4	0.43/				
	6	50	0.21/				
WM-88-	1	8	0.44/				
	4	616	0.597				
	5	538	0.71/				
	б	42	0.24 /				

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September 21, 1988

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CERTIFICATE OF ANALYSIS ETK 88-448

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S OB1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 19 ROCK samples received September 6, 1988 PROJECT: BC-88-7

				Àυ		A	g	C	u	F	ď	Z	'n
ET# C	escr	iption	(ppb))	(g/t)	oz/t )	(ppm)	(g/t)	(ppm)	(%) 	(ppm)	(%)	(ppm)	(%)
448 - 1	DM	7 - 88 MJ 6	50	<u> </u>		.2		20		12		26	
448 - 2		8 - 88 MJ 8	120			.1		9		10		1	
448 ~ 3		9–88 MJ 8	75			.2		5		5		<1	
448 - 4		10 - 88 MJ 16	50			<.1		17		6		77	
448 - 5		11 - 88 MJ 16	160			>30.0	63.0	>1000	.58	>1000	.87	>1000	1.95
448 - 6		12 - 88 MJ 16	>1000	4.20	.122	>30.0	347.0	>1000	.15	>1000	3.94	>1000	3.25
448 - 7		13 - 88 MJ 16	60			2.7		472		393		316	
448 - 8		14 - 88 MJ 16	545			21.2		>1000	1.3	126		355	
448 ~ 9		15 - 88 MJ 16	45			.9		521		49		63	
448 - 10		16 - 88 MJ 16	>1000	4.94	.144	3		>1000	.31	40		161	
448 - 11	ωM	15 - 88 MJ 16	60			.8		35		165		166	
448 - 12		16 - 88 MJ 16	>1000	3.82	.111	>30.0	72.0	643		>1000	5.00	>1000	3.39
448 - 13		17 - 88 MJ 16	>1000	1.95	.057	>30.0	33.0	204		>1000	2.43	>1000	4.97
448 - 14		18 - 88 MJ 16	95			.6		364		525		800	
448 - 15		19 - 88 MJ 16	60			.6		549		103		174	
448 - 16		20 - 88 MJ 16	- 55			.7		851		38		53	
448 - 17	IR	38 - 88 MJ 4	70			.2		194		17		35	
448 - 18		42 - 88 MJ 4	20			<.1		140		83		133	
448 - 19	JR	26 - 88 MJ 15	345			2.3		>1000	.11	18		144	
448 - 20		28 - 88 MJ 15	20			<.1		50		11		104	
448 - 21	DM	18 - 88 MJ 16	535			13.5		>1000	.11	800		452	
448 - 22		19 - 88 MJ 16	15			<.1		41		27		20	
448 - 23		20 - 88 MJ 16	480			>30.0	138.0	>1000	1.71	>1000	.62	>1000	.14
448 - 24		21 - 88 MJ 16	55			.4		143		24		16	
448 - 25		22 - 88 MJ 16	975	Δ	$\cap$	>30.0	36.0	500		>1000	1.55	>1000	1.46
NOTE: <	= le	ss than		1.7	7 Joe	62							

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September 28, 1988

CERTIFICATE OF ANALYSIS ETK 88-491

AIGA CONSULTANTS LTD. 400, 534 - 17TH AMENUE S.W. CALGARY, ALBERTA 77S 031

#### ATTENTION: JIM DAVIS

AMPLE IDENTIFICATION: 16 ROCK samples received September 17, 1988 PROJECT: BC-88-7

			Au	Au	Ag		Qu	Pb	Zn		
ET	ŧ	£:	escri;	stion	(cdqq)	(g/t)	(ppm)	(g/t)	(ppm) (%)	(ppm) (%)	(ppm) (%)
191		1	CS	7	140		21.9		>1000 2.65	18	141
191		2		8	135		14		>1000 1.85	24	255
191		$\sim$		$C_{i}$	85		16.6		≻1000 <b>.</b> 78	<u></u> 1	262
<i>4</i> 91		ą.		10	505		>30.0	84.9	>1000 3.10	15	210
191		5		11	30		2.2		>1000 .37	16	172
191		6		12	30		1.3		>1000 .27	17	119
491	-	7		13	25		1.8		>1000 _38	15	134
491		8		14	10		"3		>1000 .12	12	113
491	····	9		15	50		З		>1000 .29	15	137
491		10		16	45		2		>1000 1.50	17	138
421		11		17	1 5		2		610	10	69
491		12		18	<5		<1		4"")"") Landin	9	5
491		13		27	<b>(</b> 5		<.1		242	24	6
421		1.4		26	270		12.5		146	>1000 1.33	>1000 3.60
491		15		29	50		.5		80	51	136
491		16		30	10		.2		38	15	34

NOTE:  $\zeta = \text{less than}$  $\zeta = \text{more than}$ 

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September 21, 1988

# CERTIFICATE OF ANALYSIS ETK 88-450

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 22 ROCK samples received September 6, 1988 PROJECT: BC-88-7

.

				Au			Ag		Cu		Pb		Zn	
ET#	Descr	iption		(ppb)	(g/t)( 	oz/t) 	(ppm)(g/t)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	
450 -	1 WM	7 – 88 MJ	16	110		····	>30.0 56.0	> 1000	.74	> 1000	.22	> 1000	.76	
450 -	2	8 - 88 MJ	16	65			3.9	807		35		220		
450 -	3	9 - 88 MJ	16	>1000	2.21	.064	>30.0 71.0	586		>1000	.95	>1000	.17	
450 -	4	10 - 88 MJ	16	385			4.5	232		453		73		
450 -	5	11 - 88 MJ	16	35			1.1	>1000	.13	113		35		
450 -	6	12 - 88 MJ	16	165			>30.0 45.0	>1000	1.54	710		>1000	.22	
450 -	7	13 - 88 MJ	16	<b>9</b> 0			17.1	>1000	.24	512	-	>1000	.69	
450 -	8	14 - 88 MJ	16	55			14.2	>1000	.18	598		>1000	.43	
7450 -	9 JR	10 - 88 MJ	15	235			>30.0 32.0	>1000	2.36	23		285		
450 - 1	0	11 - 88 MJ	15	275			16.5	>1000	1.4	17		57		
450 - 1	1	12 - 88 MJ	15	245			21.2	>1000	2.2	10		98		
450 - 1	2	13 - 88 MJ	15	200			27.2	>1000	4.33	9		92		
450 - 1	3	14 - 88 MJ	15	>1000	2.04	.059	>30.0 35.0	>1000	7.88	16		112		
450 - 1	4	16 - 88 MJ	15	25			.2	>1000	.16	9		30		
450 - 1	5	17 - 88 MJ	15	5			<.1	295		7		27		
450 - 1	6	18 - 88 MJ	15	55			<.1	246		7		12		
450 - 1	.7	19 - 88 MJ	15	145			<.1	176		9		21		
450 - 1	8 IR	1 - 88 MJ	8	120			.1	56		17		15		
450 - 1	.9	31 - 88 MJ	4	60			<.1	68		8		25		
450 - 2	20 DM	5~88 MJ	6	105			.4	26		8		20		
450 - 2	21	6 - 88 MJ	6	15			.3	26		9		130		
450 - 2	2	8 - 88 MJ	8	70			.2	28		5		21		

NOTE:  $\langle = less than$ 

 $\rangle$  = more than

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September 16, 1988

# CERTIFICATE OF ANALYSIS ETK 88-446

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 25 ROCK samples received September 6, 1988 PROJECT: BC-88-7

ET# Des	cription	Au (ppb)(g/t)(oz/t)	Ag (ppm)	Cu (ppm) (%)	Pb (ppm) (%)	Zn (ppm) (%)
446 - 1 [	)M 32 - 88	20		14	<del>2==</del> ==============================	
446 - 2	33 - 88	185	14.3	63	>1000 1.68	237
446 - 3	36 - 88	15	4.5	>1000 .38	315	52
<b>4</b> 46 - <b>4</b>	37 - 88	15	3.0	>1000 .18	285	46
446 - 5	38 - 88	50	.6	39	82	4
446 - 6	39 - 88	45	.2	74	12	12
446 - 7	40 - 88	25	.2	61	11	8
446 - 8	41 - 88	45	.2	26	11	16
446 - 9	42 - 88	15	<.1	32	60	609
446 - 10	IR 35 - 88 MJ 5	5	.6	167	6	17
446 - 11	JR 62 - 88 MJ 7	10	.1	149	12	89
446 - 12 l	JM 21 - 88 MJ 15	60	18.3	>1000 2.18	344	363
446 - 13	22 - 88 MJ 15	95	10.7	>1000 1.07	125	227
446 - 14	23 - 88 MJ 13	110	8.2	>1000 .53	154	247
446 - 15	24 - 88 MJ 13	40	24.8	205	>1000 .82	>1000 1.23
446 - 16	25 - 88 MJ 13	>1000 11.3* .330	12.0	>1000 .30	194	413
446 - 17	26 - 88 MJ 14	85	1.0	47	16	32
446 - 18	27 - 88 MJ 14	65	.1	38	33	41
446 - 19	28 - 88 MJ 14	30	۲.۱	36	16	28
446 - 20	29 - 88 MJ 14	15	<.1	25	24	10
446 - 21	30 - 88 MJ 14	20	۲.1	38	18	24
446 - 22	31 - 88 MJ 14	15	.2	38	20	11
446 - 23	32 - 88 MJ 14	35	.3	13	21	14
446 - 24	33 - 88 MJ 14	180	18.3	>1000 2.48	78	62
446 - 25	34 - 88 MJ 14	765	30.0	>1000 4.17	120	68

NOTE:  $\langle =$  less than

 $\rangle$  = more than

\* sample recut, screened and metallics assayed ,

The second Regla 2) ECO-TECH LABORATORIES LAD.

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September 16, 1988

# CERTIFICATE OF ANALYSIS ETK 88-447

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 081

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 19 ROCK samples received September 6, 1988

PROJECT: BC-88-7

ET# Description				dad )	Au (ppb)(g/t)(oz/t)			( (ppm)	Cu (%)	Pb (ppm)	Zn (ppm)
447 -	1	A1	15 - 88	15	5		<.1	19		6	<del>-</del> 44
447 –	2		16 - 88	10	)		<.1	39		6	40
447	З		17 - 88	1	5		<.1	32		5	34
447 -	4		18 - 88	55	5		.2	330		7	34
447 -	5		19 - 88	2	5		<.1	10		5	32
447 -	6		20 - 88	15	5		.1	82		5	38
447 -	7		21 - 88	9	5		.1	44		5	27
447 –	8		22 - 88	1	5		<.1	8		3	22
447 -	9	DM	23 - 88 MJ	15 3	5		<.1	21		З	152
447 –	10		23 - 88 MJ	15 →1000	0 1.07	.031	1.5	75		37	43
447 -	11		24 - 88 MJ	15 19	5		.6	428		24	168
447 -	12		25 - 88 MJ	15	5		۲.1	30		6	112
447 –	13		26 - 88 MJ	13 8	5		1.6	281		25	61
447 -	14		27 – 88 MJ	13 40	0		3.3	>1000	.80	7	86
447 -	15		28 - 88 MJ	13 2	0		.2	>1000	.17	22	84
447 -	16		29 - 88 MJ	З 1.	5		.1	160		9	93
447 -	17		30 - 88 MJ	14 1	5		۲.۱	38		5	28
447 -	18		31 - 88 MJ	14 4.	5		.9	> 1000	.66	18	71
447 -	19		34 - 88 MJ	14 2	С		.1	168		11	62

NOTE:  $\langle =$  less than

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ASSAYING - ENVIRONMENTAL TESTING 10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

September 26, 1988

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# CERTIFICATE OF ANALYSIS ETK 88-493

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

.

SAMPLE IDENTIFICATION: 26 ROCK samples received September 17, 1988
-----PROJECT: BC-88-7

ET#	ET# Description					Au (g/t)(	⊃z∕t)	Ag (ppm)(g/t)	C (ppm)	ົບ (%)	Pb (ppm)	Zn (ppm)
 493 -	1	 WM	35 - 88 MJ	3	 60			.7	604		11	53
493 -	2		36 - 88 MJ	З	575			.3	144		12	29
493 -	3		37 - 88 MJ	З	150			<.1	18		11	27
493 -	4		38 - 88 MJ	З	290			26.9	>1000	1.90	13	611
493 -	5		39 - 88 MJ	З	> 1000	2.48	.072	>30.0 33.3	>1000	1.75	14	617
493 -	6		40 - 88 MJ	З	580			20.4	>1000	1.10	10	603
493 -	7		41 - 88 MJ	З	270			9.9	>1000	.66	8	599
473 -	8		42 - 88 MJ	З	25			.1	288		14	487
493 -	9		43 - 88 MJ	5	300			9	>1000	1.50	8	94
493 -	10		44 - 88 MJ	5	380			11.2	>1000	1.20	9	601
493 -	11		45 - 88 MJ	3	30			<.1	290		11	96
493 -	12		46 - 88 MJ	З	35			.2	175		16	160
493 -	13		47 - 88 MJ	1	865			5.5	128		29	33
493 -	14	DM	43 - 88 MJ	З	10			.6	374		6	55
493 -	15		44 - 88 MJ	З	60			<.1	16		12	56
493 -	16		45 - 88 MJ	З	25			.3	585		11	51
493 -	17		46 - 88 MJ	З	20			-1	52		9	16
493 -	18		47 - 88 MJ	З	75			.1	160		17	34
493 -	19		48 - 88 MJ	З	25			<.1	475		15	63
493 -	20		49 - 88 MJ	З	20			<.1	374		8	78
493 -	21		50 - 88 MJ	З	20			<.1	443		11	52
493 -	22		51 - 88 MJ	З	105			.6	436		12	101
493 -	23		52 - 88 MJ	З	15			.3	950		17	591
493 -	24		53 - 88 MJ	З	55			<.1	>1000	.11	14	74
493 -	25	2	54 - 88 MJ	1	100			1.2	93		37	80
493 -	26		55 - 88 MJ	1	15			-1	74		29	87

NOTE:  $\langle =$  less than > = more than

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September 21, 1988

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CERTIFICATE OF ANALYSIS ETK 88-451 

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

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SAMPLE IDENTIFICATION: 12 ROCK samples received September 6, 1988 BC-88-7

ET# Description					ו 		Au (ppb)	Ag (ppm)	0 (ppm)	сц (%)	Pb (ppm)	Zn (ppm)
$\begin{array}{c} = = = = = = = = = = = = = = = = = = =$	1 2 3 4 5 6 7 8 9 10 11	A1	3 4 5 6 7 8 9 10 11 12 13		4 5 6 7 8 9 10 11 12 13 14		5 5 245 210 80 240 15 60 35 10	<pre></pre>	46 51 22 380 565 666 > 1000 515 > 1000 72 22	.24	11 11 10 9 12 7 9 5 4 6 3	===== 10 9 33 58 194 138 154 139 94 75 31
451 -	12		14	-	15	Μ	15	<.1	23		4	22

NOTE: < = less than > = more than

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SC88/TAIGA1 FAX: (403) 229-0124



ASSAYING - ENVIRONMENTAL TESTING 10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

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September 28, 1988

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CERTIFICATE OF ANALYSIS ETK 88-495

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TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

 ET#	D	escr	ipti	.on			Au (ppb)	Ag (ppm)	(ppm)	u (%)	Pb (ppm)	Zn (ppm)
 495 -	1	JR	73 74	- 88	MJ MT	3	60 25	4.6	> 1000	.64	8	108
495 -	3		75	- 88	MJ	3	15	<.1 (.1	79		14	
495 - 495 -	4 5		76 77	- 88 - 88	MJ MJ	3	205 35	1.9 .6	>1000 605	.12	10 9	72 27
495 - 495 -	6 7		78 90	- 88 - 88	MJ MJ	3 1	60 20	.5 {_1	>1000 >1000	.17 .13	13 8	40 81
495 -	8		92 92	- 88	MJ	5	5	.2	650		6	31
493 - 495 -	10		93 94	- 88	MJ	э 5	30	.2	300 617		8 3	94 38
495 -	11		95	- 88	MJ	5	55	-9	>1000	.10	8	83

NOTE:  $\langle =$  less than  $\rangle =$  more than

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SC88/TAIGA1 FAX: (403) 229-0124



ASSAYING - ENVIRONMENTAL TESTING 10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

September 19, 1988

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CERTIFICATE OF ANALYSIS ETK 88-449

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TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 19 ROCK samples received September 6, 1988
-----PROJECT: BC-88-7

		1	AU	Ag	C	L	Pb	Z	n
ET#	Description	(ppb)(g/	't ( oz/t )	(ppm)(c	1/t) (ppm)	(%)	(ppm)	(ppm)	(%)
449 -	1 DRM 29 - 88	20		.7	<b>4</b> 6		234	281	
449 -	2 30 - 88	230		.9	71		86	55	
449 -	3 31 - 88	10		.2	191		19	21	
449 -	4 38 - 88	5		.2	25		11	17	
449 -	5 39 - 88	20		.2	35		46	157	
449 -	6 C5 5 <b>-</b> 88	215		4.1	519		2	34	
449 -	7 6 - 88	495		6.3	761		3	33	
449 -	8 2.5 - 1.5 M	>1000 1.	.12 .033	)30.0 4	15.8 >1000	.30	26	744	
449´-	9 A23.5-2.5 M	625		>30.0 3	30.7 >1000	.14	25	690	
449 -	10 4.5 - 3.5 M	280		6.2	> 1000	.24	8	281	
449 -	11 5.5 - 4.5 M	305		4.3	> 1000	.37	5	88	
449 -	12 6.5 - 5.5 M	685		(34,	>1000	.61	16	>1000	.10
449 -	13 T88 <b>1 -</b> 88	70		1.2	778		2	46	
449 -	14 2 - 88	10		<.1	393		8	55	
449 -	15 3 - 88 MJ 12	145		.1	571		3	58	
449 -	16 4 - 88 MJ 12	480		.8	>1000	.11	1	55	
449 -	17 A1 0- 1 M	25		<.1	> 1000	.14	6	34	
449 -	18 1 - 2 M	15		.2	766		6	84	
449 -	19 2 - M M	25		<.1	164		7	34	

NOTE: < = less than > = more than

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SC88/TAIGA1 FAX: (403)229-0124 TERRAMIN RESEARCH LABS LTD. 14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7 (403) 276-8668

#### SAMPLE PREPARATION

Soil and sediment samples are dried and sieved through 80 mesh nylon screen (maximum partlcle size 200 microns).

Rock or drill core samples are crushed to approximately 1/8" in a jaw crusher, riffled to obtain a representative sample, and pulverized to 100 mesh (180 micron particle size).

ERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7 (403) 276-8668

### FIRE ASSAY/AA METHOD FOR GOLD AND SILVER PLATINUM AND PALLADIUM

• Approximately 1 assay ton of prepared sample is fused with a litharge flux charge to obtain a lead button. The button is cupelled down to a precious metal prill which is then dissolved in aqua regia. The resulting solution is analysed by atomic absorption spectrophotemetry to determine the precious metals.





**ASSAYING - ENVIRONMENTAL TESTING** 10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

September 19, 1988

CERTIFICATE OF ANALYSIS ETK 88-455 \_\_\_\_\_\_

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

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SAMPLE IDENTIFICATION: 50 SILT samples received September 6, 1988 PROJECT: BC-88-7

ET#	Description	Au (ppb)	Ag (ppm)
ET # $====================================$	Description IR 2 - 88 3 - 88 4 - 88 4 - 88 4 - 88 5 - 88 5 - 88 6 - 88 7 - 88 7 - 88 9 - 88 9 - 88 9 - 88 9 - 88 9 - 88 9 - 88 10 - 88 11 - 88 1 12 - 88 2 13 - 88 3 14 - 88 4 15 - 88 5 16 - 88 5 16 - 88 5 16 - 88 5 17 - 88 5 19 - 88 5 19 - 88 6 17 - 88 7 18 - 88 6 17 - 88 7 18 - 88 6 17 - 88 7 18 - 88 7 19 - 88 7 20 - 80 7 20 - 80 7 20 - 80 7 20 - 80 7	Au (ppb) 	Ag (ppm) (,1) (,1) (,1) (,1) (,1) (,1) (,1) (,1
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	(5 (5 (5 (5 (5 (5 (5 (5 (5 (5 (5 (5) (5)	<.1 <.1 <.1 <.1 <.1 <.1 <.1 <.1 <.1 <.1

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Frank J. Pezzotti, Certified Assayer -----



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SEPTEMBER 19, 1988

ET#	Description	Au ( ppb )	Ag (ppm)
455 -	31 33 - 88		·
455 -	32 34 - 88	<5	<.1
455 -	33 36 - 88	<5	<.1
455 -	34 37 - 88	5	.2
455 -	35 39 - 88	(5	.1
455 -	36 40 - 88	5	.2
455 -	37 41 - 88	5	.2
455 -	38 43 - 88	<5	.3
455 -	39 44 - 88	<5	.4
455 -	40 45 - 88	5	.3
455 -	41 46 - 88	10	.2
455 -	42 47 - 88	(5	.1
455 -	43 48 - 88	<5	.1
455 -	44 49 - 88	(5	.3
455 -	45 50 - 88	5	. 1
455 -	46 51 - 88	<5	.1
455 -	47 52 - 88	<5	.2
455 -	48 53 - 88	5	.1
455 -	49 54 - 88	<5	.2
455 -	50 55 - 88	45	.2
NOTE:	< = less than	Kland 2	

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September 16, 1988

CERTIFICATE OF ANALYSIS ETK 88-453

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 44 SILT samples received September 6, 1988 PROJECT: BC-88-7

ET#	Descr	iption	Ац ( ррb )	Ag (ppm)
453 -	1 CS	21	tn	د ================================
453 - 3	2	22	(5	.0
453 - 3	3	23	10	·
453 -	4	24	15	.1
453	5	25	5	(1
453 - 4	6	26	5	(.1
453 - 1	7 CS	1	10	(.1
453 - 8	8	3	10	(_1
453 - 1	9	4	15	<.1
453 - 1	Ó IR	56	15	.3
453 - 1	1	57	20	.3
453 - 13	2	58	15	.2
453 - 13	3	59	20	.3
453 - 1	4	60	15	<.1
453 - 13	S	61	(5	<.1
453 - 1	6	62	15	.1
453 - 1	7	64	10	.2
453 - 18	8	65	15	.2
453 - 19	9	66	10	.2
453 - 20	0	67	<5	.2
453 - 2	1	68	10	.3
453 - 22	2	69	10	.2
453 - 23	3	70	5	.2
453 - 24	4	71	10	.2
453 - 2	5	72	5	.1
453 - 20	6	73	10	<.1
453 - 2	7	74	10	<.1
453 - 28	B	75	(5	<.1
453 - 29	9	76	5	<.1
453 - 30	3	77	10	<.1



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SEPTEMBER 16, 1988

ET#	0	escription	Au ( ppb )	Ag (ppm)
453 -	31	78		( 1
453 -	32	79	5	<.1
453 -	33	80	(5	<.1
453 -	34	81	10	(.1
453 -	35	82	5	< 1
453 -	36	83	5	<.1
453 -	37	84	5	<.1
453 -	38	85	· <b>〈</b> 5	<.1
453 -	39	86	10	<.1
453 -	40	87	10	<.1
453 -	41	88	15	<.1
453 -	42	89	15	<.1
453 -	43	90	10	<.1
453 -	44	91	15	<.1

NOTE: < = less than

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September 16, 1988

CERTIFICATE OF ANALYSIS ETK 88-456

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 34 SILT samples received September 6, 1988 PROJECT: BC-88-7

ET# D€	escription	Au ( ppb )	Ag (mqq)
====================================	TP 27 - 99	=======================================	
450 - 1	30 - 89	20	.2
456 - 3	27 00	30	
456 - 4	31 - 88	20	
456 - 5	32 - 88	20	
456 - 6	33 - 88	10	
456 - 7	34 - 88	30	(.1
456 - 8	35 - 88	10	.1
456 - 9	36 - 88	10	(1
456 - 10	37 - 88	20	.1
456 - 11	38 - 88	5	<.1
456 - 12	39 - 88	30	.1
456 - 13	40 - 88	5	.1
456 - 14	41 - 88	<5	.1
456 - 15	42 - 88	<5	<.1
456 - 16	43 - 88	10	.1
456 - 17	44 - 88	5	.2
456 - 18	45 - 88	(5	<.1
456 - 19	46 - 88	10	.2
456 - 20	47 - 88	(5	<.1
456 - 21	48 - 88	(5	<.1
456 - 22	49 - 88	5	<.1
456 - 23	50 - 88	10	<.1
456 - 24	51 - 88	10	<.1
456 - 25	52 - 88	5	<.1
456 - 26	53 - 88	15	.1
456 - 27	54 - 88	20	.3
456 - 28	55 - 88	5	<.1
456 - 29	56 - 88	15	<.1
456 - 30	57 - 88	5	<.1



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SEPTEMBER 16, 1988

ET#		Descri	ipti	on	А ( ррb	PA Ag (mqq) (
==== 456 456		31 32	 58 59	- 88 - 88	1	C (.1 C (.1
456 456	_	33 34	60 61	- 88 - 88	3	5 (.1 D (.1
					-	

NOTE: < = less than

ECO-TEC A LABORATORIES LTD. Frank J. Pezzotti, A.Sc.T.

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September 16, 1988

CERTIFICATE OF ANALYSIS ETK 88-454

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

ET# Description	Au ( ppb )	Ag (ppm)
454 - 1 JR 63 - 88	30	<pre></pre>
454 - 2 64 - 88	55	<.1
454 - 3 65 - 88	20	<.1
454 - 4 66 - 88	40	<.1
454 - 5 67 - 88	5	<.1
454 - 6 68 - 88	10	.2
454 - 7 69 - 88	20	<.1
454 - 8 70 - 88	10	<.1
454 - 9 71 - 88	20	<.1
454 - 10 72 - 88	10	<.1
454 - 11 DRM 50 - 88	5	<.1
454 - 12 51 - 88	5	<.1
454 - 13 52 - 88	5	<_1
454 - 14 53 - 88	15	<.1
454 - 15 54 - 88	10	<.1
454 - 16 55 - 88	5	<.1
454 - 17 56 - 88	40	<.1
454 - 18 57 - 88	<5	<.1
454 - 19 58 - 88	10	<.1
454 - 20 59 - 88	35	< _ 1
454 - 21 60 - 88	40	.1
454 - 22 61 - 88	5	<.1
454 - 23 62 - 88	5	-2
454 - 24 63 - 88	(5	.1
454 - 25 64 - 88		
434 - 26  63 - 88	10	
4 - 4 - 27 = 00 - 00 - 00 - 00 - 00 - 00 - 00 - 0		
4 - 20 = 07 - 88 454 - 20 = 20	10	<. i
454 - 27 - 60 - 68	ວ ະ	.2
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SEPTEMBER 16, 1988

ET#	 	Descr	ipt	ion				Au (ppb)	Ag (ppm)
454 -	- 31		70	- 88					.1
454 -	- 32		71	- 88				(5	<.1
454 -	- 33		72	- 88				80	(.1
454 -	- 34		73	- 88				10	(.1
454 -	- 35	JR	7	MJ	15			25	<.1
454 -	- 36		8	MJ	15			25	.1
454 -	- 37		9	MJ	15		·	15	<.1
454 -	- 38		15	MJ	15			20	<.1
454 -	- 39		20	MJ	15			65	.2
454 -	- 40		21	MJ	15			10	.6
454 -	- 41		22	MJ	15			15	<.1
454 -	- 42		23	MJ	15			10	<.1
454 -	- 43		24	MJ	15			40	<.1
454 -	- 44		25	MJ	15			10	<.1
454 -	- 45	CS	19					10	1.2
454 -	- 46		20			-		15	<.1
NOTE:	. (	= le:	ss t	han		$\square$	101-	1	

Leugle, Howard

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September 28, 1988

CERTIFICATE OF ANALYSIS ETK 88-496

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 41 SILT samples received September 17, 1988 PROJECT: BC-88-7

Au ΡA E⊺# Description (ppb) (ppm) 496 -IR 100 - 88 MJ 1 З 35 <.1 496 -2 101 - 88 MJ З 140 1.3 496 -105 - 88 MJ 2 З <.1 10 106 - 88 MJ 496 -4 2 20 <.1 496 -107 - 88 MJ 5 2 15 <.1 2 496 -6 108 - 88 MJ 10 <.1 496 -7 109 - 88 MJ 2 45 <.1 2 496 -8 110 - 88 MJ 10 <.1 496 -9 2 111 - 88 MJ 15 <.1 2 496 - 10 112 - 88 MJ 10 <.1 496 - 11 2 113 - 88 MJ 15 <.1 114 - 88 MJ 2 496 - 1215 <.1 2 496 - 13 115 - 88 MJ 20 <.1 116 - 98 43 496 - 142 5 . 1 496 - 15 117 - 88 MJ 2 10 <.1 JR 496 - 16 79 - 88 MJ З 55 .5 496 - 17 80 - 88 MJ З 10 . 1 496 - 18 81 - 88 MJ З 45 .5 82 - 88 MJ 3 .4 496 - 19 **4**Û .2 496 - 20 83 - 88 MJ З 55 496 - 21 84 - 88 MJ З 40 .3 496 - 22 85 - 88 MJ З 30 .3 496 - 23 15 86 - 88 <.1 496 - 24 87 - 88 .1 10 496 - 25 88 - 88 15 .1 496 - 26 89 - 88 MJ 20 1 .1 496 - 27 91 - 88 MJ 15 1 <.1 496 - 28 92 - 88 MJ 15 <.1 1 496 - 29 93 - 88 MJ 35 1 <.1 496 - 30 94 - 88 MJ 1 15 <.1



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TAIGA CONSULTANTS LTD.

SEPTEMBER 28, 1988

ET#	De	scription	Au ( ppb )					
496	- 31	95, - 88 MJ	1	10				
496	- 32	96 - 88 MJ	1	20	<.1			
496	- 33	97 - 88 MJ	1	20	.2			
496	- 34	98 - 88 MJ	1	40	<.1			
496	- 35	99 - 88 MJ	1	25	.1			
496	- 36	100 - 88 MJ	1	15	.1			
496	- 37	101 - 88 MJ	1	20	.1			
496	<del>,</del> 38	102 - 88 MJ	1	25	<.1			
496	- 39	103 - 88 MJ	1	<5	<.1			
496	- 40	104 - 88 MJ	1	<5	.1			
496	- 41	105 - 88 MJ	1	25	.1			
NOTE	: < =	less than		CO-TECH LABORATORIES LTD.				

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## ECO-TECH LABORATORIES LTD.

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September 15, 1988

CERTIFICATE OF ANALYSIS ETK 88-452

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 45 SILT samples received September 6, 1988 PROJECT: BC-88-7

FT♯	ſ	lescr	int	ion			Au (daga)	Ag (nom)
======	===:	======		===				·
452 -	1	DRM	2		S	88		/ 1
452 -	Ŝ	Divit	2	-	Š	88	10	1
452 -	â		л Л	_	J C	20	10	+1
152 -	1		-+ 5		c c	00	15	.2
452 -	4 5		4	_	5	00	13	
452 -	ل ۲		7	_	5	00	20	.2
432	7		6	-	с С	00	20	ۍ. ۱
452 -	~ ~		0	_	э с	00	13	<.1 .1
402 -	0		10	-	3	00	35	.1
452 -	. 7		10	-	2	88	25	.2
452 -	10		11	-	S	88	25	.2
452 -	11		12	-	S	88	35	.1
452 -	12		13	_	5	88	30	.1
452 -	13		14		S	88	25	.1
452 -	14		15	-	S	88	25	<.1
452 -	15		16	-	S	88	25	.1
452 -	16		17	-	S	88	5	<.1
452 -	17		18	-	S	88	55	<.1
452 -	18		19	—	S	88	40	-1
452 -	19		20	-	S	88	35	.1
452 -	20		21	_	S	88	15	-3
452 -	21		22		S	88	25	.1
452 -	22		23	-	S	88	30	.2
452 -	23		24	_	S	88	15	.1
452 -	24		25	_	S	88	10	.2
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452 -	27		28	-	S	88	20	2
452 -	28		32	_	Š	88	20	•
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	- <b>*</b>			Å	Ć	he	te Haward Ph.	

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Frank J. Pezzotti, Certified Assayer



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# ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING 10041 East Trans Canada Hwy., Kamboops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

TAIGA CONSULTANTS LTD.

SEPTEMBER 15, 1988

E⊺#	Des	cription			(t	Au >pb)	Ag (ppm)
452	- 31	35 -	S 88			20	======== .1
452	- 32	36 -	S 88			10	<.1
452	- 33	37 -	S 88			25	<.1
452	- 34	40 -	S 88			15	<.1
452	- 35	41 -	S 88			20	.1
452	- 36	42 -	S 88			30	.1
452	- 37	43 -	S 88			15	<.1
452	- 38	44 -	S 88			10	. 1
452	- 39	45 -	S 88			20	.2
452	- 40	46 -	S 88			20	.1
452	- 41	47 -	S 88			60	.1
452	- 42	48 -	S 88			20	<.1
452	~ 43	49 -	S 88			25	.1
452	- 44	0 -	S 88			15	.2
452	~ 45	1 -	S 88	$\cap$	$\mathcal{O}$	80	.1

NOTE: < = less than

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ECO-TECH LABORATORIES LTD. Frank J. Pezzotti, A.Sc.T. B.C. Certified Assayer



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September 27, 1988

CERTIFICATE OF ANALYSIS ETK 88-494

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 3 SILT samples received September 17, 1988 PROJECT: BC-88-7

ET#	D	escr	ipti	ior	) 			Au ( ppb )	Ag (ppm)
494 - 494 - 494 -	1 2 3	IR	96 97 98		88 88 88	MJ MJ MJ	3 3 3	15 20 (5	<.1 .1 .1

NOTE: < = less than

ÉCO-TECH LABORATORIES LTD.

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ASSAYING - ENVIRONMENTAL TESTING 10041 East Trans Canada Hwy., Kamioops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

September 27, 1988

CERTIFICATE OF ANALYSIS ETK 88-492

TAIGA CONSULTANTS LTD. #400, 534 - 17TH AVENUE S.W. CALGARY, ALBERTA T7S 0B1

ATTENTION: JIM DAVIS

SAMPLE IDENTIFICATION: 5 SILT samples received September 17, 1988 PROJECT: BC-88-7

ET#	D	escr	Au ( dad )	Ag (ppm)					
492 - 492 - 492 - 492 - 492 - 492 -	1 2 3 4 5	CS IR	88 102 103 104 105		2 88 88 88 88 88	MJ MJ MJ MJ	3 3 3 3	15 40 40 35 45	<.1 .2 .2 .1 .2

NOTE: < = less than

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