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TELKWA GOLD CORP.

Exploration
of the
High Sulfidation Epithermal Prospects

Limonite Creek Area

Omineca Mining Division, British Columbia

NTS 93L/12

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SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Three widely spaced diamond drill holes were drilled on geological targets on the "Ridge" zone of the Limonite Creek high sulfidation (HS) epithermal prospect during the late summer of 1996. Total drilling was 863 meters (2831 feet). Diamond drill hole 96-2 encountered a very large zone of vuggy silica at a depth of 190 meters below outcrop. Vuggy silica is recognized as a principal host rock for gold-copper ore in many high sulfidation deposits throughout the world.

The zone of vuggy silica has a near-vertical dip, is believed to strike about east-northeasterly and is 26 meters wide. It is thoroughly leached by weathering processes and by ground water, so that all that remains, is quartz and alunite and minor amounts of other minerals. The rock is tightly fractured on roughly parallel planes, is very porous and has abundant open spaces. Only minor volumes of fine grained to extremely fine grained pyrite have survived oxidation and remain in the vuggy silica with traces of covellite, sphalerite, chalcocite/digenite and colusite.

A small lake occupies a linear surface depression which developed in a shrinking and collapsing column of rocks, as a result of the oxidation and removal of the contained sulfide minerals. Subtle lineaments on strike from the small lake are also believed to be related to collapse of the ground beneath the surface, as a result of the oxidation and removal of sulfides.

Geological mapping, petrographic analysis and geophysical data suggest that a large fault lying north of and roughly parallel to the Ridge zone, has telescoped rocks with argillic and advanced argillic alteration, downward against rocks which formed deeper in the hydrothermal system. This introduces the possibility that a porphyry copper environment may underlie the area of upper Many Bear Creek.

A new claim, the Pass claim, was staked on a large, strongly hydrothermally altered, limonite stained area, lying mostly above tree line, about 6 kilometers southwest of and within sight of the Company campsite

It is recommended that geological mapping be extended on the central Bear claim and that the Pass claim be geologically mapped. It is also recommended that a helicopter-borne magnetic-electromagnetic survey be conducted on the Bear and Pass claims in order to identify possible porphyry copper targets and/or shallow conductive zones which may be associated with epithermal precious metal deposits.

Deep diamond drilling of the vuggy silica zone is recommended, with intersections planned to penetrate the zone below the level of oxidation. The porphyry copper target at Many Bear Creek may also be tested by drilling if the geophysical survey identifies a suitable target. A total of 2600 meters (8530 feet) of drilling, all with "HQ" equipment is recommended. Total drilling cost is expected to be $525,800. Total cost of exploration in 1997 is expected to be $1,190,681.

Exploration
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PROPERTY AND LOCATION

The Limonite Creek high sulfidation (HS) prospects lie along a mountain ridge about one to 2 kilometers northerly from Limonite Creek, a small, fast flowing tributary of the Zymoetz (Copper) River. Elevation at the prospect area is 1275 to 1400 meters (Figures 1,2,3 and 4).

The area is in the westernmost part of Telkwa Pass about 50 kilometers southwesterly from Smithers, British Columbia. Access is via road from Telkwa along the Telkwa River logging road and/or from Terrace, B.C. along the Copper River logging road. Current logging along the Copper River and its tributaries has brought good logging roads within 7 kilometers of the prospect site. Ultimate access is via helicopter from staging areas which are located along the logging roads.

A 500 KV power transmission line, which is owned by B.C. Hydro and Power Authority traverses Telkwa Pass as does a 10 inch, high pressure underground natural gas pipeline, which is owned by Pacific Northern Gas Ltd.

CLAIMS

Five claims comprise the Bear group (Figure 4);

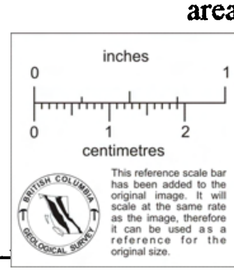
Claim Name	Tenure No.	Units	Expiry Date
Bear	241471	20	Dec. 14, 2004
Bear 2	313995	10	Oct. 11, 2004
Bear 3	313994	12	Oct. 12, 2004
Bear 4	313993	18	Oct. 12, 2004
Bear 5	328314	10	July 4, 2005
Total units		70	

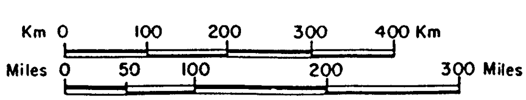
A new claim was staked for Telkwa Gold Corp. on December 27, 1996 on hydrothermally altered volcanic rocks (See Appendix II, sample 9610) which display strong brecciation and prominent limonite gossan. The prospect site (Figures 3 and 4) lies 6 kilometers southwesterly from the Telkwa Gold Corp. camp site and is clearly visible from camp. It is a very promising prospect. Basic documentation of the claim is as follows;

Pass claim	353163	20	Dec. 27, 1997

All of the claims are owned by Telkwa Gold Corp.

Figure 1.- Map of British Columbia showing location of Limonite Creek prospect area.





SCALE – 1: 2 000 000

Kilometres 20 0 20 40 60 80 100 120 140 160 180 200 Kilometres

inches 0 1

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Figure 2.- Map showing location of Telkwa Pass area.

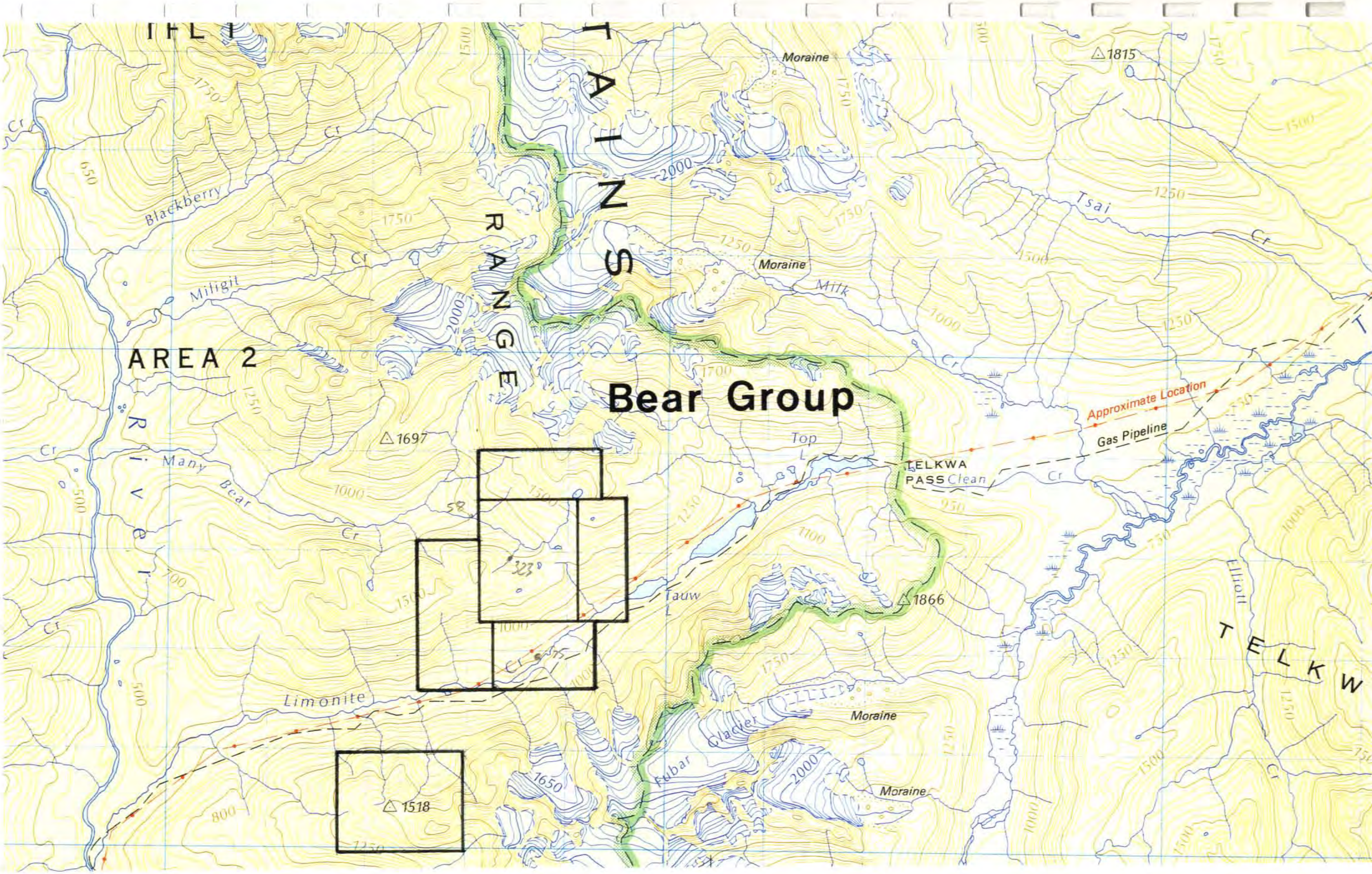

Figure 3.- Topographic map showing Telkwa Pass and area.

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BRITISH COLUMBIA GEOLOGICAL SURVEY

km 2 0 2 4 6 8 10 12 14 km

1 km=0.6214 mi. Contour Interval 50 m 1 mi.=1.6093 km

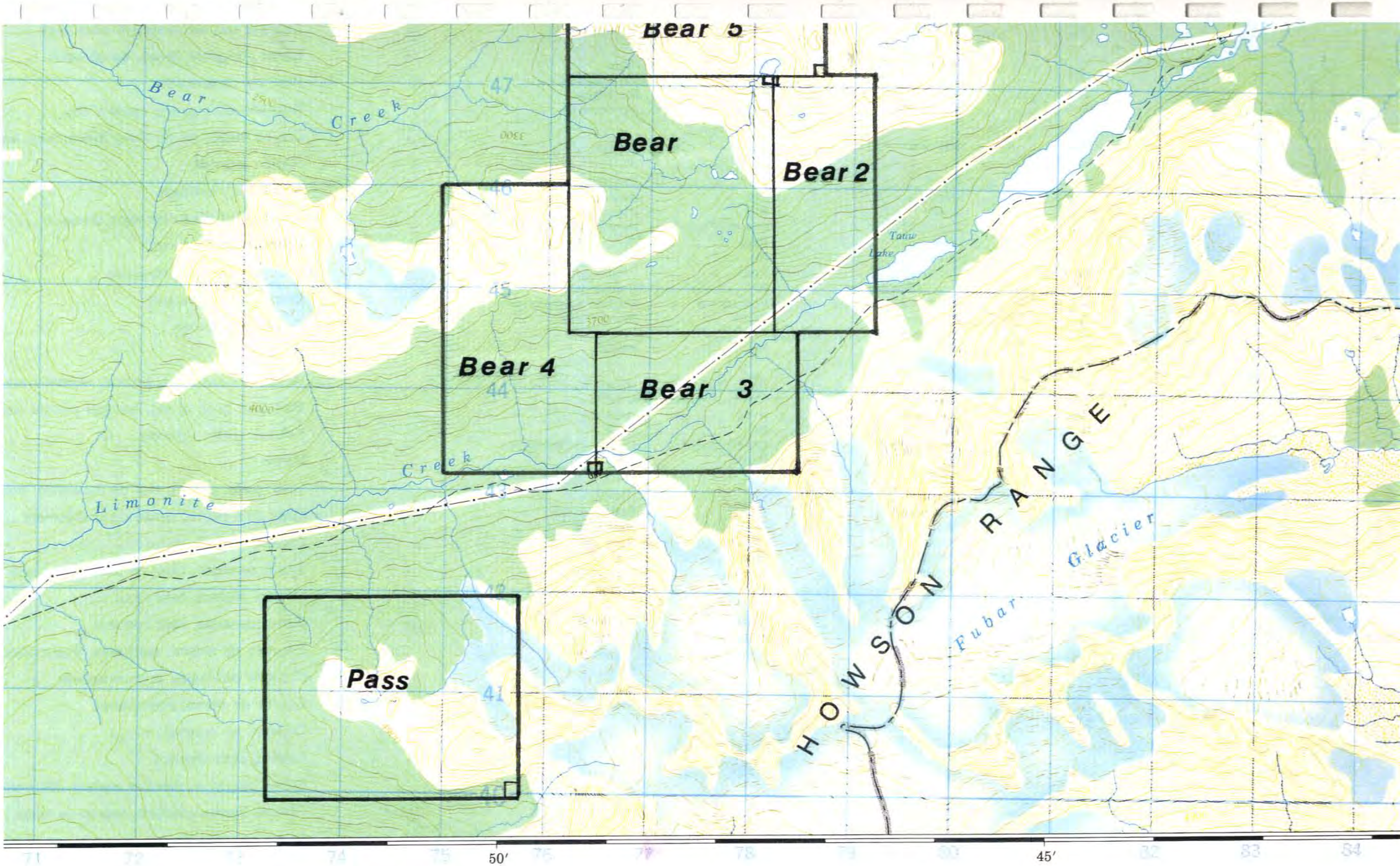
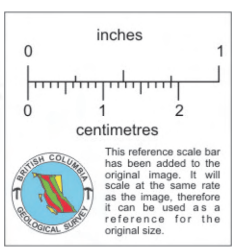
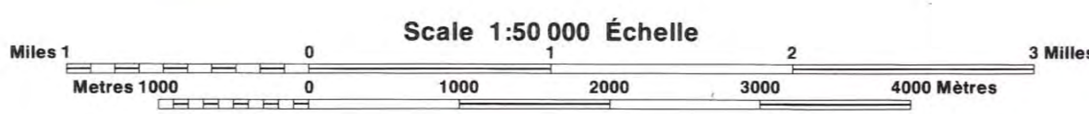


Figure 4.- Claim map of Bear group and Pass claim, Omineca mining division, British Columbia.





HISTORY AND EXPLORATION RECORD

Early prospectors were attracted to the area by large exotic limonite deposits exposed on the slopes just north of Limonite Creek. The first documented record of work on the prospects was in 1912 and was recorded in the in the B.C. Ministry of Mines Annual Report (1913). Prospectors trenched the limonite deposits evaluating them as a possible source for iron ore (MacKenzie, 1915 and Young and Uglow, 1926).

In 1957, the limonite was tested with 27 drill holes, again testing the limonite as a possible source for iron ore (B.C. Min. Mines, 1957).

Noranda Exploration Co., Ltd. in 1964, conducted geological, geochemical and geophysical (mag and EM) surveys on the ridge between Limonite Creek and Many Bear Creek and drilled one short (123 feet) diamond drill hole, recovering EX core (Dirom, 1964). The rock encountered was a medium-grained, slightly sericitized porphyritic latite hypabyssal intrusive rock.

Evergreen Explorations and Pacific Petroleum, Ltd. prepared a grid, 730 by 1524 meters in 1969 and conducted geological, geochemical and geophysical surveys (Chaplain and Woolverton, 1969) and in 1970 drilled two diamond drill holes for a total of 1250 feet (381m) recovering AX core, testing a possible porphyry copper environment.

Cyprus Canada Inc. conducted geological mapping, rock, water and soil geochemical sampling, a transient electromagnetic (TEM) survey, petrographic studies and diamond drilling (Fleming, 1992). The TEM survey which was run by Cyprus identified several strong conductors,which strike east-northeasterly across the prospect area. The significance of these conductors is only now being recognized.

Cyprus (Fleming, 1992) also conducted a limited geochemical survey north of the aluminous alteration zone (this zone of alteration is described herein).The sample area was 100 by 300 meters and the underlying rock was exotic limonite. Copper analyses ranged from 200 to 2465 ppm.

In 1994, Limonite Creek Limited Partnership and 555571 Alberta, Ltd. re-mapped the prospect area, conducted an induced polarization survey and drilled nine diamond drill holes for a total of 1163 meters (3814 feet). This work was reported by Tompson and Cuttle (1994). Planned depth of the holes was 500 feet (152 meters) but only four holes were completed to that depth. Most were terminated early or were lost due to ground conditions. Core recovery was about 40 t0 50 percent.

Diamond drill holes which were drilled in induced polarization anomalies encountered mostly quartz, sericite, clay and pyrite. Holes drilled in hydrothermal breccias encountered mostly white, gray and brown quartz, cherty quartz, limonite and pyrite. No ore intersections were made in the drilling, although anomalous values in copper and silver were encountered throughout much of the drill core.

EXOTIC LIMONITE DEPOSITS

The exotic limonite deposits on the slopes north of Limonite Creek are very colorful and are very visible. They were thought to cover an area of up to 50 acres (20 ha) but the work in 1996 shows that they are not continuous through that area. Nevertheless, they are very large and very visible (Figure 5).

There are three principal areas of exotic limonite accumulation in the Limonite Creek-Many Bear Creek area (Plate I) and a few lesser accumulations on Many Bear Creek between elevations 1220 to 1300 meters, including an apparent fairly large, but poorly exposed deposit on the east side of Red Lake near the Company campsite.

Cari Deyell, of the University of British Columbia mapped and sampled the limonite deposits during the summer of 1996 in connection with her work on a Master of Science degree. Her work is directed toward the study of the geological environment which exists before, during and after weathering and oxidation of in-situ sulfide deposits and the geological and chemical processes which are involved in the development of exotic limonites.

REGIONAL GEOLOGY

Limonite Creek and the surrounding area are underlain by Lower Jurassic Hazelton Group volcanic rocks of the Telkwa Formation (Tipper and Richards, 1976). These are highly variable sub-aerial, purple, red and green andesites and basalts, water-lain andesitic to rhyolitic tuffs and various andesitic to dacitic flows, tuffs and agglomerates. Mafic to intermediate pyroclastic varieties dominate over the lesser flow banded textures and rhyolitic-dacitic compositions. Bedding is difficult if not impossible to recognize in most exposures. These foliated and chloritized volcanic rocks are intruded by coeval(?) Jurassic granodiorite, quartz monzonite, quartz diorite and monzonite. The extrusive and intrusive rocks are intruded and cross cut by narrow basalt and diorite dike swarms (Figure 6). Many types of younger intrusive rocks occur throughout the region, but their relative ages and rock relationships are not worked out at this time. Six different kinds of younger intrusive rocks are recognized in the relatively small grid area of the prospects at Limonite Creek.

GEOLOGY OF THE CLAIM AREA

The prospect area as defined by the 1992-1994 grid area (Plate I) is underlain by a variety of green and lesser maroon rhyodacite, dacite and andesitic tuffs and flows. These are Lower Jurassic rocks of the Telkwa Formation and are bounded on the east by coarse to medium grained granodiorite (no petrographic data available) which is considered to be part of the Howson batholith of uncertain age, but clearly is intrusive into the volcanic rocks of the Telkwa formation.

To the west, the grid area is bounded by slightly porphyritic granodiorite containing phenocrysts of plagioclase and grains of quartz and biotite in a very fine grained groundmass dominated by quartz and K-feldspar (Tompson and Cuttle, 1994, Appendix II, sample JC-13).

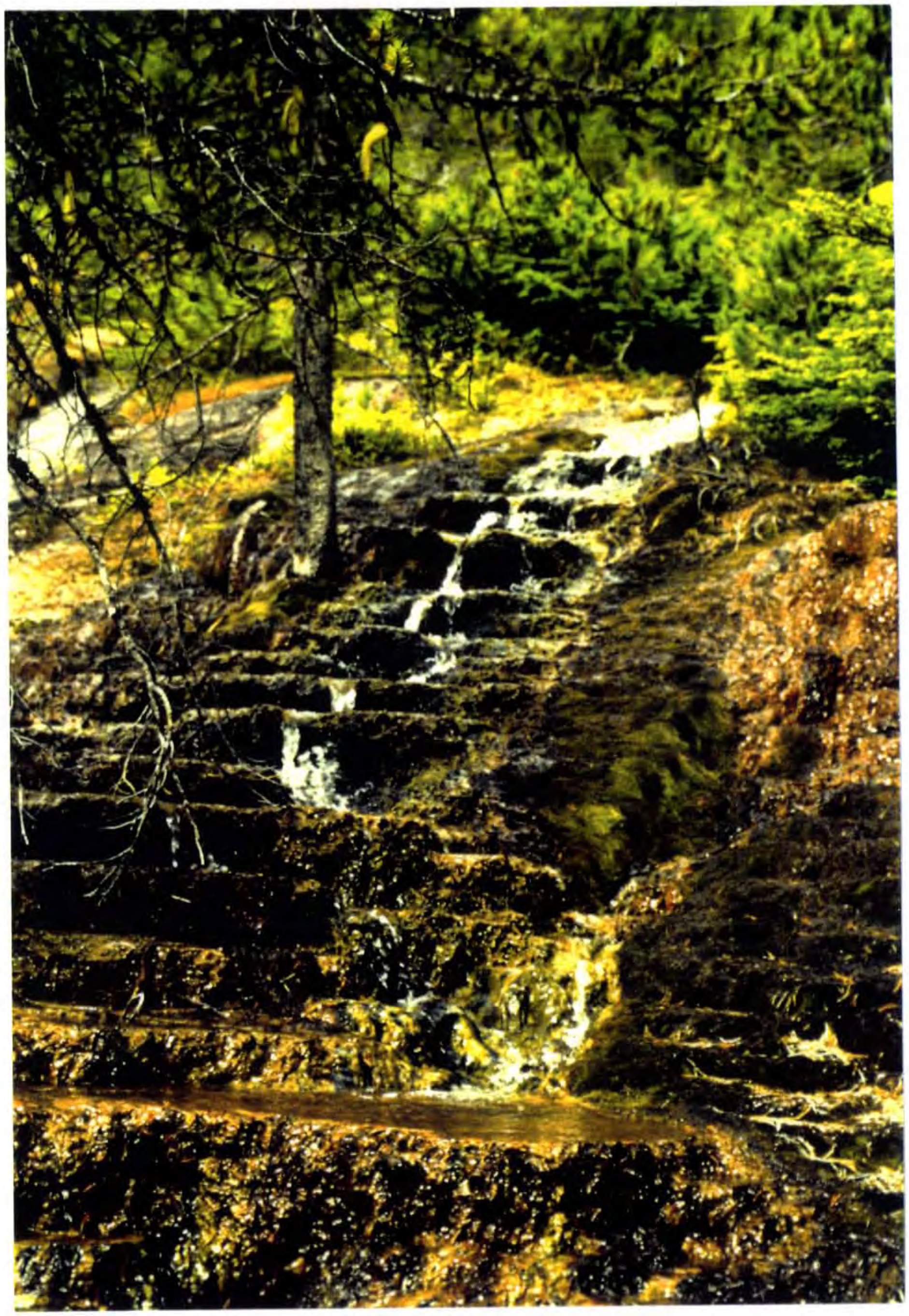


Figure 5.- Terraces developing during deposition of exotic limonite. These exposures are 500 meters upslope from Limonite Creek.

These rocks are intrusive into the flows and tuffs of the Telkwa Formation and are thought to be of the Coast Range Intrusive Complex, but proof of this is lacking.

Several other kinds of intrusive rocks occur and these are mostly in the eastern half of the map area. These may be divided into three groups of intrusives; hypabyssal intrusive rocks, hypabyssal volcanic rocks and various mafic to felsic dikes.

Hypabyssal Intrusive Rocks

A small stock(?) lies adjacent to and westerly from the Howson(?) batholith(Plate I). It occupies an area of about 20 to 25 hectares and is slightly rectangular or blocky in its outcrop pattern. Petrographic analysis shows it to be porphyritic granodiorite to hornblende quartz diorite (Tompson and Cuttle, 1994, Appendix II, samples 107,108,110,111,112 and 118).

Hypabyssal Volcanic Rocks

There are two principal kinds of hypabyssal volcanic rocks in the map area; shallow intrusive andesite and/or fine-grained diorite porphyry and fine-grained porphyritic latite.

Shallow Intrusive Andesite and/or Fine -Grained Diorite Porphyry.- This small body of intrusive andesite may be the remnants of a volcanic neck or plug which occupied a vent on an andesitic volcano. Petrographically, it is described as hypabyssal quartz-bearing diorite porphyry and as porphyritic hypabyssal andesite (Tompson and Cuttle, 1994, Appendix II, samples 123, 135 and 140).

It occupies an area of about 4 to 5 hectares in the northeastern part of the map area (Plate I) and its position appears to be influenced by the fault which is identified with the geophysical TEM Anomaly 1A (Fleming, 1992).

Fine-Grained Porphyritic Latite.- This small intrusive body is irregular to nearly dike-like in outcrop pattern (Plate I) and occurs over a strike length of 650 meters and is from 10 to 100 meters wide. In 1963 Noranda Exploration Co.Ltd. (Dirom, 1964) drilled a short diamond drill hole testing its potential as a porphyry copper target. The petrographic descriptions of three specimens are very similar (Tompson and Cuttle, 1994, AppendixII, sample nos. 105, 139 and 142). Phenocrysts of plagioclase, biotite, hornblende and apatite are set in a groundmass dominated by extremely fine-grained K-feldspar and plagioclase with minor disseminated chlorite/biotite and opaques.

Dikes

There are two principal types of dikes recognized and mapped and perhaps others not identified. Those identified are fine to coarse-grained diorite dikes which are very magnetic and fine-grained, white, quartz-eye rhyolite (field identification) or porphyritic dacite (petrographic identification).

Fine to Coarse-Grained Diorite Dikes.- A very prominent diorite dike system strikes northerly through the eastern part of the map area (Plate I and Figure 6). It is mapped through a length of 1250 meters and no doubt continues southerly from the map area to Limonite Creek, a distance of about 1100 meters. It is fresh and unaltered and is intrusive into the Telkwa volcanic rocks and into the various intrusive rocks.

Petrographic analysis (Tompson and Cuttle, 1994, Appendix II, samples 109 and 141) shows that the composition of the diorite is dominated by plagioclase and hornblende with minor interstitial quartz and K-feldspar and secondary patches of chlorite and one to 5 percent magnetite/limonite.

Rhyolite or Porphyritic Dacite Dike.- One large and apparently persistent felsic dike occurs in the northwestern part of the map area (Plate I). In the field it was called "quartz eye rhyolite", but the petrographic description (Tompson and Cuttle, 1994, Appendix II, sample number 101) shows it to be a porphyritic dacite. Phenocrysts of plagioclase and quartz and minor hornblende and biotite and patches of pyrite are set in a groundmass dominated by very fine grained plagioclase altered slightly to moderately, to sericite.

The dike apparently has a near-vertical dip and is exposed in a few scattered exposures over a strike length of 500 meters. The strike is about N.75W.

Pre-Hydrothermal Alteration Dikes.-Several narrow, shallow-dipping dikes occur in intensely hydrothermally altered rocks in Lazulite Canyon (Plate I) at approximate coordinates, L.6W.-2+60N. The dikes are not mapable units at scale, 1:2500 (as is the scale of Plate I) but were mapped at scale 1:500. The dikes are pre- or syn- alteration and apparently were andesite or latite dikes. They are brownish in color due to a limonite content of 2 to 3 percent and are visually prominent when observed against their whitish sericite-quartz-clay host rock. John Payne, Ph.D. conducted a petrographic analysis of the dikes:

> "Sample 9601 is an altered porphyritic andesite/latite containing phenocrysts of plagioclase and minor ones of hornblende(?) and sphene in a cryptocrystalline groundmass dominated by sericite and kaolinite with disseminated patches of ilmenite/hematite. In much of the rock, the original texture is vague to uncertain, because of alteration. Where textures are more obvious, plagioclase phenocrysts are altered completely to sericite-kaolinite-quartz, hornblende phenocrysts are altered to quartz, and sphene is replaced by Ti-oxide/ilmenite-kaolinite. Because of the extremely fine grain size of much of the alteration material, identification of phases, especially kaolinite, is tentative."

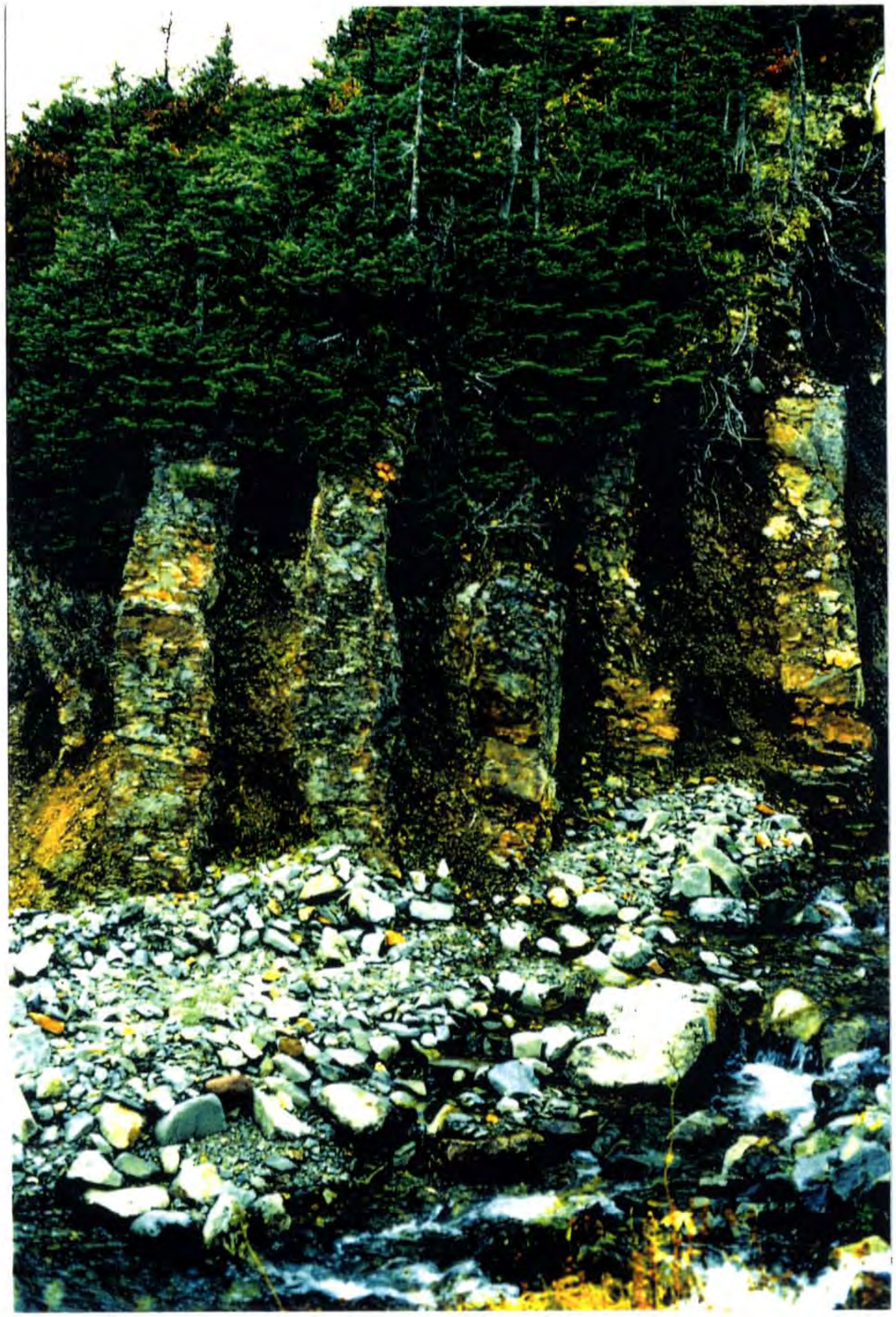


Figure 6.- Diorite dikes on the north bank of Many Bear Creek. The dikes are part of the diorite dike system which traverses northerly through the map grid area. Each of the dikes shown here is about one meter wide.

HYDROTHERMAL ALTERATION

The High Sulfidation (HS) Epithermal Model

The high sulfidation epithermal system, which may develop rich gold-copper deposits, develops in an active volcano, and is produced by sulfur-rich, oxidized fluids which originate from SO_2-rich magmatic volatiles in the presence of varying amounts of meteoric water (Sillitoe, 1993) .The fluids produced in this system are very acidic.

The process was first described by Heald (1987) and by Hedenquist (1987) and since that time has been extensively studied and used in the exploration and evaluation of ore deposits throughout the world [Sillitoe (1991), Gray and Coolbaugh (1994), Arribas, (1995) and Sillitoe 1996)].

In contrast to the HS deposits, low sulfidation (LS) deposits are produced by near-neutral pH thermal waters in the same volcano-dominated environment.

Epithermal gold deposits occur mostly in volcano-plutonic arcs which are associated with subduction zones (Hedenquist, Izawa, Arribas and White, 1996). Host rocks are mainly volcanic rocks and related sedimentary tuffs.

HS gold-copper deposits are characterized by a suite of minerals, many of which also occur in LS deposits, but a few of which are diagnostic for HS deposits.

The suite of ore minerals which are characteristic of HS gold-copper deposits includes (Hedenquist, et. al., 1996):

Pyrite, FeS_2	Always present, abundant.
Enargite, Cu_3AsS_4	Commonly present in small amounts; may constitute ore.
Covellite, CuS	Commonly present in small amounts, may constitute ore.
Chalcopyrite, $CuFeS_2$	Commonly present in small amounts.
Native gold, Au	In minor amounts, but may be enough to constitute ore.

And several other copper, silver, gold and arsenic-bearing minerals which may or may not occur.

Several gangue minerals which occur in the HS system are diagnostic; alunite is commonly an abundant mineral and must be present in the HS assemblage and zunyite may occur, but is in minor amounts. Several other minerals are common to the HS suite of gangue minerals; quartz, pyrophyllite, kaolinite, illite and barite may occur in minor to significant amounts. This suite of minerals constitutes the "advanced argillic" facies of hydrothermal alteration. However, quartz and some of the clay minerals and barite may also occur in the LS system.

The schematic cross section of the volcanic-hydrothermal system (below) by Hedenquist, Izawa, Arribas and White (1996) demonstrates the idealized morphology of a volcanic center in which high sulfidation (HS) gold-copper deposits, low sulfidation (LS) base metal-precious metal vein deposits and porphyry copper deposits may be formed.

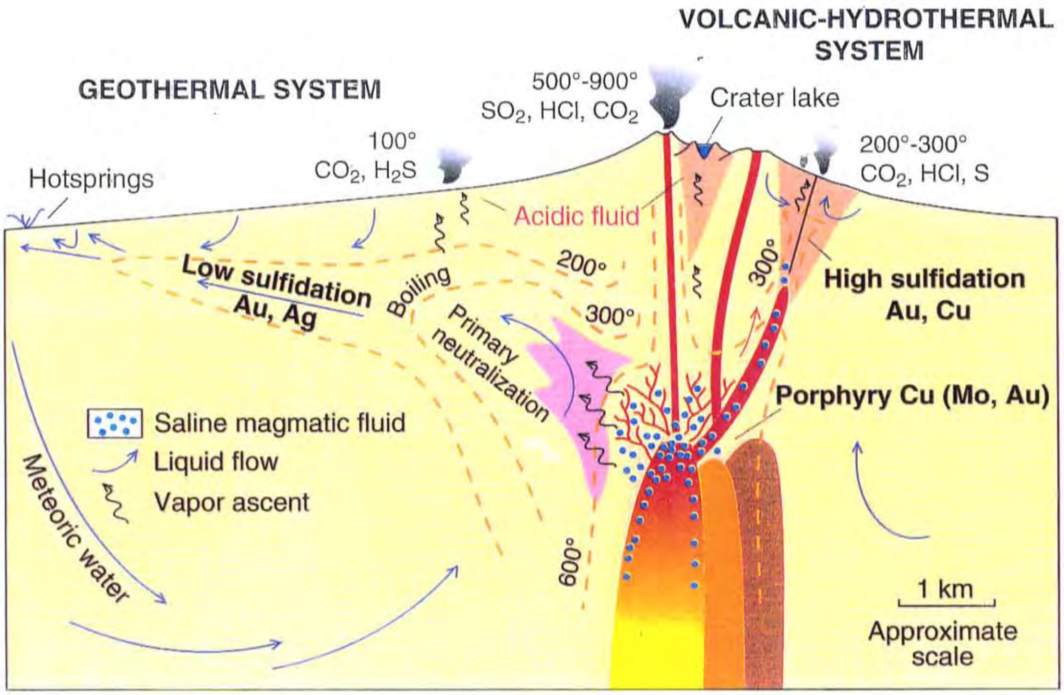
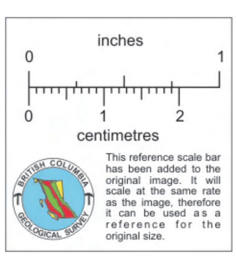


Fig. 1.1 Schematic cross-section showing shallow sub-volcanic intrusions and associated stratovolcano, and environments deduced for formation of porphyry Cu, and high- and low-sulfidation epithermal ore deposits [20,25]. Active volcanic-hydrothermal systems extend from degassing magma to fumaroles and acidic springs, and incorporate porphyry and/or high-sulfidation ore environments, whereas low-sulfidation ore deposits form from geothermal systems characterized by neutral-pH waters that may discharge as hot springs.

Figure 7.- Reproduction of Fig. 1.1 by Hedenquist, Izawa, Arribas and White (1996) showing idealized morphology of a volcanic-hydrothermal system.



The economic significance of HS gold-copper deposits is demonstrated by some notable examples of gold-copper-silver mines which have produced or are currently in production in various places throughout the world. Production and reserves data shown here are summarized from Arribas (1995) and from Hedenquist, et. al. (1996).

Deposit	Location	Au	Ag	Cu
Lepanto/FSE	Phillipines	550t (cont.)		3.6mt(cont.)
Goldfield	Nevada	130t (prod.)	43t (prod.)	
Pueblo Viejo	Dom. Rep.	>600t (prod.)		
El Indio/Tambo	Chile	Produced thru 1993;		
		126t	630t	320,000t
		Reserves;		
		121t	1075t	
Paradise Pk.	Nevada	47t (prod.)	1255t (prod.)	
Summitville	Colorado	20t (prod.)		

(Note: "prod." is total metric tons of metal produced;
"cont". is total metric tons of contained metal.)

The High Sulfidation (HS) Epithermal Model and Advanced Argillic Alteration at Limonite Creek

At Limonite Creek a large zone of hydrothermally altered rocks strikes east-northeasterly across the grid area (Plate I). In this zone of alteration there are many occurrences of rocks which display advanced argillic alteration mineralogy, similar to that which occurs with HS gold-copper deposits throughout the world. Diamond drilling in 1996 demonstrated the continuation of the hydrothermal alteration to depth, as well as its continuity on strike, in areas where there are no outcrops.

Rocks which display advanced argillic alteration at Limonite Creek are intermittently exposed over a length of about 1100 meters and a width of 850 meters and are approximately centered along the map grid area (Plate I). This zone of altered rocks is called the "Ridge Zone" due to its location along the height of land between Limonite Creek and Many Bear Creek.

The zone of alteration appears to terminate easterly against the diorite dike (Plate I) and disappears beneath glacial debris to the west.

At the end of the 1996 field season, outcrops of gossan were observed from a helicopter on strike and about 500 meters west-southwesterly from the Ridge zone. These outcrops are apparently the continuation of the zone of alteration where it becomes exposed from beneath glacial debris. The outcrops of gossan are in a small, steeply incised gully, but they could not be examined prior to demobilization of the camp.

At Limonite Creek the zone of advanced argillic alteration is extensively and complexly faulted, as may be expected, since it lies near the vent of a volcano. This zone was the focus of exploration efforts in 1992, 1994 and 1996, in a search for a high sulfidation gold-copper deposit.

Zone of Aluminous Alteration

A zone of aluminous alteration occurs adjacent to and north of the zone of argillic and advanced argillic alteration. Aluminous alteration is characterized by the presence of minor to significant amounts of corundum (Al_2O_3), andalusite ($Al_2\ SiO_5$) and at Limonite Creek, lazulite $[(MgAl_2)(OH_2)(PO_4)_2]$ and reflects a higher temperature environment of alteration than exists in argillic and advanced argillic alteration. Aluminous alteration is considered to have developed deeper in the hydrothermal system than argillic alteration and advanced argillic alteration and may be associated with a porphyry copper environment, as was shown by Gustafson and Hunt (1975) at El Salvador, Chile (See the model of the volcanic-hydrothermal system by Hedenquist, et. al., 1996, which is reproduced herein as Figure 7).

Plate I of this report shows that the aluminous zone is separated from the advanced argillic and argillic zones by a probable fault whose position and configuration are shown by TEM Anomaly 1A. This fault is believed to have telescoped the argillic-advanced argillic zone downward against the deeper aluminous altered rocks, a type of occurrence which may be expected in volcano-hosted ore deposits.

The fault is marked at the surface by a small drainage and swampy, gentle terrain lying along the north margin of the Ridge zone. The small drainage and swampy area strike parallel to and overlie, TEM Anomaly 1A and are parallel to and overlie the inferred fault with which they are associated.

Thus, since aluminous alteration is known to occur above some porphyry copper deposits, certain preliminary exploration measures should be taken to evaluate the potential of a porphyry copper target north of the zone of aluminous alteration, possibly centered on the slopes to the north and south of Many Bear Creek.

DIAMOND DRILL EXPLORATION IN 1996

During the period, August 21, 1996 to September 15, 1996 three diamond drill holes were drilled for a total of 862.9 meters (2830.3 feet). Drill hole locations and other basic data for the 1996 drilling are as follows:

DDH No.	Dates	Grid Lat. Dep.	Brg.	Dip	Elev.	Depth(m)
96-1	Aug. 21-Sept.1	8+00W.-2+41S.	N.28W.	-60	1341	416.7
96-2	Sept.2-Sept.9	6+00W.-3+15S.	N.21W.	-60	1340	270.3
96-3	Sept.12-Sept.15	2+96W-2+20S.	N.21W.	-60	1377	175.9.

Each of the holes was planned for 1500 feet (457m) depth or to penetrate through the advanced argillic alteration zone or through a high sulfidation zone of mineralization (if one was encountered) and into adjacent wall rock. Drill hole 96-1 completed successfully and core recovery was 100 percent through a zone of argillic alteration with pyrite, but drill holes 96-2 and 96-3 terminated prior to planned depth, due to bad ground conditions.

Drill core was logged in the field and Summary Drill Logs are Appendix I of this report.

Petrographic analyses of drill core specimens are Appendix II of this report. The petrographic analyses were done by John Payne, Ph.D. as were all of the petrographic analyses, dating from the earliest work by Cyprus Gold Canada, Ltd. in 1992 (Fleming, 1992). Dr. Payne has analyzed more than 100 thin sections from rocks at Limonite Creek and has done scanning electron microscope work on some of the minerals which defy recognition without special technical means.

Assays were done by MinEn Laboratories of Smithers and Vancouver, B.C. Assay Certificates are Appendix III of this report.

Diamond Drill Hole 96-1

The drill logs show that DDH 96-1 encountered mostly green andesitic rocks from the collar to 227.8 meters. The andesites display propylitic alteration and are strongly faulted with many clay-filled fracture zones of varying widths. Quartz veins, pyrite and traces of bornite and chalcopyrite occur throughout.

From 227.8 to 278.0 meters, a zone of alteration and mineralization occurs which consists of quartz, anhydrite, gypsum and montmorillonite along with quartz-pyrite-anhydrite veins. Pyrite content varies from 2 to 20 percent, is mostly extremely fine grained and not identifiable megascopically.

Through interval 278.0 to 318.1, the rock is alternately green andesite with near-vertical(?) fracture zones containing sericite-anhydrite-pyrite alteration (pyrite content is from one to 5 percent). The fracture zones are from one to 11 meters wide.

From 318.1 to 416.7 the rock is largely green andesite with 3 narrow veins (1-2m) of quartz-anhydrite-chlorite.

Contrary to field logging, petrographic analysis showed no alunite in DDH 96-1, so therefore DDH 96-1 did not encounter advanced argillic alteration. Furthermore, field estimates of pyrite content were higher than shown to be by petrographic analysis.

Diamond Drill Hole 96-2

Diamond drill hole 96-2 encountered green andesite and andesitic crystal lithic tuffs from the collar to 84.0 meters. Some andesite contained chlorite amygdules. Chlorite-epidote alteration is pervasive. Quartz veins, limonite veins and limonite-quartz veins occur locally.

The rock from drill intersection, 84.0 to 107.0 meters is gray, fine grained, altered, bleached andesitic or dacitic tuff with pyrite content, 5 to 20 percent. There are no petrographic data from this interval. Limonite occurs as a stain on fractures and is clearly transported.

From 107.0 to 121.0, the rocks are strongly altered, are gray to dark gray in color and are composed of quartz, alunite(?), and extremely fine grained pyrite, all of which replaced the original andesitic rocks, and occur as veins and patches as well.

A prominent change occurs at 123.9 meters. Several thin sections were analyzed in the interval 123.9 to 181.0 and the following makes liberal use of that petrographic information. The rock is about 10 to 40 percent quartz with varying amounts of clay, sericite, muscovite and leucoxene. It becomes extremely porous at 203.3 meters and is composed almost entirely of quartz-alunite-pyrite. The rock here is vuggy silica, as described in many places in the literature [e.g., Gray and Coolbaugh (1994) and Hedenquist, Izawa, Arribas and White (1996)] and is similar to rocks which are recognized in some deposits as the principal host for HS gold-copper ore. Alunite occurs in amounts of 3 to 45 percent and covellite (CuS) and colusite $(Cu,Fe,Mo,Sn)_4(S,As,Te)_{3-4}$ occur in minor to trace amounts below 200 meters depth. Covellite is intergrown with quartz and pyrite and is thought to be hypogene in origin.

From 255.4 to the end of the hole at 270.3 meters, only clay gouge and rubble were recovered in the core.

Sixty feet of "H" drill rods, the core barrel and diamond bit were lost in the hole and the hole was abandoned.

Diamond Drill Hole 96-3

DDH 96-3 collared in buff-colored, bleached, limonite-stained andesite, but at 7.5 meters the rock changed to green andesitic tuff with strong propylitic alteration, which continued to 59.9 meters.

From 59.9 to 93.0 meters, the rock is soft and plastic and is composed of clay, limonite, quartz and pyrite (Pyrite content estimated to be up to 20 percent). There are no petrographic data from rocks in DDH 96-3 due to the incompetent character of potential samples.

A limonite-clay zone (fault?) occurs from 59.9 to 61.1 and green andesite continues from 61.1 to 172.5 meters. Sand-size grains of quartz and pyrite rubble occur from 172.5 to 175.9, where the hole was terminated by collapse of the walls. A total of 210 feet of "HQ" drill rods, the core barrel and diamond bit were lost in the hole and it was abandoned.

ASSAYS AND GEOCHEMICAL ANALYSES

As a general rule, any of the core which appeared to be mineralized was assayed. Green andesite which is propyliticly altered with strong, crusty limonite masses was assayed, if the assay interval was a meter or more. Rocks which displayed argillic alteration or advanced argillic alteration and which contained 5 percent or more of pyrite were assayed, either by fire assay or by geochemical assay. All vuggy silica was assayed whether it displayed any evidence of metallic mineralization or not. The assay interval was maintained at one meter with a few exceptions. A total of 337 samples were submitted for assay and every 5th sample received ICP analysis.

The core assays are shown on the Summary Drill Logs (Appendix I, herein). Assay certificates and ICP analyses are Appendix III of this report.

With a few exceptions, gold assays were less than 10 ppb.

However, long intervals of core contained anomalous values in silver and copper. These are shown below and are arranged according to the elevation from which the sample was taken, the purpose being, to investigate whether the geochemical grades are affected by their depth in the hydrothermal system or whether they are affected by weathering.

The data shown in the table below are arranged to show geological and assay data according to the elevation of the geological and assay interval, and not according to a drill hole intercept.

Diamond Drill Hole 96-1. Elevation of Collar, 1341 meters.

Elevation of Interval	Length of Interval	Ag(ppm)	Cu(ppm)	Description of Geology of Interval
1335-1265	70	0.8	142	Green andesite
1239-1133	106	0.7	127	Alternating green andesite and quartz-anhydrite-pyrite.
1118- 992	126	1.5	96	Montmorillonite-quartz-pyrite; veins of quartz-pyrite- and quartz-anhydrite chlorite.
1234-1212, Tellurium=1.2ppm				

Diamond Drill Hole 96-2. Elevation of Collar, 1340 meters

Elevation of Interval	Length of Interval	Ag(ppm)	Cu(ppm)	Description of Geology of Interval
1316-1277	39	1.4	116	Gray to greenish porphyritic andesite; epidote-pyrite alteration.
1268-1247	21	1.4	64	Fine grained quartz-pyrite-limonite; altered crystal lithic tuff; limonite-quartz veins.
1247-1223	24	1.0	257	Strongly altered porphyritic latite; quartz-epidote-sericite/ muscovite. Strong quartz-alunite-pyrite alteration. At about 1229 meters elevation, chalcopyrite slightly replaced by chalcocite/digenite and covellite.
1152-1115	37	0.8	252	Altered rhyolite(?). Quartz-alunite-pyrite-muscovite-leucoxene alteration.Strongly altered rhyolite(?) Sericite/muscovite-quartz-(alunite-pyrite). Seams of pyrite-quartz-(colusite); lens of sphalerite-covellite.
1149-1135, Tellurium=1.57ppm				
1152-1149, Thallium=105ppb				
1131-1126, Tellurium=2.8ppm				
1123-1115, Tellurium=1.5ppm				

Diamond Drill Hole 96-3. Elevation of Collar, 1377 meters

Elevation of Interval	Length of Interval	Ag(ppm)	Cu(ppm)	Description of Geology of Interval
1299-1284	15	2.0	237	Green pyritic andesite
1291-1284, Tellurium=1.4ppm				

Anomalous geochemical values were also noted for arsenic and antimony in several locations in the drill cores. Tellurium and thallium values were determined on composites of the core samples upon completion of other geochemical analyses.

Gray and Coolbaugh (1994) showed that tellurium values in ore which occurs in the vuggy silica at Summitville ranged from 2 to 20 ppm which suggests, "that Te is a characteristic element at Summitville and perhaps other acid sulfate deposits as well".

Anomalous tellurium values are shown to occur in the vuggy silica from cores in DDH 96-2 at Limonite Creek, the highest value being a 5-meter sample with a tellurium assay of 2.8ppm. Anomalous arsenic, antimony and tellurium values are shown in tabular form below.

DDH 96-1

Elevation	As(ppm)	Sb(ppm)	Te(ppm)	Description
1234-1212			1.2	Bleached andesite and rubble.
1144-1145	234			Green andesite.
1142-1141	230			Light green andesitic tuff.
1133-1132	236			Light green andesitic tuff.
1054-1053	238			Gray andesite; 2-5 percent vfg pyrite.
992- 991	77			Gray quartz and pyrite.

DDH 96-2

Elevation	As(ppm)	Sb(ppm)	Te(ppm)	Description
1316-1315	151			Gray, silicified, pyritized, andesite; limonitic.
1305-1302	120			Gray, altered andesite. Some vfg pyrite.
1288-1286	105			Gray, altered andesite; slightly pyritic.
1267-1265	119			Quartz-alunite-pyrite-limonite.
1257-1255	92			Quartz-alunite-pyrite-limonite.
1248-1247	125			Gray quartz; vfg disseminated pyrite in quartz.
1238-1237		3		Quartz, alunite, vfg disseminated pyrite.
1230-1229		6		Gray quartz.
1156-1155	31			Vuggy silica.
1152-1151		10	0.8	Vuggy silica.
1149-1144			1.6	Vuggy silica.
1144-1135			2.0	Vuggy silica.
1131-1126			2.8	Vuggy silica.
1123-1115			1.5	Vuggy silica and clay and quartz.

DDH 96-3

Elevation	As(ppm)	Sb(ppm)	Te(ppm)	Description
1291-1284			1.4	Dark green to light green andesite with very fine grained pyrite.

CONCLUSIONS

Results of the Diamond Drilling Program

Three widely spaced drill holes, all inclined at minus 60 degrees with bearings near grid-north encountered wide intersections of fine-grained to extremely fine-grained pyrite in amounts to 25 percent.

Rocks displaying prominent advanced argillic alteration were encountered in DDH 96-2, downward from elevation 1247 meters and continued to the bottom of the hole at elevation 1106 meters. This was confirmed by petrography at elevation 1218 meters (Sample 96-2, 128.2m., Appendix II).

Hypogene covellite (CuS) occurrences are noted in thin sections at elevations 1151 meters (Sample 96-2, 217.8m Appendix II) and at elevation 1143 meters (Sample 96-2, 228.0m, Appendix II). Covellite, colusite $(Cu,Fe,Mo,Sn)_4(S,As,Te)_{3\text{-}4}$ and sphalerite(ZnS) occur in minor to trace amounts through the intervals to the bottom of the hole.

It is noted that an extensive deposit of vuggy silica occurs in DDH 96-2 between elevations 1164 to 1119 meters. Calculated width of the zone is 26 meters.These intersections of the zone of vuggy silica are down dip on large, near vertical structures which underlie the small lake known as "Dead Center Lake". The top of the intersection occurs at a depth of 190 meters below the lake.

Diamond drill holes 96-1 and 96-3 encountered strong and pervasive argillic alteration with pyrite contents to 20 percent throughout broad sections (See diamond drill logs, this report, Appendix I).

Long intervals in the three drill holes contain anomalous values in silver and copper, with silver averages to 2ppm and copper averages to 257ppm. In DDH 96-1, the three intervals total 302 meters; in DDH96-2, four intervals total 121 meters and in DDH 96-3 one interval is 15 meters.

The Possible Porphyry Copper Target on the Slopes Above Many Bear Creek

It was shown above (p. 15) that rocks which lie north of the aluminous zone (Plate I) and north of the fault which is identified by TEM Anomaly 1A, are from deeper within the volcanic hydrothermal system [See model by Hedenquist, Izawa, Arribas and White (1996) which is reproduced herein as Figure 7] than rocks which display argillic and advanced argillic alteration, and as such are possible host rocks for a porphyry copper deposit.

No attempt has been made to assess the porphyry copper potential at Many Bear Creek, but a mapping and sampling program and a helicopter-borne aeromagnetic survey should be conducted in 1997 in order to examine this possibility.

RECOMMENDATIONS

New information acquired by field and laboratory work during the period 1992 to 1996 shows that a more diverse and intensive exploration agenda is required for the prospects at Limonite Creek.

A new claim which was staked by the Company on a prospect area about 6 kilometers southwest of camp, appears to be very promising. It is called the Pass claim (See page 1 of this report).

New field and laboratory information prompted a revised interpretation of the geological significance of the unit of rocks referred to as the "aluminous zone" (Plate I). As a result of the new interpretation, the possibility of the existence of a porphyry copper occurring blind beneath the slopes at Many Bear Creek is recognized.

It was shown during the 1996 work that drill results were very promising on the southernmost drill site (DDH 96-2) where a very large zone of vuggy silica was encountered. Vuggy silica is recognized as a host rock in prominent high sulfidation (HS) gold-copper deposits throughout the world [Gray and Coolbaugh (1994) and Hedenquist, et.al., (1996).] Thus, future drilling should be concentrated in this target area. Surface geological mapping terminated near this drill site due to very difficult terrain lying downslope and to the south, but now mapping must be extended south to Limonite Creek, east to Howson batholith and westward to the limits of the hydrothermal alteration or to where outcrops cease.

Geophysical Survey

It is recommended that a helicopter-borne aeromagnetic-electromagnetic survey be conducted over the entire original Bear claim (20 units) and over the newly-staked Pass claim (20 units). The survey will help to focus the field mapping during the summer of 1997 and will identify and define areas of hydrothermal alteration and areas of structural importance.

The helicopter-borne electromagnetic survey will be run simultaneously with the magnetic survey and the geophysical methods will identify magnetite deficient zones which may be associated with a porphyry copper deposit and/or shallow, conductive zones which may be associated with HS or LS epithermal precious metal deposits.

For definition of shallow geological features it is recommended that survey line spacing be maintained at 100 meters, which is readily achieved using GPS survey control. Thus, the 20-unit claims which are 2000 by 2500 meters will each require 50 line-kilometers of survey to be flown, or a total of 100 kilometers for the Bear and Pass claims.

The cost of the survey requires $2,500 for mobilization and demobilization, $125 per line-kilometer in flying the survey including data reduction, plus $3,000 for a detailed report and maps from the geophysical consultant. Thus the estimated cost of the helicopter-borne mag-EM survey is $18,000.

This geophysical survey should be done in late winter or early spring so that the final report and maps will be available to geologists prior to the beginning of the field season.

Geological Mapping

Geological Mapping of the Bear Claim.-Information which was acquired during the 1996 field project shows that certain areas adjacent to the HS prospect area which were not mapped previously, must now be geologically mapped.

During the cutting of Baseline No.2 (Plate I), which was to serve as survey control for mapping and sampling of the limonite deposits by Cari Deyell (See page 7 of this report), it was observed that andesites in that area are green tuffs and flows which display strong propylitic alteration. Thus, the altered volcanic rocks which underlie much of the area south of the Ridge zone are prospective hosts for additional zones of advanced argillic alteration and zones of high sulfidation mineralization.

It is recommended that geological mapping be continued from the south edge of the present grid, south to Limonite Creek, east to Howson batholith and westward to the limit of outcrop or to the limit of hydrothermally altered rocks or to the eastern edge of the intrusive Coast Range(?) rocks. This work will require one experienced geologist and an experienced geological assistant. Their survey control will be maintained by GPS and by topographic maps. Their base of operations will be the main base camp with several temporary camp sites near their work areas.

Estimated cost of geological mapping of the area south of and adjacent to the Ridge zone on the Bear claim, is $36,000.

Geological Mapping and Sampling of the Pass Claim.-Additionally, the Pass claim will require preliminary geological mapping and some rock geochemical sampling .Geochemical sampling will be conducted during/after geological mapping by a team of geochemical samplers.

A tent on frame will be set up for use by the geological and sampling teams with the necessary supplies and equipment for use over extended periods of time.

The mapping team and the sampling team will require helicopter support and must maintain regular radio contact with the base camp.

Estimated cost of mapping and sampling the Pass claim is $72,000.

Diamond Drilling Exploration

This diamond drill proposal is considered to be a preliminary proposal and may be modified after completion of the helicopter-borne magnetic-electromagnetic survey which is to be done on the Bear claim.

Diamond Drill Proposal for the HS Target on the Ridge Zone.- Diamond drill hole 96-2 identified a large, strong zone of vuggy silica which does not crop out at surface due to cover by talus, glacial debris and vegetation. It was shown by Gray and Coolbaugh, (1994) and by Hedenquist, et.al. (1996) and several other investigators during the past decade, that vuggy silica is a principal host rock for HS gold-copper deposits.

The location and shape of the zone is shown by TEM Anomaly 2A, which was discovered in 1992. It is a very strong anomaly and is 500 meters long and strikes about east-northeasterly.

Rock in the zone of vuggy silica is composed mostly of alunite and quartz, is very porous with abundant open spaces and is tightly fractured along roughly parallel and close spaced planes, to the extent that core breaks into small fragments rarely exceeding 2 to 3 centimeters in length. The rocks are thoroughly leached and all that remains is quartz and alunite and very minor amounts of other minerals, but it is not known with certainty what minerals were leached. However, from the location on the surface of the large exotic limonite deposit lying below 1025 meters elevation, an elevation which is significantly lower than the leached zone in the vuggy silica, there is a strong suggestion that oxidizing sulfides from the vuggy silica zone contributed to the present exotic limonite deposit. The small lake known as, "Dead Center Lake" appears to occupy a depression which was produced by collapse in the leached rocks, as does a system of very irregular and subtle surface depressions which strike east-northeast and west-southwest from the lake.

The vuggy silica rocks lie above the water table in the oxidizing environment and nearly all of their sulfide minerals were oxidized and removed by weathering processes. Some of the acidic iron-bearing solutions migrated southward and reached the surface, where some(?) of the iron precipitated to form exotic (transported) limonite.

However, the vuggy silica zone no doubt continues below the water table where it has not been tested by drilling, and here it may contain the full suite of sulfide minerals which were emplaced during the hydrothermal events that produced the vuggy silica. This is a very worthy exploration target.

It is recommended that at least three drill holes, all steeply inclined to minus 75 degrees in order to achieve greater depth over the horizontal component, be drilled from positions south of TEM Anomaly 2A. One drill hole may utilize the drill site of DDH 96-2. Each hole should be drilled to a minimum of 400 meters depth. Maximum depth should be decided on site.

The very large TEM Anomaly 3A (Plate I) has not been tested in any of the previous drilling and with the discovery of the large, strong vuggy silica deposit associated with TEM Anomaly 2A, TEM Anomaly 3A takes on a new significance. Therefore, it is recommended that Anomaly 3A be tested with a deep drill hole at approximate grid coordinates, 4+50W.-3+50S. and be drilled at minus 60 to 75 degrees at a bearing of grid-north (N.28W.). Completion depth should be 300 to 400 meters.

Diamond Drill Proposal for the Porphyry Copper Target.-It was shown above that a porphyry copper target may occur north of the aluminous alteration zone (Plate I) in the Many Bear Creek drainage area. A helicopter-borne magnetic-electromagnetic survey is proposed (above) to investigate and attempt to validate this concept.

If a geophysical anomaly characteristic of a porphyry copper deposit is discovered underlying the area along Many Bear Creek, at least two diamond drill holes should be drilled to conduct a preliminary evaluation of the target. The holes should be vertical and from 150 to 300 meters deep. Deeper holes are probably not required because a deeply buried porphyry copper is not a particularly attractive target at Many Bear Creek.

Other Possible Drill Targets.-It is recommended that about 600 meters of drilling be budgeted for targets not yet specifically identified, e.g., possible drill testing of the gossan at grid location approximately, L.14+50W., about 450 meters south of the baseline at an elevation of 1150 meters. Also, a geophysical or geochemical target may be identified on the Pass claim which could be drill tested late in the season (see page 21 in this report regarding the Pass claim).

ESTIMATE OF COST OF EXPLORATION

The following cost estimate for the exploration project at Limonite Creek for 1997 is based upon the concepts described above and outlined as follows:

1. A helicopter-borne aeromagnetic-electromagnetic survey will be conducted on the central Bear claim and the new Pass claim;
2. Expanded geological mapping in areas adjacent to the Ridge zone;
3. Geological mapping of the Pass claim;
4. Geochemical sampling of the Pass claim;
5. Diamond drilling;
    - A. 1200 meters in 3 holes in the vuggy silica host rock in TEM Anomaly 2A,
    - B. 400 meters on the large TEM Anomaly 3A, which is not yet tested,
    - C. two, 200 meter holes on the possible porphyry copper target on Many Bear Creek and
    - D. 600 meters of drilling reserved for testing targets not yet specifically identified.

The cost of the exploration is expected to be as follows:

Heli-borne mag-EM surveys, 100 ln. km.		
@ $125/line km, report and maps	$18,000	
		$18,000
Geol. mapping south of Ridge zone;		
Wages and fees	12,500	
Helicopter	18,000	
Camp,food,supplies	6,500	
GPS, radios, etc.	4,000	
		41,000
Geol. mapping of Pass claim;		
Wages and fees	12,500	
Helicopter	19,500	
Tent on frame, camp gear	5,000	
Food and supplies	3,500	
		40,500
Geochem. sampling Pass claim;		
Wages and fees	5,200	
Food	1,500	
Geochem. supplies	1,000	
Assays, ICP	11,000	
Helicopter	9,750	
GPS, radio	3,500	
		31,500

Diamond drilling

8530 ft. @ $24/ft.	$204,720	
Field costs, @$16/ft.	136,480	
Helicopter, A-Star @$850/hr., mob/demob	54,000	
7 moves @8 hrs./move	47,600	
Haul supplies, etc. use 500D or 206	34,000	
Haul fuel	34,000	
Purchase fuel	10,000	
Trucking drill, fuel, etc.	5,000	
		$525,800

Operating costs of the exploration project are expected to be as follows:

Mob/demob camp, supplies and personnel;

Truck hauling	$3,000	
Helicopter, 206 or 500D	26,000	
		26,000

Management, technical, first aid , kitchen;

Manager	$26,250	
Geologist	20,000	
Foreman	20,000	
Camp cook	15,000	
Laborer	13,125	
		94,375

Contracts, supplies and services;

Const. new first aid tent and fly in builders, materials	7,000	
Stove oil and propane	18,750	
Food	30,000	
Office supplies	2,000	
Diamond saw, blades	2,000	
Rent generators	4,000	
Core assays, ICP	15,950	
Core racks and fly in material	6,000	
Expediting	20,000	
Weekly helicopter service	40,000	
		145,700

Final report costs;

Geological fees	16,500	
Secretarial and drafting	14,500	
		31,000

Accounting	$ 7,000	
Payroll costs	25,000	
Legal fees	10,000	
		$42,000
Phone in camp, satellite service	10,000	10,000
Research, UBC/MDRU	10,000	10,000
Consulting fees	20,000	20,000
	Total	$1,035,375
	Contingencies	155,306
	TOTAL	$1,190,681

Respectfully submitted

W.D. Tompson

Willard D. Tompson, P.Geo.

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CERTIFICATE

I, Willard D. Tompson, of Smithers, British Columbia, do hereby certify:

1. THAT I am a consulting geologist residing at 1380 Cronin Place, Smithers, British Columbia;

2. THAT I hold a Master of Science degree (Geology) from Montana State University, Bozeman, Montana;

3. THAT I am registered as a Professional Geoscientist by The Association of Professional Engineers and Geoscientists of British Columbia;

4. THAT I am a Fellow of the Geological Association of Canada;

5. THAT I have practiced my profession for more than 30 years;

6. THAT I was manager of the exploration project at Limonite Creek-Many Bear Creek during the period, July 20 to September 17, 1996 and this report is based upon my own observations. It is further noted that liberal use was made herein of petrographic data which was produced by John Payne, Ph.D. who is a consultant on petrography and mineralogy;

7. THAT I have a financial interest in Telkwa Gold Corp.

Dated at Smithers, British Columbia. this 3rd day of February, 1997.

Willard D. Tompson, P.Geo.

APPENDIX I

Limonite Creek Property
Summary Diamond Drill Log
DDH 96-1

Date Collared: August 21, 1996 **Bearing: N.28W.** **Lat. 8+00W. Dep. 2+41S.**
Date Completed: September 1, 1996 **Dip; -60** **Depth; 416.7m. Elev. 1341m.**

Depth			Assay Data				
From	**To**	**Description**	**Interval**	**Sample No.**	**Au(ppb)**	**Ag(ppm)**	**Cu(ppm)**
0	6.6	Limonitic clay, quartz; all rubble.	3.1-4.1	64051	10	.2	21
			9.0-10.1	64052	11	.8	137
6.6-	17.5	Fine grained, green andesite, sparse quartz stockwork with limonite and strong quartz stockwork with local brecciation.	10.1-11.2	64053	5	1.3	80
			11.2-12.0	64054	7	1.0	117
			12.0-13.0	64055	8	1.0	144
			13.0-14.0	64056	2	1.1	58
			14.0-15.0	64057	3	1.4	89
			15.0-16.0	64058	3	1.3	82
			16.0-17.0	64059	3	1.1	103
			17.0-18.0	64060	5	.5	121
17.5	18.0	Heavy white clay.					
18.0	20.0	Green, fine grained andesite. Strong quartz stockwork with limonite.	18.0-19.0	64061	6	.9	76
			19.0-20.0	64062	8	1.0	53
20.0	21.8	White, buff, brecciated, quartz-rich, sericitic, limonitic.	20.0-21.8	64063	4	.6	54
21.8	23.4	Green, fine grained andesite and rubble.	23.4-25.0	64064	2	1.0	82
23.4	30.0	Andesite. Brecciated, silicified, re-brecciated. Quartz-limonite to 50 percent.	25.0-26.1	64065	1	.5	91
			27.2-29.0	64066	4	.9	60
30.0	35.6	Grey, plastic quartz-clay. Crushed. Pyrite from 5 to 20 percent.	30.0-32.0	64067	3	.6	65
			32.0-34.0	64068	5	.5	239
			34.0-35.6	64069	1	.4	88
35.6	45.2	Andesite, brecciated and bleached, sericitized, silicified with quartz veins and limonitic. Some open vugs. Occurrence of pyrophyllite.	35.6-37.0	64070	1	.2	47
			37.0-39.0	64071	1	.5	152
			39.0-41.0	64072	4	.6	149
			41.0-43.0	64073	3	.4	126
			43.0-45.0	64074	6	.7	119
45.2	70.7	Grey and green massive andesite and/or porphyritic andesite and tuffs.					
70.7	71.8	Breccia, clay and sericite. Probably a fault.					
71.8	81.4	Fine grained, green andesite. Becomes grey at 74.0.					
81.4	87.8	At 81.4 meters, rock is pulverized and is sand-sized grains for 12 cm. Sulfide content is 25 percent or more. Pyrite, trace of chalcopyrite and bornite. Rock is dark grey to black. Is mostly quartz and sulfides.	81.4-82.0	64075	2	1.0	257
			82.0-83.0	64076	2	.9	386
			83.0-84.3	64077	1	.6	151
			84.3-85.0	64078	1	.7	357
			85.0-86.0	64079	1	1.2	381
			86.0-87.0	64080	1	1.3	254
			87.0-87.8	64081			
87.8	90.5	Quartz-clay-sericite-sulfides. Lost 80% of core.	87.8-90.5	64082	4	.2	50

Limonite Creek Property
Summary Diamond Drill Log
DDH 96-1

Depth From	Depth To	Description
90.5	92.6	Grey, mushy quartz-clay-sulfides.
92.6	93.5	Heavy, buff to brown clay and sericite-clay. Fault zone.
93.5	102.3	Alternating 2-meter intervals of sericite-clay and porous "sponge" quartz with traces of limonite stain.
102.3	104.0	Dike. Maybe a lamprophyre.
104.0	107.8	Grey to buff sericite-clay, slightly limonitic; breaks into chip-like fragments.
107.8	111.9	Very hard dense, grey quartz; limonitic.
111.9	113.5	Soft, plastic, mushy, buff to yellow clay-sericite-quartz(<10%).
113.5	118.4	Fine-grained, grey quartz; cryptocrystalline with open spaces. Minor v.f.g. pyrite.
118.4	119.0	White to grey, bleached, brecciated andesite.
119.0	125.5	Dark grey andesitic breccia. Some limonite.
125.5	128.1	Brecciated andesite, bleached white to buff; sericite and clay. Limonite rims breccia clasts.
128.1	131.0	Fresh-looking, dense, grey to slightly greenish andesite.
131.0	133.7	Rubble of silicified, limonite-stained andesite.
133.7	142.3	Rock would not core. Drilled tricone to 142.3meters.
142.3	146.3	Dense, fine grained green andesite.
146.3	150.0	Grey quartz with disseminated pyrite.
150.0	152.0	Green andesite. Rubble only
152.0	154.5	Fine grained, grey "sugary" textured quartz with about 5 percent pyrite.
154.5	227.8	Green, dense, fine grained andesite with propylitic alteration. Epidote content increases from about 175 meters.

Assay Data

Interval	Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
90.5-92.6	64083	6	.2	12
92.6-94.0	64084	3	.3	28
94.0-95.0	64085	10	.1	26
95.0-97.0	64086	4	.1	16
97.0-99.0	64087	7	.2	10
99.0-101.0	64088	3	.2	17
101.0-102.3	64089	6	.4	35
107.8-109.0	64090	2	.1	21
109.0-110.0	64091	10	.1	24
110.0-111.0	64092	3	.1	31
111.0-111.9	64093	5	.2	54
113.5-115.0	64094	6	.1	53
115.0-116.0	64095	6	.1	11
116.0-117.0	64096	2	.1	7
117.0-118.1	64097	3	.2	9
118.1-118.4	64098	12	.2	113
118.4-120.0	64099	6	.1	103
120.0-122.0	64100	6	.3	127
122.0-124.0	64101	9	.4	148
124.0-126.0	64102	10	.2	102
126.0-128.2	64103	4	.1	70
131.0-132.0	64104	41	.6	35
132.0-133.7	64105	7	.6	43
146.3-148.0	64106	10	.2	36
148.0-149.0	64107	4	.3	291
149.0-150.0	64108	5	.3	64
152.0-153.5	64109	11	.4	219
153.5-154.5	64110	6	.3	125
223.0-223.4	64111	1	1.5	15
227.0-227.8	64112	2	1.4	65

Limonite Creek Property
Summary Diamond Drill Log
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Depth From	Depth To	Description
227.8	230.3	Quartz-anhydrite-alunite with about 1 percent pyrite. Strong, prominent grey streaks of extremely fine grained sulfides and quartz.
230.3	237.0	Light green, fine grained andesitic tuff with less than 1 percent v.f.g. pyrite.
237.0	238.2	Quartz-anhydrite-alunite with about 5 to 20 percent pyrite.
238.2	239.7	Fine grained green tuff with disseminated pyrite.
239.7	278.0	The rock is composed of quartz, anhydrite, alunite and sulfide minerals, with pyrite and other sulfides occurring in amounts of 10 to 50 percent or more. Relict breccia textures are prominent thruout. Pyrite is commonly identifiable, but thruout most of the rock, sulfide minerals are extremely fine grained and appear as black masses or streaks with a slight metallic luster. The rock is a prominent grey to dark grey color. It is relatively soft and is very competent. Core recovery in this interval (239.7-278.0) was 100 percent thruout. Core in this interval was split with a diamond saw for sampling purposes. Fractures and relict lineations thruout this interval are from 20 to 30 degrees off the core axis, which suggests near-vertical structural control for the mineralization.

Assay Data

Interval	Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
227.8-229.0	64113	2	2.6	6
229.0-230.3	64114	1	1.2	14
230.3-231.5	64115	2	1.2	73
237.0-238.2	64116	10	.8	805
238.2-239.7	64117	3	1.6	98
239.7-240.7	64118	14	.8	92
240.7-241.8	64119	9	.7	75
241.8-243.0	64120	1	.3	39
243.0-244.0	64121	5	.3	70
244.0-245.0	64122	1	.2	42
245.0-246.0	64123	2	.5	72
246.0-247.0	64124	1	.3	27
247.0-248.0	64125	2	.6	30
248.0-249.0	64126	1	.7	25
249.0-250.0	64127	1	.7	25
250.0-251.0	64128	1	.8	23
251.0-252.0	64129	1	.6	31
252.0-253.0	64130	3	.5	33
253.0-254.0	64131	1	.4	24
254.0-255.0	64132	6	.5	41
255.0-256.0	64133	5	.4	15
256.0-257.0	64134	4	.8	21
257.0-258.0	64135	6	.9	52
258.0-259.0	64136	3	1.3	66
259.0-260.0	64137	2	1.2	35
260.0-261.0	64138	5	1.3	70
261.0-262.0	64139	1	1.5	97
262.0-263.0	64140	3	1.3	69
263.0-264.0	64141	2	1.2	96
264.0-265.0	64142	3	1.5	81
265.0-266.0	64143	1	1.1	116
266.0-267.0	64144	4	1.3	95
267.0-268.0	64145	2	1.5	68
268.0-269.0	64146	3	1.3	17
269.0-270.0	64147	1	1.8	133
270.0-271.0	64148	6	2.3	270
271.0-272.0	64149	2	1.3	45
272.0-273.0	64150	3	1.2	48
273.0-274.0	64151	3	1.2	45

Limonite Creek Property
Summary Diamond Drill Log
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Depth From	Depth To	Description	Interval	Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
239.7	278.0	(continued) The contact at 278.0 is knife-edge sharp. The change from high sulfidation mineralization to adjacent propyliyicly altered andesite occurs over a width of less than 1 millimeter with no open space nor open fracture at the contact. The angle of the contact is at about 20 degrees from the core axis.	273.0-274.0	64151	3	1.2	45
			274.0-275.0	64152	4	1.3	37
			275.0-276.0	64153	4	1.1	50
			276.0-277.0	64154	6	1.3	102
			277.0-278.0	64155	8	1.3	139
278.0	288.6	Fine grained, green andesite or andesitic tuff. Strong propylitic alteration.					
288.6	294.7	Dense, grey quartz-alunite sulfides with strong relict breccia textures. Both contacts are clean and sharp. Anhydrite seems to be absent here.	288.6-290.0	64156	9	1.9	87
			290.0-291.0	64157	6	1.2	47
			291.0-292.0	64158	5	1.2	45
			292.0-293.0	64159	11	1.3	74
			293.0-294.0	64160	12	1.4	112
			294.0-294.7	64161	11	1.4	56
294.7	296.6	Fine grained, green andesite.					
296.6	299.0	Grey quartz-alunite sulfides.Strong foliation at 70 degrees with core axis appears to control emplacement of mineralization. The contact is clean and sharp.	296.6-298.0	64162	5	1.4	88
			298.0-299.0	64163	8	1.3	45
299.0	300.3	Green andesite. Sharp contacts.	299.0-300.3	64164	3	2.2	186
300.3	301.8	Grey quartz-alunite-sulfides with relict breccia textures.	300.3-301.8	64165	6	1.7	45
301.8	304.9	Fine grained, green andesite.					
304.9	306.0	Grey quartz-alunite-sulfides.	304.9-306.0	64166	4	1.7	408
306.0	307.2	Fine grained, green andesite.					
307.2	318.1	Dark grey quartz-alunite-sulfides with strong relict breccia textures. Sulfide content varies from 10 to 50 percent. Sulfides occur as extremely fine grained masses, streaks and disseminated grains and as rims around clasts.	307.2-308.0	64167	5	1.6	16
			308.0-309.0	64168	12	2.0	37
			309.0-310.0	64169	7	1.7	39
			310.0-311.0	64170	4	1.8	129
			311.0-312.0	64171	8	1.5	108
			312.0-313.0	64172	10	1.5	164
			313.0-314.0	64173	5	1.5	86
			314.0-315.0	64174	4	1.4	44
			315.0-316.0	64175	6	1.4	30
			316.0-317.0	64176	5	1.7	29
			317.0-318.1	64177	6	1.4	53
318.1	322.0	Green andesite, changes gradually to grey altered(?) andesite at 322.					
322.0	323.6	Grey quartz-alunite-sulfides. Probable identification of tetrahedrite. Sulfide content varies from about 10 percent to 25 percent.	322.0-323.5	64178	4	2.1	114
323.6	328.0	Green andesite.					
328.0	331.0	Rock gradually becomes grey color. Sulfide content about 2 to 5 percent; all v.f.g.	328.0-330.0	64179	3	1.8	112
			330.0-331.0	64180	2	1.8	143

Limonite Creek Property
Summary Diamond Drill Log
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Depth From	Depth To	Description	Interval	Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
331.0	334.6	Green andesite. Epidote occurs as large masses thruout rock.					
334.6	337.5	Grey quartz-alunite-sulfides. Relict breccia textures are prominent. Sulfides are very fine grained and are up to 25 percent of rock. Rock changes gradually to green andesite.	334.6-336.0	64181	6	1.7	95
			336.0-337.7	64182	4	1.7	131
337.5	359.5	Green andesite. Trace of very fine grained pyrite. Rock changes gradually to a greyish-greenish color.					
359.5	368.7	Greyish to greenish, fine grained andesite(?) with a trace of v.f.g. pyrite.					
368.7	369.5	Green andesite , becoming epidote-rich.					
369.5	400.9	Alternating green to grey-greenish, fine grained andesite with a trace of v.f.g.pyrite.					
400.9	403.5	Grey quartz and 10 to 20 percent pyrite. Quartz is filling space between breccia fragments. Occurrence of chalcopyrite at 403.3.	400.9-402.0	64183	11	1.7	198
			402.0-403.5	64184	6	1.7	243
403.5	409.5	Green andesitic lapilli tuff. Trace of pyrite					
409.5	412.8	Dark green, fine grained andesite dike. Both contacts are at 30 degrees with core axis.					
412.8	416.7	Green andesitic tuff.					

End of hole at 416.7 meters (1367.1 feet).

Limonite Creek Property
Summary Diamond Drill Log
DDH 96-2

Date Collared: September 2, 1996 **Bearing: N.21W.** **Lat. L.6W.** **Dep. 3+15S.**
Date Completed: September 9, 1996 **Dip; -60** **Depth; 270.3m.** **Elev. 1340m.**

Depth From	Depth To	Description	Interval	Assay Data Sample No.	Au((ppb)	Ag(ppm)	Cu(ppm)
0	1.0	No core recovered.					
1.0	12.1	Green andesite or andesitic tuff.					
12.1	14.3	Andesite; bleached slightly buff color. Appears to be quartz-sericite alteration. Fracture set at 50 degrees with core axis controls bleaching.					
14.3	28.0	Green andesite or andesitic tuff with prominent limonite stains on fractures. Same set of fractures as above (50 degrees with C.A.) controls limonite.					
28.0	36.0	Greyish, silicified, pyritized, slightly porphyritic andesite. Fractures have limonite stain.	28.0-30.0	64185	5	1.8	128
			30.0-32.0	64186	3	1.8	166
			32.0-34.0	64187			
			34.0-36.0	64188			
36.0	40.0	Greenish to greyish andesite. Trace of pyrite.					
40.0	50.0	Grey, altered(?) extremely fine grained andesite(?) with dust-sized grains of pyrite and/or other sulfides.	40.0-42.0	64189	4	1.9	136
			42.0-44.0	64190	4	1.7	181
			44.0-46.0	64191	2	1.7	179
			46.0-48.0	64192	4	2.2	153
			48.0-50.0	64193	2	1.9	95
50.0	59.8	Slightly porphyritic(?) greenish to greyish andesite or andesitic tuff. Epidote spots and streaks. Trace of pyrite.					
59.8	67.0	Same greyish to greenish andesite, but here has intense fracturing at 60 degrees from core axis. Abundant limonite staining. Pyrite occurs as very fine grains in amounts to 10 percent.	60.0-62.0	64194	8	1.6	94
			62.0-64.0	64195	7	1.5	99
			64.0-66.0	64196	4	1.5	73
			66.0-68.0	64197	4	1.3	81
			68.0-70.0	64198	7	1.3	214
67.0	75.2	Limonite-stained clay with fragments of fine grained pyritic rock. Fault zone.	70.0-72.0	64199	5	1.4	140
			72.0-74.0	64200	7	.2	32
			74.0-75.2	64201	6	.2	30
75.2	78.3	Totally crushed, clay-rich rock. Fragments of alunite-sulfides, including pyrite and bornite (or covellite?).	75.2-78.3	64202	1	.2	93
78.3	81.4	No core recovered.					
81.4	84.0	Limonitic gossan. Fracture at 84 meters, at 35 degrees with core axis limits gossan.	81.4-84.0	64203	5	.4	42
84.0	107.0	Rock is grey, fine grained, composed of quartz, alunite(?), pyrite and limonite. Was probably andesitic tuff. Pyrite occurs as tiny, disseminated grains in amounts of 5 to 20 percent. Limonite occurs as stain on fractures. Prominent fracture set starts at 88 meters, is at 60 degrees with core axis. Slight relict porphyritic texture. Crushing at 100.5m. Brecciation from 105-107m.	84.0-86.0	64204	8	1.5	88
			86.0-88.0	64205	5	1.7	75
			88.0-90.0	64206	6	1.8	65
			90.0-92.0	64207	5	1.6	68
			92.0-94.0	64208	4	1.6	54

Limonite Creek Property
Summary Diamond Drill Log
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Depth From	Depth To	Description	Interval	Assay Data Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
84.0	107.0	(continued) Strong fracture at 107m; 50 degrees from core axis.	94.0-96.0	64209	5	1.2	51
			96.0-98.0	64210	7	1.4	75
			98.0-100.0	64211	4	1.3	88
			100.0-102.0	64212	7	1.0	61
			102.0-104.0	64213	2	1.1	63
			104.0-106.0	64214	2	1.3	46
			106.0-107.0	64215	4	1.4	36
107.0	119.0	Grey to dark grey and locally black rock composed of quartz, alunite(?) and pyrite which is extremely fine grained.	107.0-108.0	64216	9	.9	109
			108.0-109.0	64217	3	.6	108
			109.0-110.0	64218	2	.4	92
			110.0-111.0	64219	5	.6	115
			111.0-111.9	64220	3	.6	133
111.9	121.0	Creamy-colored to light beige massive alunite, quartz and streaks and patches of extremely fine grained sulfides..	111.9-114.0	64221	1	.2	82
			114.0-116.0	64222	2	.3	89
			116.0-118.0	64223	1	.2	172
			118.0-120.0	64224	2	.2	113
			120.0-121.0	64225	7	.9	318
121.0	123.9	Pale green, propylitic andesite.					
123.9	126.0	Crushed, pulverized black clay, alunite and extremely fine grained sulfides as small streaks.	123.9-125.0	64226	.01gpt	1.1	.052%
			125.0-126.0	64227	.01gpt	1.1	.034%
126.0	129.0	Greyish, fine grained rock. Occurrence of pyrophyllite at 125.6 and trace of covellite	126.0-127.0	64228	.01gpt	2.0	.010%
		. Prominent fracture at 50 degrees with C.A. Character of rock changes on fracture.	127.0-129.0	64229	6	1.4	275
			129.0-130.0	64230	.01gpt	1.8	.034%
129.0	180.0	Rock is dark grey to black. The composition is not clear, but it appears to be alunite, clay, quartz and sulfides.	130.0-131.0	64231	.01gpt	1.6	.044%
			131.0-132.0	64232	.01gpt	1.7	.042%
			132.0-133.0	64233	.01gpt	2.1	.043%
			133.0-134.0	64234	.01gpt	1.4	.041%
			134.0-135.0	64235	.01gpt	1.1	.054%
		At 133-135 meters, a fracture set is at about 45 to 50 degrees from the core axis. Local areas of black streaks and patches are probably sulfide masses.	135.0-136.0	64236	.01gpt	.6	.023%
			136.0-137.0	64237	.01gpt	.2	.012%
			137.0-138.0	64238	.01gpt	.4	.011%
		From about 135 to 143 meters, the quartz content increases to about 50 percent.	138.0-139.0	64239	.01gpt	.2	.011%
			139.0-140.0	64240	.01gpt	.3	.013%
			140.0-141.0	64241	.01gpt	.2	.009%

Limonite Creek Property
Summary Diamond Drill Log
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Depth From	Depth To	Description	Interval	Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
				Assay Data			
129.0	180.0	(continued). Fracture set from 138 to 142 meters are at about 45 to 50 degrees from core axis	141.0-142.0	64242	.01gpt	.5	.021%
			142.0-143.0	64243	.02gpt	.6	.013%
			143.0-144.0	64244	.01gpt	.3	.037%
			144.0-145.0	64245	.02gpt	.2	.010%
		Rock type, alteration and sulfide mineralization are continuous and similar from 129m. Fracture set from 152 to 155m is about 45 to 50 degrees from core axis.	145.0-146.0	64246	.03gpt	.6	.008%
			146.0-147.0	64247	.01gpt	.7	.014%
			147.0-148.0	64248	.01gpt	.2	.011%
			148.0-149.0	64249	.01gpt	.3	.009%
			149.0-150.0	64250	.01gpt	.4	.008%
		Black quartz, alunite and streaks of v.f.g. pyrite, to 180 meters. Sulfide minerals are extremely fine grained. Minor pyrite content is coarse enough for identification.	150.0-151.0	64251	.01gpt	.4	.010%
			151.0-152.0	64252	.01gpt	.2	.010%
			152.0-153.0	64253	.01gpt	.5	.008%
			153.0-154.0	64254	.02gpt	.3	.008%
			154.0-155.0	64255	.01gpt	.2	.009%
			155.0-156.0	64256	.01gpt	.3	.013%
			156.0-157.0	64257	.01gpt	.3	.015%
			157.0-158.0	64258	.01gpt	.3	.010%
			158.0-159.0	64259	.01gpt	.4	.010%
			159.0-160.0	64260	.04gpt	.3	.010%
			160.0-161.0	64261	.02gpt	.2	.012%
			161.0-162.0	64262	.01gpt	.5	.015%
			162.0-163.0	64263	.02gpt	.3	.014%
			163.0-164.0	64264	.01gpt	.3	.012%
			164.0-165.0	64265	.01gpt	.2	.010%
			165.0-166.0	64266	.01gpt	.4	.011%
			166.0-167.0	64267	.02gpt	.3	.014%
			167.0-168.0	64268	.01gpt	.3	.015%
129.0-180.0		(continued) Black quartz-alunite with streaks of pyrite(?) continues to 182.0m.	168.0-169.0	64269	.02gpt	.3	.012%
			169.0-170.0	64270	.02gpt	.5	.012%
			170.0-171.0	64271	.02gpt	.2	.015%
			171.0-172.0	64272	.01gpt	.2	.019%
			172.0-173.0	64273	.01gpt	.5	.016%
			173.0-174.0	64274	.01gpt	.6	.012%
		Set of black streaks (sulfide-rich veinlets) at 168 to 170m are at about 30 degrees from core axis, which may be interpreted to be veins with a vertical dip.	174.0-175.0	64275	.01gpt	.5	.013%
			175.0-176.0	64276	.01gpt	.7	.012%

Limonite Creek Property
Summary Diamond Drill Log
DDH 96-2

Depth From	Depth To	Description	Interval	Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
129.0	180.0	(continued). From 174 to 180 meters, there is a stockwork of black veins which appear to be extremely fine grained sulfide-quartz veins. They are mostly a few millimeters wide.	176.0-177.0	64277	.01gpt	.2	.009%
			177.0-178.0	64278	.01gpt	.6	.008%
			178.0-179.0	64279	.01gpt	.4	.010%
			179.0-180.0	64280	.01gpt	.2	.006%
			180.0-181.0	64281	.01gpt	.4	.008%
180.0	182.0	Prominent rock change. The rock here is light grey color and is composed of alunite(?) and clay and minor sulfides.					
182.0	197.2	No core recovered from 182.0 to 197.2					
197.2	200.2	Mostly rubble of purplish to reddish massive hematite. At 200.2, about 10 cm in core box of granular, sand-size rock debris. At 200.2 meters, reduced to NQ rods drilling inside HQ rods. No core recovered until 203.3 meters. Thus, from 182.0 to 203.3, no core recovered.					
203.3	255.4	From 203.3 to 255.4, the rock is predominantly quartz. From 203 to 207, the quartz is light grey in color with only a trace of pyrite. From 207 to 255.4, the rocks are medium grey to dark grey to black, which probably indicates the presence of extremely fine grained, disseminated pyrite.	203.3-205.0	64282	.01gpt	.3	.009%
			205.0-206.0	64283	.01gpt	.2	.021%
			206.0-207.0	64284	.01gpt	.2	.021%
			207.0-208.0	64285	.03gpt	.2	.012%
			208.0-209.0	64286	.01gpt	.2	.011%
			209.0-210.0	64287	.02gpt	.6	.007%
			210.0-211.0	64288	.01gpt	.2	.006%
			211.0-212.0	64289	.01gpt	.2	.011%
			212.0-213.0	64290	.01gpt	.2	.018%
		Some streaks, veins and masses of extremely fine grained,and disseminated. sulfides, probably pyrite. Occurrence of covellite at 217.9.	213.0-214.0	64291	.01gpt	.4	.011%
			214.0-215.0	64292	.01gpt	.2	.010%
			215.0-216.0	64293	.06gpt	.3	.013%
			216.0-217.0	64294	.03gpt	.2	.012%
			217.0-218.0	64295	.05gpt	.4	.067%
		A strong fracture set occurs from 203.3 to 255.4. The fractures are mostly at 45 to 55 degrees from the core axis.	218.0-219.0	64296	.01gpt	1.2	.021%
		Relict breccia textures occur thruout the interval.	219.0-220.0	64297	.01gpt	1.0	.013%
			220.0-221.0	64298	.01gpt	1.5	.003%
			221.0-222.0	64299	.01gpt	.2	.005%
		Bornite, covellite(?) occurrence,at 224.5 to 225.5m.	222.0-223.0	64300	.01gpt	.2	.007%
			223.0-224.0	64301	.01gpt	1.1	.014%
			224.0-225.0	64302	.01gpt	.8	.008%
			225.0-226.0	64303	.02gpt	1.6	.012%
			226.0-227.0	64304	.01gpt	.4	.019%
			227.0-228.0	64305	.01gpt	.5	.022%
			228.0-229.0	64306	.01gpt	1.2	.022%

Limonite Creek Property
Summary Diamond Drill Log
DDH 96-2

Depth From	Depth To	Description	Interval	Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
203.3	255.4	(continued).	229.0-230.0	64307	.01gpt	1.0	.022%
			230.0-231.0	64308	.01gpt	.9	.024%
			231.0-232.0	64309	.01gpt	1.0	.023%
		The quartz which occurs in the interval, 203.3 to 255.4 is massive, gray and vuggy. Some alunite and clay occur with the quartz in minor amounts. The quartz throughout most of the interval displays a porous or vuggy texture and most of the open spaces contain small blebs and masses of, pyrite. The pyrite tends to be concentrated along the fractures. Pyrite content is from about one percent to 5 percent or so.	232.0-233.0	64310	.01gpt	.6	.023%
			233.0-234.0	64311	.01gpt	.2	.019%
			234.0-235.0	64312	.01gpt	.4	.016%
			235.0-236.0	64313	.02gpt	1.2	.013%
			236.0-237.0	64314	.01gpt	.5	.032%
			237.0-238.0	64315	.01gpt	1.0	.031%
			238.0-239.0	64316	.01gpt	1.4	.122%
			239.0-240.0	64317	.01gpt	.6	.019%
			240.0-241.0	64318	.01gpt	.5	.018%
			241.0-242.0	64319	.01gpt	1.1	.014%
			242.0-243.0	64320	.01gpt	.6	.022%
			243.0-244.0	64321	.01gpt	1.8	.028%
			244.0-245.0	64322	.01gpt	1.7	.025%
			245.0-246.0	64323	.01gpt	.5	.025%
			246.0-247.0	64324	.01gpt	1.5	.044%
			247.0-248.0	64325	.01gpt	1.2	.044%
			248.0-249.0	64326	.01gpt	1.0	.027%
			249.0-250.0	64327	.02gpt	.4	.029%
			250.0-251.0	64328	.01gpt	.9	.031%
			251.0-252.0	64329	.02gpt	.4	.032%
			252.0-253.0	64330	.02gpt	.2	.030%
			253.0-254.0	64331	.01gpt	.2	.026%
			254.0-255.0	64332	.01gpt	.4	.022%
255.4	255.8	Crushed rock with much clay.	255.0-256.0	64333	.01gpt	.7	.024%
255.8	257.1	Dark grey quartz-clay-sulfides; crushed. Strong brecciation.	256.0-257.0	64334	.01gpt	1.2	.031%
			257.0-259.0	64335	.01gpt	.8	.013%

Limonite Creek Property
Summary Diamond Drill Log
DDH 96-2

Depth			Assay Data				
From	To	Description	Interval	Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
257.1	270.3	Only rubble recovered. The rubble represents about 20 percent of the core. The rock recovered is dark grey, quartz-alunite-clay with fairly large masses of pyrophyllite. The drillers drilled with tricone in order to try to continue the hole, but the rods stuck. The rods were finally removed from the hole, but 6o feet of "H" rods were lost.	259.0-261.0	64336	.01gpt	.6	.012%
			261.0-263.0	64337	.01gpt	.7	.014%
			263.0-265.0	64338	.01gpt	.6	.016%
			265.0-267.0	64339	.01gpt	.4	.013%
			267.0-269.0	64340	.01gpt	.8	.007%
			269.0-270.3	64341			
		End of hole at 270.3 meters.					

Limonite Creek Property
Summary Diamond Drill Log
DDH 96-3

Date Collared: September 12, 1996 **Bearing: N.21 1\2W.** **Lat. 2+96W.** **Dep. 2+20S.**
Date Completed: September 15, 1996 **Dip; -60** **Depth; 175.9m.** **Elev. 1377m.**

Depth			Assay Data				
From	**To**	**Description**	**Interval**	**Sample No.**	**Au(ppb)**	**Ag(ppm)**	**Cu(ppm)**
0	7.0	No core recovered.					
7.0	7.5	Buff colored, bleached, limonitic andesite.					
7.5	12.0	Grey, fresh looking andesitic tuff.					
12.0	42.0	Green andesite with propylitic alteration. Probable fault zone at 32.1 to 32.6. Andesite becomes lighter green from 34.7 with an increase in epidote content.					
42.0	56.0	Dark green andesite with strong propylitic alteration and prominent stockwork of web-like epidote veins.	56.0-57.0	64342	.01gpt	.9	.009%
56.0	58.0	Strongly limonite stained rock has breccia texture and is mostly clay and alunite(?).	57.0-58.0	64343	.03gpt	.6	.015%
58.0	59.9	Green andesite.	60.0-61.0	64344	.01gpt	.6	.005%
59.9	61.1	Limonitic clay-alunite(?).	61.0-62.0	64345	.01gpt	1.0	.003%
61.1	93.0	Big change. Dark grey, sulfides, quartz, clay and maybe some alunite(?). Sulfide content is from 25 to 50 percent. Pyrite is obvious. Think I saw tetrahedrite at about 62m. Sulfide content > 50 percent in some sections.	62.0-63.0	64346	.01gpt	.7	.021%
			63.0-64.0	64347	.02gpt	.9	.007%
			64.0-65.0	64348	.01gpt	.4	.008%
			65.0-66.0	64349	.01gpt	.8	.008%
			66.0-67.0	64350	.02gpt	.8	.024%
			67.0-68.0	64351	.01gpt	1.1	.010%
		The rock is soft and plastic. From 60 to 100 meters, core recovery is mostly less than 60 percent due to the incompetent character of the rock. From 74.5 to 83.5 meters, the sulfide content is mostly greater than 50 percent.	68.0-69.0	64352	.02gpt	1.0	.007%
			69.0-70.0	64353	.01gpt	.6	.006%
			70.0-71.0	64354	.01gpt	.9	.008%
			71.0-72.0	64355	.01gpt	.6	.012%
			72.0-73.0	64356	.01gpt	.7	.011%
			73.0-74.0	64357	.03gpt	.6	.050%
			74.0-75.0	64358	.01gpt	.4	.036%
			75.0-76.0	64359	.01gpt	.8	.011%
			76.0-77.0	64360	.05gpt	.7	.007%
		Alunite veins occur at 84.4, 86.1 and 88.2.	77.0-78.0	64361	.01gpt	.6	.009%
			78.0-79.0	64362	.01gpt	.8	.012%
			79.0-80.0	64363	.01gpt	.8	.009%
			80.0-81.0	64364	.01gpt	1.1	.010%
			81.0-82.0	64365	.01gpt	.9	.012%
			82.0-83.0	64366	.01gpt	.8	.011%
			83.0-84.0	64367	.02gpt	.6	.006%

Limonite Creek Property
Summary Diamond Drill Log
DDH 96-3

Depth From	Depth To	Description
61.0	93.0	(continued)
		Sulfide content is reduced to less than 20 percent, from 91 to 93 meters.
93.0	99.6	Greenish, dark andesite with about 10 percent pyrite. Several occurrences of alunite veins from 95 to 97 meters.
99.6	104.0	Sheared, crushed, clay-altered andesite with about 10 to 20 percent pyrite. The rock is soft and plastic. Pyrite content reduced to minor amounts from 103 to 105.
104.0	107.0	Disseminated, very fine grained pyrite to 10 percent, 105 to 107.
107.0	172.5	Dark green to light green andesite with no sulfide mineralization, except some small streaks of pyrite at 112 to 114 meters.
172.5	175.9	Sand-size grains of quartz and sulfides.

Assay Data

Interval	Sample No.	Au(ppb)	Ag(ppm)	Cu(ppm)
84.0-85.0	64368	.01gpt	.3	.001%
85.0-86.0	64369	.01gpt	.2	.002%
86.0-87.0	64370	.01gpt	.3	.003%
87.0-88.0	64371	.01gpt	.4	.009%
88.0-89.0	64372	.01gpt	.3	.003%
89.0-90.0	64373	.01gpt	.5	.006%
90.0-91.0	64374	.01gpt	.6	.010%
91.0-93.0	64375	.01gpt	.3	.043%
93.0-94.0	64376	8ppb	2.3	278ppm
94.0-95.0	64377	4	2.6	197
95.0-96.0	64378	3	2.0	294
96.0-97.0	64379	7	2.6	242
99.6-101.0	64380	.01gpt	2.0	.025%
101.0-102.0	64381	.01gpt	.9	.021%
102.0-103.0	64382	.02gpt	1.1	.019%
103.0-104.0	64383	.01gpt	1.2	.017%
104.0-105.0	64384	.02gpt	3.6	.024%
105.0-106.0	64385	2ppb	2.8	163ppm
106.0-107.0	64386	5	2.4	180
172.5-175.9	64387	.01gpt	2.0	.026%

Drillers report shows that core was lost from 169.7 to 175.8 and rods were stuck at 108.8 when attempting to pull rods.
Rods were cut off at 78.4 and again at 64.0 meters.
Lost 210 feet (64 meters) of "H" rods, full core barrel and "HQ" bit.

End of hole at 175.9 meters.

APPENDIX II

Vancouver Petrographics Ltd.

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Report # 960565 for:

Wilard D. Tompson,
P.O. Box 395,
Smithers, B.C., V0J 2N0 **September 1996**

Samples: **9601, 9603, 96-1 229.7 m, 96-1 237.6 m, 96-1 252.0 m**

Summary:

Sample 9601 is an altered porphyritic andesite/latite containing phenocrysts of plagioclase and minor ones of hornblende(?) and sphene in a cryptocrystalline groundmass dominated by sericite and kaolinite with disseminated patches of ilmenite/hematite. In much of the rock, the original texture is vague to uncertain, because of intense alteration. Where textures are more obvious, plagioclase phenocrysts are altered completely to sericite-kaolinite-quartz, hornblende phenocrysts are altered to quartz, and sphene is replaced by Ti-oxide/ilmenite-kaolinite. Because of the extremely fine grain size of much of the alteration material, identification of phases, especially kaolinite, is tentative.

Sample 9603 contains a submosaic replacement intergrowth of clinozoisite, quartz, and sericite/muscovite, with a few patches of lazulite, and minor disseminated Ti-oxide. Hematite/limonite forms disseminated patches and in much of the sample forms a pervasive alteration produced by weathering and migration of iron oxides.

Sample 96-1 229.7 m is an extremely fine grained latite dominated by plagioclase with disseminated patches of Ti-oxide. Early replacement patches are of coarser grained plagioclase and epidote with minor quartz. Later replacement patches, veins, and veinlets are of anhydrite-gypsum. Gypsum was lost from the section during sample preparation.

Sample 96-1 237.6 m has a patchy texture, and is dominated by sericite/(muscovite) with much less pyrite and quartz, and minor Ti-oxide. A few discontinuous veinlets up to 0.6 mm wide are of anhydrite-(gypsum), and a few narrower veinlets are of gypsum. Gypsum was lost from the section during sample preparation. The original rock type is unknown.

Sample 96-1 252.07 m is a strongly altered rock dominated by irregular, patchy zones of montmorillonite-(pyrite) and others of quartz-pyrite-montmorillonite. Moderately abundant Ti-oxide/ilmenite and a few grains interpreted as pseudomorphs of quartz after plagioclase phenocrysts suggest that the original rock was andesite. A late wispy, recrystallized seam is dominated by montmorillonite. Montmorillonite resembles sericite/muscovite in optical properties, but is distinguished from it on the basis that its refractive index is much less than that of quartz.

John G. Payne

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Sample 9601 **Altered Porphyritic Andesite/Latite; Kaolinite-Sericite-Quartz-Limonite Alteration**

Phenocrysts of plagioclase and minor ones of hornblende(?) and sphene are set in a cryptocrystalline groundmass dominated by sericite and kaolinite with disseminated patches of ilmenite/hematite. In much of the rock, the original texture is vague to uncertain, because of intense alteration. Where textures are more obvious, plagioclase phenocrysts are altered completely to sericite-kaolinite-quartz, hornblende phenocrysts are altered to quartz, and sphene is replaced by Ti-oxide/ilmenite-kaolinite. Because of the extremely fine grain size of much of the alteration material, identification of phases, especially kaolinite, is tentative.

phenocrysts	
plagioclase	30-35%
hornblende	1
sphene(?)	0.5
groundmass	
plagioclase	10-12
kaolinite	30-35
quartz	10-12
sericite	5- 7
quartz	0.5
ilmenite	0.5
vein	
hematite/limonite	2- 3

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.5-1.5 mm in size. Alteration is complete to unoriented, cryptocrystalline to extremely fine grained sericite and generally much less abundant kaolinite, with minor to moderately abundant disseminated grains and patches of cryptocrystalline to extremely fine grained quartz.

Hornblende(?) forms subhedral phenocrysts up to 1.5 mm long. Alteration is complete to submosaic to slightly interlocking quartz grains averaging 0.01-0.015 mm in size.

A few patches up to 0.3 mm in size contain abundant ilmenite intergrown with cryptocrystalline kaolinite; these may be after original sphene.

In the groundmass, a few patches contain relic plagioclase as anhedral, slightly interlocking grains averaging 0.03-0.07 mm in size. Much of the groundmass is dominated by cryptocrystalline to extremely fine grained kaolinite with much less sericite and minor to moderately abundant limonite.

A few patches of uncertain origin up to 1.5 mm in size are of extremely fine grained kaolinite flakes averaging 0.03-0.05 mm in size, and minor sericite and cryptocrystalline limonite.

Quartz forms disseminated patches averaging 0.1-0.2 mm in size of equant grains averaging 0.01-0.03 mm in size; textures are similar to those of quartz in the altered hornblende(?) phenocrysts..

Ilmenite forms ragged to subhedral patches averaging 0.05-0.1 mm in size.

A veinlike zone up to 0.3 mm wide is of bright orange limonite; it is enclosed in a moderate envelope up to 0.5 mm wide in which the rock was stained light to medium yellow-orange by limonite.

Sample 9603 **Clinozoisite-Quartz-Sericite/Muscovite-Lazulite Replacement; Secondary Hematite/Limonite**

The sample contains a submosaic replacement intergrowth of clinozoisite, quartz, and sericite/ muscovite, with a few patches of lazulite, and minor disseminated Ti-oxide. Hematite/limonite forms disseminated patches and in much of the sample forms a pervasive alteration produced by weathering and migration of iron oxides.

	clinozoisite	40-45%
	quartz	20-25
	sericite/muscovite	17-20
	lazulite	2- 3
	Ti-oxide	0.2
]	pyrite	trace
	hematite/limonite	3- 4
	cavities	7- 8

Clinozoisite forms equant, anhedral to subhedral grains averaging 0.07-0.17 mm in size.

Quartz forms anhedral grains averaging 0.1-0.2 mm in size, in part interstitial to clinozoisite. It is concentrated moderately to strongly in a few patches up to a few mm across in which it forms grains averaging 0.2-0.5 mm in size.

Sericite/muscovite forms patches of flakes ranging in grain size from 0.01-0.1 mm. It is concentrated in a few seams up to 0.5 mm wide. Some patches of sericite are stained medium yellow by limonite.

Lazulite is concentrated strongly in a few patches as equant to irregular grains averaging 0.5-0.7 mm across intergrown coarsely with quartz and sericite/muscovite. Pleochroism is from colourless to pale blue. The mineral is biaxial with a high 2V axial angle, has a birefringence of about 0.020, and is moderately hard (5-6).

Ti-oxide forms disseminated, anhedral grains averaging 0.01-0.05 mm in size. It is semi-opaque with pleochroism from medium to very dark, brownish grey.

Pyrite forms disseminated, anhedral grains averaging 0.01-0.03 mm in size included in quartz or clinozoisite, and thus protected from weathering.

Hematite/limonite (probably after pyrite and possibly pseudomorphic in part) forms patches averaging 0.1-0.15 mm in size of dense, cryptocrystalline material and interstitial seams.

Sample 96-1 229.7 m **Altered Latite: Albite-Epidote-Pyrite-(Quartz) Alteration; Veins and Replacement of Anhydrite-Gypsum**

The rock is an extremely fine grained latite dominated by plagioclase with disseminated patches of Ti-oxide. Early replacement patches are of coarser grained plagioclase and epidote with minor quartz. Later replacement patches, veins, and veinlets are of anhydrite-gypsum. Gypsum was lost from the section during sample preparation.

plagioclase	70-75%	**early replacement**	
Ti-oxide	2- 3	plagioclase	5- 7
pyrite	1- 2	epidote	1
sphene	0.2	(includes veinlets)	
		quartz	0.3
late, veins			
anhydrite	5- 7		
gypsum	4- 5		

The host rock is dominated by slightly interlocking grains of plagioclase averaging 0.01 mm in size. It contains moderately abundant dusty opaque inclusions.

Ti-oxide is concentrated in clusters up to 0.7 mm across of equant grains averaging 0.02-0.03 mm in size, and a few disseminated grains up to 0.07 mm across. In most patches it is semi-opaque, and in a few it is nearly opaque. In a few patches it is surrounded by extremely fine grained sphene, and a few ragged patches up to 0.5 mm across are of similar sphene.

Pyrite forms disseminated subhedral to euhedral grains averaging 0.03-0.1 mm in size, and a few up to 0.2 mm across. A few lenses up to 1.5 mm long along the edge of one gypsum vein are of anhedral pyrite grains from 0.1-0.7 mm in size.

Plagioclase forms patches up to 1.5 mm in size and a few veinlike zones up to 0.8 mm wide of anhedral, slightly interlocking grains averaging 0.1-0.3 mm in size. Most of these probably represent an early replacement/vein event, but, some probably are primary coarser grained patches. Some of the latter have ragged outlines and were recrystallized partly to the extremely fine grained groundmass. Alteration of coarser plagioclase is slight to locally moderate to patches of very fine grained epidote. In a few patches, plagioclase is replaced moderately to strongly by extremely fine grained sericite. Associated with some of these are patches of subhedral Ti-oxide and anhedral pyrite, in which grain size is moderately coarser than in the main rock, with Ti-oxide grains up to 0.3 mm long and pyrite patches up to 0.3 mm long. In one patch, Ti-oxide is replaced slightly along grain borders and fractures to zones of sphene up to 0.02 mm across. Quartz forms disseminated grains and patches of a few grains averaging 0.05-0.1 mm in size.

A few discontinuous, irregular seams up to 0.1 mm wide are of cryptocrystalline epidote.

Irregular replacement patches are dominated by anhydrite with much less albite grains averaging 0.02-0.05 mm in size. Anhydrite also forms disseminated grains averaging 0.01-0.03 mm in size.

Veins up to 1 mm wide and veinlets are dominated by extremely fine grained gypsum with a few veins and patches in other veins of anhydrite averaging 0.05-0.1 mm in size. Gypsum was identified using mineral oils on powdered vein material from the hand sample.

Sample 96-1 237.6 m **Patchy Sericite/(Muscovite)-Quartz-Pyrite Alteration; Anhydrite-(Gypsum) Vein; Gypsum Veinlets**

The sample has a patchy texture, and is dominated by sericite/(muscovite) with much less pyrite and quartz, and minor Ti-oxide. A few discontinuous veinlets up to 0.6 mm wide are of anhydrite-(gypsum), and a few narrower veinlets are of gypsum. Gypsum was lost from the section during sample preparation. The original rock type is unknown.

sericite/(muscovite)	75-80%
pyrite	10-12
quartz	10-12
Ti-oxide	0.3
chalcopyrite	minor
ilmenite	minor
sphene	minor
chalcopyrite	minor
veins, veinlets	
anhydrite-gypsum	1

Sericite forms dense patches of interlocking grains averaging 0.002-0.01 mm in size. Moderately abundant, coarser grained patches are of flakes of sericite/muscovite averaging 0.03-0.07 mm in size; these locally contain well developed muscovite flakes from 0.1-0.25 mm long.

Quartz occurs mainly as patches of anhedral, equant grains, some of which average 0.01-0.02 mm in size, and others of which average 0.02-0.05 mm in size. These range from quartz-rich patches to others intergrown with minor to moderately abundant sericite. A few subhedral, prismatic grains are up to 0.3 mm long.

Pyrite forms disseminated grains averaging 0.01-0.05 mm in size, moderately abundant ones from 0.05-0.4 mm in size, and a few from 0.4-1 mm in size. Commonly surrounding pyrite grains in sericite-rich patches are thin, recrystallized rims of muscovite flakes averaging 0.05-0.1 mm in size. A few pyrite grains have partial overgrowths up to 0.05 mm wide of comb-textured quartz along one side.

Chalcopyrite forms scattered inclusions or clusters of inclusions averaging 0.01-0.05 mm in size enclosed in many coarser pyrite grains. A few elongate inclusions are form 0.1-0.3 mm long. It also forms a few seams up to 0.02 mm wide and 0.2 mm long between pyrite grains.

Ti-oxide forms clusters up to 0.1 mm in size of anhedral to subhedral grains averaging 0.01-0.02 mm in size and a few grains from 0.05-0.15 mm across. A few patches up to 0.3 mm across consist of intergrowths of extremely fine grains in two main optical orientations. A few clusters contain interstitial patches up to 0.07 mm in size of extremely fine to very fine grained pyrite. Ti-oxide is semi-opaque and pleochroic from medium to dark brownish grey. Ilmenite forms scattered anhedral to subhedral grains averaging 0.03-0.07 m min size, commonly associated with Ti-oxide. Sphene forms a few disseminated grains and clusters of a few grains averaging 0.01-0.03 mm in size.

A few discontinuous veinlets from 0.2-0.6 mm wide are of anhydrite grains averaging 0.05-0.2 mm in size. Anhydrite was replaced by gypsum, commonly along margins of the veins. Smaller veinlets averaging 0.05-0.1 mm wide are of gypsum.

Sample 96-1 252.07 m **Patchy Montmorillonite-Quartz-Pyrite Alteration; Recrystallized Montmorillonite Seam**

The sample is a strongly altered rock dominated by irregular, patchy zones of montmorillonite-(pyrite) and others of quartz-pyrite-montmorillonite. Moderately abundant Ti-oxide/ilmenite and a few grains interpreted as pseudomorphs of quartz after plagioclase phenocrysts suggest that the original rock was andesite. A late wispy, recrystallized seam is dominated by montmorillonite.

montmorillonite	55-60%
quartz	20-25
pyrite	17-20
Ti-oxide	0.4
ilmenite	0.1
chalcopyrite	minor
anhydrite	trace
apatite	trace
pyrrhotite	trace
seam	
montmorillonite	1- 2

Montmorillonite is concentrated strongly in dense patches up to 2 cm across of interlocking grains averaging 0.01-0.03 mm in size. A few patches are of clusters of coarser grains averaging 0.05-0.07 mm in size. Intergrown with montmorillonite are minor quartz and pyrite.

The rest of the rock is dominated by quartz with less abundant pyrite and montmorillonite. Quartz forms moderately interlocking grains averaging 0.01-0.03 mm in size, with a few from 0.05-0.08 mm across. A few equant quartz grains average 0.2-0.5 mm in size; some of these may be replacements of plagioclase phenocrysts in the original host rock.

Pyrite forms disseminated anhedral to locally subhedral grains and clusters of grains averaging 0.03-0.3 mm in size and moderately abundant coarse grains from 0.3-0.8 mm across. Many larger grains contain moderately abundant rounded inclusions of ilmenite/Ti-oxide and minor ones of chalcopyrite averaging 0.01-0.05 mm in size. A few inclusions are of chalcopyrite-pyrrhotite. A few subhedral to euhedral pyrite grains have partial rims of flakes of muscovite up to 0.15 mm long.

Ilmenite forms disseminated anhedral to subhedral grains and clusters of a few grains averaging 0.02-0.05 mm in size, with a few up to 0.1 mm long. Ti-oxide forms clusters up to 0.3 mm in size of anhedral to euhedral grains averaging 0.01-0.02 mm in size, in part bordering ilmenite. It ranges from semi-opaque to nearly opaque, with pleochroism from medium to very dark brownish grey.

Chalcopyrite forms grains averaging 0.01-0.03 mm in size associated with pyrite, either as inclusions or as patches and seams along grain borders.

Apatite forms a euhedral grain with a cross section 0.1 mm in size.

Anhydrite forms an anhedral grain 0.1 mm in size in a patch of quartz.

In a wispy seam zone up to 0.6 mm wide, montmorillonite was recrystallized moderately to flakes averaging 0.02-0.05 mm in size oriented parallel to the axis of the vein.

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September 1996

for Telkwa Gold Corp.,
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Samples: **96-1: 273.5 m, 309.8 m, 367.1 m**
96-2: 42.5 m, 69.3 m, 128.2 m, 140.6 m, 170.9 m, 217.8 m

Summary:

Sample 96-1 273.5 m is strongly altered. Much of the sample is dominated by montmorillonite/sericite. A band 1.5 cm wide, possibly of replacement origin, is dominated by very fine grained quartz, pyrite, and anhydrite. A few plagioclase-rich lenses in this band may relics of the host rock. A vein up to 1.5 mm wide in the hand sample (not in the thin section) is of a soft white mineral, probably montmorillonite/sericite.

Sample 96-1 309.8 m is a patchy, very fine to extremely fine grained altered rock dominated in part by sericite and in part by quartz, with lesser anhydrite and minor disseminated pyrite and patches of clinozoisite(?). Replacement lenses up to a few mm long and one mm wide are of very fine to fine grained anhydrite and locally moderately abundant quartz.

Sample 96-1 367.1 m is dominated by extremely fine grained, equant quartz grains with irregular patches and seams dominated by chlorite and patches and veinlike zones dominated by very fine to fine grained anhydrite. Anhydrite and chlorite may in part have formed by replacement of quartz. One relic patch of the least altered rock consists of extremely fine grained quartz intergrown with chlorite and sericite. Minor sulfides include pyrite and chalcopyrite.

Sample 96.2 42.5 m is a porphyritic andesite containing phenocrysts of plagioclase are set in a groundmass dominated by extremely fine grained, lathy plagioclase with disseminated patches of epidote and opaque. Some phenocrysts of plagioclase are replaced completely by epidote. Lenses (possibly amygdules) are dominated by cryptocrystalline chlorite, and a few contain patches of cryptocrystalline quartz. A late veinlet is of limonite; near it pyrite is replaced by limonite.

(continued)

Sample 96-2 69.3 m is an altered crystal-lithic latite tuff containing fragments of cryptocrystalline latite and less abundant altered plagioclase phenocrysts in a groundmass of cryptocrystalline silica with minor disseminated pyrite and patches of leucoxene. The rock is altered strongly, and some textures are difficult to interpret. Interstitial patches up to 1.7 mm in size are of fine grained chlorite. A vein up to 1.5 mm wide is of limonite-quartz. Irregular veinlets and wispy seams are of limonite.

Sample 96-2 128.2 m is a strongly altered porphyritic latite containing phenocrysts of plagioclase and hornblende in a cryptocrystalline matrix dominated by kaolinite and sericite with lesser quartz/plagioclase and moderately abundant disseminated pyrite. Plagioclase is replaced completely by sericite, and hornblende is replaced completely by chlorite and minor sericite. Leucoxene is secondary after ilmenite or sphene. A patchy vein is of quartz-epidote-sericite/muscovite-pyrite with minor chalcopyrite. Chalcopyrite is replaced slightly to moderately byu chalcocite/digenite and minor covellite.

Sample 96-2 140.6 m is a porphyritic latite containing minor plagioclase phenocrysts in an extremely fine to very fine grained groundmass dominated by quartz with less abundant alunite. Pyrite forms moderately abundant disseminated grains and is concentrated moderately in a few subparallel bands. Plagioclase phenocrysts are replaced completely by alunite and muscovite. A veinlike zone is of cryptocrystalline quartz and disseminated pyrite.

Sample 96-2 170.9 m is a moderately altered porphyritic latite containing phenocrysts of plagioclase in a groundmass of extremely fine grained plagioclase and quartz with minor disseminated pyrite and leucoxene. Plagioclase is altered to sericite, completely in phenocrysts and moderately to strongly in the groundmass.

Sample 96-2 217.8 m is a well foliated, compositionally banded rock with bands dominated by extremely fine grained quartz and others by very fine grained alunite. Pyrite is common throughout as disseminated grains. Leucoxene forms disseminated patches, which represent altered ilmenite or sphene from the from the original host rock. Minor disseminated patches are of Mineral X (probably a Pb-Sb sulfide) and of covellite. A few wispy, discontinuous veinlets are of pyrite.

Mineral Identification:

Montmorillonite and sericite are very similar in optical properties, with the only difference being that montmorillonite has a refractive index moderately less than that of quartz and sericite has a refractive index slightly greater than that of quartz. In some samples, the refractive index appears to be slightly less than that of quartz, which leads to ambiguity in mineral identification.

A grey metallic mineral in Sample 96-2 217.8 m probably is a Pb-Sb sulfide. The S.E.M. could provide a better basis for making the mineral identification..

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Sample 96-1 273.5 m **Altered Rock: Montmorillonite/Sericite-(Pyrite) with a Band of Quartz-Pyrite-Anhydrite**

The sample is strongly altered. Much of the sample is dominated by montmorillonite/sericite. A band 1.5 cm wide, possibly of replacement origin, is dominated by very fine grained quartz, pyrite, and anhydrite. A few plagioclase-rich lenses in this band may relics of the host rock. A vein up to 1.5 mm wide in the hand sample (not in the thin section) is of a soft white mineral, probably montmorillonite/sericite.

	main rock	band (replacement?)
montmorillonite/sericite	45-50%	2- 3%
pyrite	1- 2	10-12
clinozoisite(?)	2- 3	-
quartz	0.3	25-30
Ti-oxide	minor	0.3
anhydrite	-	5- 7
chalcopyrite	-	trace
galena	-	trace
lenses, fragments (less altered host rock?)		
plagioclase-anhydrite	0.7	
quartz-montmorillonite/sericite-epidote		0.7
vein (hand sample only), veinlets		
montmorillonite/sericite(?)	2- 3	

The main rock is dominated by unoriented, cryptocrystalline montmorillonite/sericite. A few diffuse patches up to 1 mm in size are of extremely fine to very fine grained montmorillonite/sericite. One rectangular patch 1 mm across is of flakes of montmorillonite up to 0.2 mm long. In one corner of the patch is a grain of pyrite 0.4 mm long.

A few patches up to a few mm contain moderately abundant to very abundant patches of cryptocrystalline clinozoisite(?). Along one border of the replacement(?) band is a zone up to 1.5 mm wide of very fine to fine grained sericite/montmorillonite flakes oriented parallel to the contact.

Pyrite forms disseminated anhedral grains averaging 0.02-0.07 mm in size with a few patches up to 0.3 mm long. Many grains and patches have a thin rim of slightly coarser grained sericite/montmorillonite. A few patches up to 0.8 mm long are of anhedral pyrite grains averaging 0.05-0.2 mm in size.

Quartz forms minor disseminated grains averaging 0.02-0.05 mm in size and patches up to 0.5 mm in size of extremely fine grains.

Ilmenite/Ti-oxide forms a few equant grains averaging 0.02-0.05 mm in size.

One rounded fragment(?) 1.5 mm in size and a nearby fragment 1.3 mm long contain abundant anhedral grains of quartz averaging 0.05-0.1 mm in size with interstitial selvages of cryptocrystalline to extremely fine grained montmorillonite and minor to moderately abundant epidote. The origin of these fragments is uncertain.

The rock is cut by a few veinlets up to 0.3 mm wide of montmorillonite/sericite flakes up to 0.1 mm long; these probably were formed by recrystallization of groundmass montmorillonite/sericite.

A few veinlets up to 0.2 mm wide are of very fine grained anhydrite, quartz, and pyrite, with textures similar to that in the main replacement(?) band.

(continued)

Sample 96-1 273.5 m (page 2)

The replacement(?) band consists of intimate intergrowths of quartz, pyrite, and less abundant anhydrite. Quartz forms patches averaging 0.01-0.02 mm in grain size and others averaging 0.05-0.12 mm in size.

Pyrite forms disseminated grains patches up to 1.2 mm in size of anhedral to subhedral grains averaging 0.05-0.2 mm in grain size. Adjacent to many larger pyrite grains, quartz was recrystallized to comb-textured aggregates up to 0.1 mm long.

Chalcopyrite forms a few patches from 0.03-0.08 mm in size included in pyrite grains, and a few lenses up to 0.12 mm long in selvages between pyrite grains. Chalcopyrite forms a few equant grains averaging 0.01-0.015 mm in size in quartz. A very few inclusions in pyrite are of chalcopyrite and bornite. One patch in quartz 0.4 mm across consists of a grain of chalcopyrite and one of galena.

Anhydrite forms disseminated grains averaging 0.05-0.15 mm in size, and a few up to 0.3 mm across.

Rutile/ilmenite forms disseminated grains and clusters of a few grains averaging 0.01-0.03 mm in size, and a few grains up to 0.1 mm long. It is concentrated in a few patches and lenses up to 0.8 mm long as very abundant, equant grains averaging 0.01 mm in size intergrown with anhydrite.

Scattered patches are of cryptocrystalline montmorillonite/sericite, and probably are relic patches of the host rock.

In the replacement band are a few, commonly elongate patches up to 1.7 mm long of what may be less altered host rock. It is dominated by extremely fine grained to cryptocrystalline feldspars and disseminated patches of very fine grained anhydrite.

Sample 96-1 309.8 m **Patchy Altered Rock: Sericite-Quartz-Anhydrite-(Pyrite); Replacement Lenses, Vein: Anhydrite-(Quartz)**

The rock is a patchy, very fine to extremely fine grained altered rock dominated in part by sericite and in part by quartz, with lesser anhydrite and minor disseminated pyrite and patches of clinozoisite(?). Replacement lenses up to a few mm long and one mm wide are of very fine to fine grained anhydrite and locally moderately abundant quartz.

sericite	45-50%
quartz	25-30
anhydrite	10-12
pyrite	4- 5
clinozoisite(?)	2- 3
dusty opaque	0.2
leucoxene	minor
chalcopyrite	trace
dusty opaque	minor
replacement patches, lenses, veinlike zone	
anhydrite	5- 7
quartz	0.3

Quartz is concentrated in quartz-rich patches as equant grains averaging 0.01-0.03 mm in size.

Sericite is concentrated in some patches as extremely fine grains forms disseminated flakes averaging 0.02-0.03 mm long. In the sericite-rich zones, patches up to 0.7 mm in size contain abundant dusty opaque.

Anhydrite forms disseminated, anhedral grains averaging 0.05-0.1 mm in size.

Pyrite forms disseminated grains averaging 0.03-0.1 mm in size and a few grains up to 0.3 mm long. A few anhedral patches are from 0.5- 0.9 mm long.

Clinozoisite(?)is concentrated moderately to strongly in irregular patches and lenses in the sericite-rich zones. It forms equant grains ranging from 0.01-0.03 mm in size. It has the following properties: colourless, hardness = 7, moderate relief, very low birefringence. Grains commonly contain moderately abundant dusty opaque inclusions and minor ones of pyrite.

Chalcopyrite forms a patch 0.03 mm in size included in a patch of pyrite.

A few patches up to 0.5 mm across are dominated by extremely fine grained leucoxene intergrown with minor anhydrite.

A few lenses up to 2 mm long and 1 mm wide and one vein up to 2 mm wide are of fine to very fine grained anhydrite with patches of very fine grained quartz. Anhydrite in the vein and in adjacent altered rock show a moderate foliation subparallel to the length of the vein.

Sample 96-1 367.1 m Quartz-Anhydrite-Chlorite Altered Rock

The sample is dominated by extremely fine grained, equant quartz grains with irregular patches and seams dominated by chlorite and patches and veinlike zones dominated by very fine to fine grained anhydrite. Anhydrite and chlorite may in part have formed by replacement of quartz. One relic patch of the least altered rock consists of extremely fine grained quartz intergrown with chlorite and sericite. Minor sulfides include pyrite and chalcopyrite.

quartz	50-55%
anhydrite	25-30
chlorite	17-20
leucoxene	0.5
magnetite	0.3
sericite	0.1
pyrite	minor
epidote	trace
chalcopyrite	trace

In one corner of the section, a patch up to 3 mm across consists of extremely fine grained quartz with irregular patches of chlorite and less abundant sericite. Sericite is mainly disseminated, but also forms a few patches up to 0.12 mm across.

In the main altered rock, quartz forms equant grains averaging 0.01-0.025 mm in size. Dusty inclusions are moderately abundant. A very few coarser grains of quartz are up to 0.4 mm in size are intergrown with ankerite and chlorite.

Anhydrite forms disseminated, anhedral grains averaging 0.05-0.2 mm in size, and a few skeletal porphyroblastic grains up to 1 mm across. It is concentrated strongly in lenses and veinlike zones up to a few mm wide as grains averaging 0.1-0.5 mm in size and a few up to 1.5 mm across.

Chlorite is concentrated strongly in irregular patches up to a few mm across as extremely fine grained flakes which are weakly pleochroic from pale to light green. In some patches and lenses it is intergrown intimately with anhydrite. A few coarser flakes of chlorite from 0.1-0.15 mm long are intergrown with a few patches or single grains of fine grained anhydrite.

Magnetite forms disseminated, equant grains averaging 0.015-0.025 mm in size in chlorite-rich patches. Associated with magnetite are disseminated, ragged patches up to 0.1 mm in size of cryptocrystalline leucoxene.

Pyrite forms disseminated grains averaging 0.01-0.02 mm in size. It is concentrated moderately in one seam with anhydrite and chlorite, in which it forms grains up to 0.05 mm in size.

Epidote forms anhedral to subhedral grains averaging 0.03-0.07 mm in size and a few patches up to 0.1 mm in size of anhedral grains in the cores of a few patches of chlorite.

Chalcopyrite forms a few equant grains averaging 0.01-0.015 mm in size in anhydrite and in epidote. A few patches of very fine grained, recrystallized quartz contain one to a few grains of chalcopyrite from 0.005-0.02 mm in size.

Sample 96.2 42.5 m **Porphyritic Andesite; Chlorite Amygdules; Epidote-Pyrite Alteration; Limonite Veinlet**

Phenocrysts of plagioclase are set in a groundmass dominated by extremely fine grained, lathy plagioclase with disseminated patches of epidote and opaque. Some phenocrysts of plagioclase are replaced completely by epidote. Lenses (possibly amygdules) are dominated by cryptocrystalline chlorite, and a few contain patches of cryptocrystalline quartz. A late veinlet is of limonite; near it pyrite is replaced by limonite.

phenocrysts	
plagioclase	10-12%
epidote	10-12 (replacement of phenocrysts)
chalcopyrite-chalcocite (minor in epidote)	
groundmass	
plagioclase	65-70
epidote/clinozoisite	4- 5
pyrite	3- 4
amygdules(?)	
chlorite	4- 5
quartz	0.2
epidote	minor
pyrite	minor
veinlet	
limonite	minor

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.3-1 mm in size and a few up to 1.7 mm long. Alteration ranges from slight to moderate to sericite and/or disseminated cryptocrystalline epidote. In a few coarse phenocrysts, one narrow growth zone is altered completely to kaolinite. In some phenocrysts, alteration is strong to cryptocrystalline clinozoisite(?).

Some prismatic phenocrysts up to 3 mm in size are replaced completely by very fine to medium grained epidote. These probably are secondary after plagioclase, but possibly are secondary after hornblende. A few patches contains one or two inclusions of chalcopyrite averaging 0.03 mm in size. Chalcopyrite is replaced moderately to strongly by chalcocite and minor covellite.

The groundmass is dominated by lathy plagioclase grains averaging 0.02 mm in length; these are in subparallel orientation producing a moderate flow-foliation. Clinozoisite/epidote forms disseminated patches averaging 0.02-0.05 mm in size.

Pyrite forms disseminated subhedral to euhedral grains averaging 0.01-0.05 mm in size and a few from 0.1-0.15 mm across. One pyrite grain 0.1 mm across was replaced completely by orange limonite near a late veinlet of limonite up to 0.02 mm wide.

Moderately abundant replacement patches averaging 0.1-0.3 mm in size and a few up to 0.7 mm across are of very fine grained epidote and less abundant pyrite.

Lenses (possibly flattened amygdules) averaging 0.3-0.7 mm long are dominated by extremely fine grained, light green chlorite, with minor patches of epidote and of pyrite averaging 0.05-0.08 mm in size.

Sample 96-2 69.3 m — **Altered Crystal-Lithic Latite Tuff; Chlorite-rich Replacement; Limonite-Quartz Vein, Limonite Veinlets**

Fragments of cryptocrystalline latite and less abundant altered plagioclase phenocrysts are set in a groundmass of cryptocrystalline silica with minor disseminated pyrite and patches of leucoxene. The rock is altered strongly, and some textures are difficult to interpret. Interstitial patches up to 1.7 mm in size are of fine grained chlorite. A vein up to 1.5 mm wide is of limonite-quartz. Irregular veinlets and wispy seams are of limonite.

fragments	
latite	15-17%
plagioclase phenocrysts	4- 5
groundmass	
silica(?)	50-55
sericite	8-10
pyrite	0.5
leucoxene	0.2
interstitial patches	
chlorite	4- 5
vein, veinlets	
limonite-quartz	4- 5
limonite	5- 7

Lithic fragments and minor, altered, subhedral to euhedral plagioclase phenocrysts average 0.3-0.6 mm in size. Both plagioclase and lithic fragments are replaced completely, in large part by cryptocrystalline to extremely fine grained sericite. Many plagioclase grains also contain minor to abundant patches of cryptocrystalline material with moderate to high relief, possibly clinozoisite stained by limonite. Fragments commonly contain concentrations of disseminated, euhedral pyrite grains averaging 0.01-0.03 mm in size.

The groundmass is dominated by cryptocrystalline silica with abundant disseminated, dusty leucoxene. Wispy seams up to 0.7 mm long are of slightly coarser grained sericite.

Pyrite forms disseminated grains averaging 0.01-0.03 mm in size and a few up to 0.15 mm across. It is concentrated moderately to strongly in patches up to 1.5 mm in size in which it forms moderately abundant disseminated grains averaging 0.03-0.06 mm across intergrown with groundmass silica. A few of the larger pyrite grains contain an inclusion of chalcopyrite 0.015-0.02 mm across.

A few patches up to 0.3 mm long are of leucoxene containing minor disseminated pyrite grains averaging 0.01 mm in size.

One spheroidal patch 0.12 mm across is of extremely fine, interlocking grains of quartz.

Chlorite-rich patches are up to 1.5 mm in size. Most, consist of unoriented flakes averaging 0.1-0.2 mm in size, are of replacement or cavity filling origin. A few, consisting of subparallel flakes of colourless chlorite and minor sericite, may be secondary after biotite phenocrysts.

A vein up to 2 mm wide is of cryptocrystalline limonite and extremely fine to very fine grained quartz.

In the weathered zone, limonite forms wispy veinlets, seams, and patches. Pyrite was replaced by limonite and in part leached from the sample.

Sample 96-2 128.2 m **Strongly Altered Porphyritic Latite; Plagioclase to Sericite; Hornblkende to Chlorite-(Sericite); Vein: Quartz-Epidote-Pyrite-Sericite/Muscovite-(Chalcopyrite)**

Phenocrysts of plagioclase and hornblende are set in a cryptocrystalline matrix dominated by kaolinite and sericite with lesser quartz/plagioclase and moderately abundant disseminated pyrite. Plagioclase is replaced completely by sericite, and hornblende is replaced completely by chlorite and minor sericite. Leucoxene is secondary after ilmenite or sphene. A patchy vein is of quartz-epidote-sericite/muscovite-pyrite with minor chalcopyrite. Chalcopyrite is replaced slightly to moderately byu chalcocite/digenite and minor covellite.

phenocrysts			
plagioclase	10-12%		
hornblende	2- 3		
groundmass			
kaolinite	50-55	leucoxene	0.5%
sericite	10-12	clinozoisite	0.2
quartz	8-10	chalcopyrite	0.1
pyrite	5- 7		
vein			
quartz-sericite/muscovite-epidote-pyrite- chalcopyrite	4- 5		

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.3-0.8 mm in length and a few up to 1.7 mm long. Alteration is complete to cryptocrystalline sericite. A few grains have minor to moderately abundant patches of chlorite.

One elongate lens 3 x 0.3 mm in size is of cryptocrystalline to extremely fine grained sericite; it may be a very elongate plagioclase phenocrysts or possibly an altered lithic fragment.

Hornblende forms subhedral to euhedral phenocrysts averaging 0.5-1.5 mm in size, and one 2 mm long. Alteration is complete to extremely fine grained, pale green chlorite, with minor to locally moderately abundant patches of sericite and disseminated grains and seams of cryptocrystalline to extremely fine grained pyrite, mainly on grain borders and along fractures.

The groundmass is dominated by cryptocrystalline intergrowths of uncertain composition, probably mainly kaolinite with lesser sericite, and much less abundant quartz. Plagioclase forms a few lathy grains averaging 0.07-0.1 mm long; alteration of these is complete to cryptocrystalline sericite. Disseminated, cryptocrystalline pyrite and leucoxene are moderately abundant.

Scattered patches up to 0.5 mm in size are of subparallel flakes of muscovite averaging 0.07-0.15 mm long.

Pyrite also forms disseminated, anhedral to subhedral grains averaging 0.05-0.2 mm in size and a few up to 0.4 mm across. A few larger ones have a flake of muscovite up to 0.15 mm long along one side. It is concentrated moderately in a broad envelope bordering the vein; in this envelope it forms abundant, disseminated, mainly anhedral grains averaging 0.05-0.1 mm in size intergrowth groundmass minerals. A few clusters up to 0.6 mm in size are of anhedral pyrite with minor to moderately abundant interstitial patches of chalcopyrite. Chalcopyrite also forms disseminated patches averaging 0.15-0.25 mm in size included in several pyrite grains. It is altered slightly to chalcocite and hematite.

(continued)

Sample 96-2 128.2 m (page 2)

Leucoxene forms disseminated patches averaging 0.15-0.4 mm in size; it probably is secondary after ilmenite or less probably sphene. Along the margin of one leucoxene patch 0.4 mm across is a rim up to 0.05 mm wide containing abundant, extremely fine grained, anhedral pyrite.

Clinozoisite forms a few patches up to 0.15 mm in size of grains up to 0.1 mm long, mainly associated with patches of pyrite.

A vein along one side of the sample up to 0.7 mm wide is patchy. Part of it consists of extremely fine grained quartz with patches and lenses of very fine grained epidote. Along strike it grades into a lens up to 1.5 mm wide, which is dominated by very fine grained sericite/muscovite, with abundant disseminated pyrite grains up to 0.4 mm in size, and patches of very fine grained epidote and of quartz. Chalcopyrite forms anhedral patches up to 0.1 mm in size, mainly intergrown with epidote. Several chalcopyrite grains are replaced slightly to moderately by pale to light blue chalcocite/digenite and much less abundant deep blue covellite.

Sample 96-2 140.6 m **Porphyritic Latite:**
Strong Quartz-Alunite-Pyrite-(Muscovite) Alteration
Quartz-(Pyrite) Vein

Minor plagioclase phenocrysts are set in an extremely fine to very fine grained groundmass dominated by quartz with less abundant alunite. Pyrite forms moderately abundant disseminated grains and is concentrated moderately in a few subparallel bands. Plagioclase phenocrysts are replaced completely by alunite and muscovite. A veinlike zone is of cryptocrystalline quartz and disseminated pyrite.

phenocrysts	
plagioclase	5- 7%
groundmass	
quartz	
cryptocrystalline/extremely fine grained	35-40
very fine	20-25
alunite	20-25
pyrite	4- 5
muscovite	1
leucoxene	0.5
Ti-oxide	trace
veinlike zone	
cherty quartz-pyrite	2- 3

Plagioclase forms subhedral to euhedral, prismatic phenocrysts averaging 0.8-1.7 mm long and a few slender ones from 2- 3 mm long. Alteration is complete to interlocking alunite grains averaging 0.03-0.08 mm in size and clusters of a few to several slender muscovite flakes averaging 0.1-0.15 mm long and locally up to 0.5 mm long.

In the groundmass, quartz occurs in two size ranges, with equant, interlocking grains averaging 0.05-0.1 mm in size and patches of interlocking grains averaging 0.01 mm in size.

Alunite forms disseminated flakes and clusters of grains averaging 0.02-0.05 mm in size.

Pyrite forms disseminated, anhedral grains averaging 0.02-0.08 mm in size. It is concentrated strongly in a few subparallel bands from 0.5-1 mm wide.

Muscovite forms disseminated flakes averaging 0.1 mm in size. It is concentrated in a few bands up to 0.7 mm wide as disseminated, subhedral flakes averaging 0.1-0.2 mm long.

Leucoxene forms equant patches form 0.05-0.15 mm in size. A few are replaced moderately by pyrite. Ti-oxide forms a few patches up to 0.1 mm in size intergrown with very fine grained pyrite.

A veinlike zone up to 0.8 mm wide is of cryptocrystalline quartz with moderately abundant dusty to extremely fine grained pyrite.

Sample 96-2 170.9 m **Moderately Altered Porphyritic Latite**

Phenocrysts of plagioclase are set in a groundmass of extremely fine grained plagioclase and quartz with minor disseminated pyrite and leucoxene. Plagioclase is altered to sericite, completely in phenocrysts and moderately to strongly in the groundmass.

phenocrysts	
plagioclase	5- 7%
mafic(?)	0.3
groundmass	
plagioclase/sericite	55-60
quartz	30-35
pyrite	2- 3
leucoxene	0.5
chalcopyrite	trace

Plagioclase forms subhedral to euhedral, prismatic phenocrysts averaging 0.7-1.2 mm long and a few up to 2 mm long. Alteration is complete to extremely fine grained to cryptocrystalline sericite, with a few patches of very fine grained muscovite.

A few patches up to 0.9 mm across may represent altered mafic phenocrysts. They consist of cryptocrystalline to extremely fine grained sericite and lesser quartz, with moderately abundant, disseminated patches of pyrite and leucoxene averaging 0.01-0.05 mm in size.

In the groundmass, plagioclase forms anhedral to subhedral, prismatic grains averaging 0.08-0.2 mm in size. Alteration is strong to cryptocrystalline sericite. Other patches in the groundmass up to 0.2 mm across are of cryptocrystalline sericite and plagioclase.

Quartz forms anhedral, slightly interlocking grains averaging 0.05-0.07 mm in size.

Pyrite forms disseminated grains averaging 0.01-0.03 mm in size, with several up to 0.07 mm across and one 0.15 mm across. It is concentrated moderately in patches up to 1 mm in size in which it forms grains averaging 0.1-0.2 mm in size intergrown with groundmass minerals.

Leucoxene forms disseminated patches averaging 0.1-0.3 mm in size, probably after original ilmenite.

Chalcopyrite is concentrated in the core of one pyrite-rich patch as a lens 0.2 mm long interstitial to pyrite grains. The patch is altered to hematite along an irregular fracture. It also forms an inclusion 0.02 mm across in another coarse pyrite patch.

Sample 96-2 217.8 m **Banded Quartz-Alunite-Pyrite Alteration**

The sample is a well foliated, compositionally banded rock with bands dominated by extremely fine grained quartz and others by very fine grained alunite. Pyrite is common throughout as disseminated grains. Leucoxene forms disseminated patches, which represent altered ilmenite or sphene from the from the original host rock. Minor disseminated patches are of Mineral X (probably a Pb-Sb sulfide) and of covellite. A few wispy, discontinuous veinlets are of pyrite.

quartz	50-55%	
alunite	40-45	
pyrite	5- 7	
leucoxene	0.5	
Mineral X	0.1	(probably a Pb-Sb sulfide)
covellite	trace	
veinlets		
pyrite	minor	

Quartz is concentrated in quartz-rich bands as equant, slightly interlocking grains averaging 0.005-0.015 mm in size. In these alunite forms minor to moderately abundant disseminated grains and wispy seams parallel to foliation as grains averaging 0.03-0.05 mm in size. With increasing alunite content, these grade into alunite-rich bands with minor to moderately abundant intergrown quartz grains and patches. Quartz contains moderately abundant dusty inclusions, whose density increases with decreasing grain size of quartz.

Alunite is concentrated moderately to strongly in bands up to 2 mm wide parallel to a prominent foliation. Alunite grains average 0.05-0.1 mm long and are elongated moderately parallel to foliation. In a few bands, flakes are up to 0.2 mm long. In one veinlike zone up to 1 mm wide, alunite forms aggregates of sub-parallel to slightly radiating prismatic grains up to 0.7 mm long.

Pyrite forms disseminated grains averaging 0.02-0.07 mm in size and a few from 0.1-0.2 mm across. In pressure shadows of coarser pyrite grains, quartz commonly is recrystallized in comb-textured aggregates up to 0.15 mm long oriented sub-perpendicular to pyrite crystal faces.

Mineral X (probably a Pb-Sb sulfide) forms a few anhedral patches up to 0.2 mm in size. It also occurs in a few pyrite grains as minor to very abundant, irregular inclusions averaging 0.01-0.02 mm in size. It has an appearance similar to galena, but has a slightly lower reflectivity and is moderately anisotropic.

Leucoxene forms patches averaging 0.1-0.15 mm in size and a few up to 1 mm across as dusty to extremely fine grains, intergrown with moderately abundant to very abundant quartz and alunite.

Associated with a ragged lens of pyrite is a skeletal patch up to 0.2 mm long of cryptocrystalline covellite intergrown with quartz and pyrite.

A few patches, lenses, and discontinuous veinlets parallel to foliation consist of very fine to locally fine grained quartz, pyrite, and alunite in moderately varying proportions.

Several discontinuous, wispy veinlets up to 0.01 mm wide are of cryptocrystalline pyrite cut quartz-rich zones.

Vancouver Petrographics Ltd.

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PHONE (604) 888-1323 • FAX (604) 888-3642

Report # 960674 for:

Willard D. Tompson,
P.O. Box 395,
Smithers, B.C., V0J 2N0

October 1996

for Telkwa Gold Corp.,
5885 Dalcastle Drive, N.W.
Calgary, Alberta, T3A 2C2

Samples: 96-2: 226.5 m, 228.0 m

Summary:

Sample 96-2 226.5 m is an altered, slightly porphyritic rhyolite(?)containing minor small quartz phenocrysts in a moderately foliated groundmass dominated by quartz with lesser alunite. Muscovite is concentrated strongly in seams parallel to foliation. Pyrite forms disseminated grains, and leucoxene and pyrite form disseminated patches.

Sample 96-2 228.0 m is strongly altered rhyolite(?) containing minor, small quartz phenocrysts in a groundmass dominated by cryptocrystalline quartz and seams of sericite/muscovite, with minor pyrite and alunite. A few coarser grained lenses are of pyrite-quartz-colusite (Cu_3VS_4). One lens is of sphalerite-covellite. Minerals identified by the S.E.M. include colusite and sphalerite, and minerals checked by the S.E.M. during this study were covellite, rutile, and pyrite.

John G Payne

John G. Payne, PhD.,
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Sample 96-2 226.5 m **Altered, Slightly Porphyritic Rhyolite(?): Quartz Phenocrysts; Quartz-Alunite-Pyrite-Muscovite-Leucoxene Alteration**

Minor, small quartz phenocrysts are set in a moderately foliated groundmass dominated by quartz with lesser alunite. Muscovite is concentrated strongly in seams parallel to foliation. Pyrite forms disseminated grains, and leucoxene and pyrite form disseminated patches.

phenocrysts	
quartz	0.3%
groundmass	
quartz	55-60
alunite	30-35
muscovite/sericite	3- 4
pyrite	3- 4
leucoxene	2- 3
Ti-oxide	0.1

Quartz forms scattered phenocrysts with rounded to slightly irregular outlines averaging 0.1-0.15 mm in size, with a few from 0.2-0.3 mm across. Some rounded phenocrysts have thin, irregular overgrowths of secondary quartz in optical continuity with the phenocryst. The contact between the two is outlined by a wispy seam of opaque.

In the groundmass, quartz forms aggregates of interlocking, equant grains averaging 0.005-0.1 mm in size. Slightly coarser grained quartz up to 0.05 mm occurs intergrown with some coarser grained clusters of pyrite.

Alunite forms equant to slightly elongate grains averaging 0.03-0.07 mm in size, with a few up to 0.12 mm long. Coarser grains are concentrated moderately in some bands parallel to foliation, in part alone and in part with muscovite.

Pyrite forms disseminated, anhedral grains averaging 0.02-0.05 mm in size and a few grains up to 0.1 mm across. Several ellipsoidal to irregular patches averaging 0.15-0.3 mm across and a few from 0.5-0.8 mm across contain abundant commonly spheroidal patches of pyrite averaging 0.005-0.01 mm in size or anhedral grains averaging 0.01-0.02 mm in size in an opaque groundmass of cryptocrystalline leucoxene(?).

Muscovite is concentrated strongly in several seams up to 0.1 mm wide parallel to foliation as flakes averaging 0.03-0.07 mm long. Some lenses in these seams are of extremely fine grained sericite.

Ti-oxide forms disseminated patches form 0.01-0.03 mm in size.

Sample 96-2 228.0 m Strongly Altered Rhyolite(?): Sericite/Muscovite-Quartz-(Alunite-Pyrite); Seams of Pyrite-Quartz-(Colusite); Lens of Sphalerite-Covellite

Minor small quartz phenocrysts are set in a groundmass dominated by cryptocrystalline quartz and seams of sericite/muscovite, with minor pyrite and alunite. A few coarser grained lenses are of pyrite-quartz-colusite (Cu_3VS_4). One lens is of sphalerite-covellite. Minerals identified by the S.E.M. include colusite and sphalerite (see below), and minerals checked by the S.E.M. during this study were covellite, rutile, and pyrite.

phenocrysts			
quartz	0.2%		
groundmass			
sericite/muscovite	50-55	leucoxene	0.7%
quartz	35-40	colusite	minor
pyrite	3- 4	sphalerite	trace
alunite	3- 4	covellite	trace

Quartz forms minor equant phenocrysts averaging 0.08-0.15 mm in size. A few have slight overgrowths of secondary quartz in optical continuity with the main grain; these are separated by a wispy zone of dusty opaque.

In the groundmass, quartz forms interlocking grains averaging 0.005-0.01 mm in size. Intergrown with quartz is minor to moderately abundant sericite flakes averaging 0.01-0.02 mm in size and grains of alunite averaging 0.02-0.03 mm in size.

Sericite/muscovite is concentrated in broad seams parallel to foliation. Muscovite flakes are up to 0.15 mm long.

Pyrite forms disseminated, anhedral, equant grains averaging 0.03-0.1 mm in size. It is concentrated moderately in a few bands of muscovite/sericite. Several coarser grained lenses up to 2 mm long consist of anhedral grains averaging 0.07-0.3 mm in size, with a few up to 0.5 mm across. Interstitial to pyrite in one of these are a few patches up to 0.1 mm in size of a colusite, a pale orangish grey, soft mineral with moderate reflectivity. The S.E.M. analysis shows that it is a Cu-V end-member of the complex, colusite solid-solution series, which can contain iron and zinc in the copper site, and arsenic and antimony in the vanadium site.

Alunite forms grains averaging 0.02-0.05 mm in size, with a few isolated grains up to 0.12 mm long. It is concentrated moderately to strongly in lenses up to 1.5 mm long associated with sericite/muscovite seams; in these lenses, alunite grains are elongate parallel to foliation.

Leucoxene forms equant patches averaging 0.1-0.2 mm in size, and a few up to 0.3 mm across. Some contain minor inclusions of pyrite and Ti-oxide averaging 0.02-0.03 mm in size. A few contain skeletal ribs of Ti-oxide in three, approximately hexagonal crystallographic directions. Ti-oxide forms a few anhedral grains up to 0.1 mm in size.

Bordering one of the coarser pyrite-rich lenses is a seam 0.2 mm long by 0.02 mm wide of sphalerite. Along its margins it is altered slightly to moderately to cryptocrystalline covellite. Because of the presence of covellite, the sphalerite lens is opaque in transmitted light.

Along the core of a seam of sericite/muscovite is a braided veinlet of pyrite in which individual bands average 0.003-0.005 mm wide.

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Report # 960565 for:

Willard D. Tompson,
P.O. Box 395,
Smithers, B.C., V0J 2N0

January 1997

Sample: 9610 NOTE: THIS SAMPLE IS FROM THE PASS CLAIM.

Summary:

Sample 9610 is a strongly phyllic-altered rock dominated by extremely fine to very fine grained sericite with lesser extremely fine to very fine grained quartz and scattered very fine muscovite flakes. No original texture can be recognized. A few seams up to 1.5 mm wide are of moderately to well foliated muscovite-sericite with moderately abundant patches and lenses of limonite. Pyrite forms disseminated grains and clusters, some of which were replaced completely by limonite/hematite, and some of which were leached leaving subhedral cavities. A few cavities are bordered by patches of recrystallized quartz. Veinlets are of limonite and minor quartz. Limonite patches and seams probably were formed from iron released during the weathering of pyrite.

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Sample 9610 **Sericite/Muscovite-Quartz-Pyrite Alteration (Phyllic); Limonite Veinlets, Replacement Patches**

The sample is a strongly phyllic-altered rock dominated by extremely fine to very fine grained sericite with lesser extremely fine to very fine grained quartz and scattered very fine muscovite flakes. No original texture can be recognized. A few seams up to 1.5 mm wide are of moderately to well foliated muscovite-sericite with moderately abundant patches and lenses of limonite. Pyrite forms disseminated grains and clusters, some of which were replaced completely by limonite/hematite, and some of which were leached leaving subhedral cavities. A few cavities are bordered by patches of recrystallized quartz. Veinlets are of limonite and minor quartz. Limonite patches and seams probably were formed from iron released during the weathering of pyrite.

sericite	65-70%	
quartz	17-20	
muscovite	5- 7	
pyrite	1- 2	(altered to limonite/hematite or casts)
Ti-oxide	minor	
tourmaline	trace	
limonite	2- 3	(secondary)
veinlets		
limonite-(quartz)	1- 2	

Sericite forms aggregates of unoriented flakes averaging 0.02-0.05 mm in size, and a few up to 0.07 mm long. Coarser grains grade into muscovite flakes averaging 0.1-0.25 mm in size. Sericite/ muscovite forms a few seams up to 1 mm in width in which grains are in subparallel orientation parallel to the foliation. Some are stained orange-brown moderately to strongly by limonite.

Quartz forms grains averaging 0.05-0.07 mm in size intergrown with sericite, and concentrated moderately in quartz-rich patches averaging 0.3-0.5 mm in size. Quartz also forms a few grains and clusters of anhedral grains averaging 0.02-0.05 mm in size. A few coarser grains are from 0.3-0.5 mm across; some of these may represent original phenocrysts.

Pyrite forms subhedral to euhedral grains averaging 0.1-0.15 mm in size. Some are replaced completely by reddish brown hematite. Many were leached, leaving subhedral to euhedral casts averaging 0.07-0.15 mm in size. A few fresh grains up to 0.01 mm across occur in cores of quartz grains.

Ti-oxide forms a few equant patches averaging 0.03-0.07 mm in size.

Tourmaline forms a subhedral, prismatic grain 0.1 mm long. Pleochroism is from colourless to pale/light green.

A few braided veins and patches are of cryptocrystalline, orange-brown limonite. One veinlet 0.06 mm wide contains lenses of finely banded parallel to the length of the veinlet.

One vein up to 0.3 mm wide is of limonite with minor grains of quartz averaging 0.02-0.07 mm in size.

APPENDIX III

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SMITHERS LAB:
3176 TATLOW ROAD
SMITHERS, B.C., CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Geochemical Analysis Certificate

6S-0113-RG1

Company: **TELKWA GOLD CORPORATION**
Project:
Attn: Will Thompson

Date: SEP-03-96
Copy 1. Telkwa Gold Corporation Calgary Alta

We hereby certify the following Geochemical Analysis of 24 ROCK & CORE samples submitted AUG-26-96 by WILL THOMPSON.

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
1-05718	3	.9	51
0-64001	1	.1	12
0-64002	130	2.1	2100
0-64003	22	.9	42
0-64004	5	.5	45
0-64005	7	.3	5
0-64051	10	.2	21
0-64052	11	.8	137
0-64053	5	1.3	80
0-64054	7	1.0	117
0-64055	8	1.0	144
0-64056	2	1.1	58
0-64057	3	1.4	89
0-64058	3	1.3	82
0-64059	3	1.1	103
0-64060	5	.5	121
0-64061	6	.9	76
0-64062	8	1.0	53
0-64063	4	.6	54
0-64064	2	1.0	82
0-64065	1	.5	91
0-64066	4	.9	60
0-64067	3	.6	65
0-64068	5	.5	239

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Geochemical Analysis Certificate

6S-0113-RG2

Company: **TELKWA GOLD CORPORATION**

Date: SEP-03-96

Project:

Copy 1. Telkwa Gold Corporation Calgary Alta

Attn: Will Thompson

We hereby certify the following Geochemical Analysis of 12 CORE samples submitted AUG-26-96 by WILL THOMPSON.

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
0-64069	1	.4	88
0-64070	1	.2	47
0-64071	1	.5	152
0-64072	4	.6	149
0-64073	3	.4	126
0-64074	6	.7	119
0-64075	2	1.0	257
0-64076	2	.9	386
0-64077	1	.6	151
0-64078	1	.7	357
0-64079	1	1.2	381
0-64080	1	1.3	254

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Geochemical Analysis Certificate

6S-0114-RG1

Company: **TELKWA GOLD CORPORATION**
Project:
Attn: Will Thompson

Date: SEP-04-96
Copy 1. Telkwa Gold Corporation Calgary Alta

We hereby certify the following Geochemical Analysis of 16 CORE samples submitted AUG-26-96 by WILL THOMPSON.

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
0-64082	4	.2	50
0-64083	6	.2	12
0-64084	3	.3	28
0-64085	10	.1	26
0-64086	4	.1	16
0-64087	7	.2	10
0-64088	3	.2	17
0-64089	6	.4	35
0-64090	2	.1	21
0-64091	10	.1	24
0-64092	3	.1	31
0-64093	5	.2	54
0-64094	6	.1	53
0-64095	6	.1	11
0-64096	2	.1	7
0-64097	3	.2	9

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Geochemical Analysis Certificate

6S-0116-RG1

Company: **TELKWA GOLD CORPORATION**
Date: SEP-09-96
Project:
Attn: Will Thompson

We hereby certify the following Geochemical Analysis of 22 CORE samples submitted AUG-29-96 by Will Thompson.

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
64098	12	.2	113
64099	6	.1	103
64100	6	.3	127
64101	9	.4	148
64102	10	.2	102
64103	4	.1	70
64104	41	.6	35
64105	7	.6	43
64106	10	.2	36
64107	4	.3	291
64108	5	.3	64
64109	11	.4	219
64110	6	.3	125
64111	1	1.5	15
64112	2	1.4	65
64113	2	2.6	6
64114	1	1.2	14
64115	2	1.2	73
64116	10	.8	805
64117	3	1.6	98
64118	14	.8	92
64119	9	.7	75

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Geochemical Analysis Certificate

6S-0138-RG1

Company: **TELKWA GOLD**
Project:
Attn: Will Thompson

Date: SEP-13-96

Copy 1. Will Thompson Telkwa BC
2. Fax to Min-En Smithers Attn W Thompson
3. Telkwa Gold Calgary Alta

We hereby certify the following Geochemical Analysis of 24 CORE samples submitted SEP-06-96 by WILL THOMPSON.

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
0-64120	1	.3	39
0-64121	5	.3	70
0-64122	1	.2	42
0-64123	2	.5	72
0-64124	1	.3	27
0-64125	2	.6	30
0-64126	1	.7	25
0-64127	1	.7	25
0-64128	1	.8	23
0-64129	1	.6	31
0-64130	3	.5	33
0-64131	1	.4	24
0-64132	6	.5	41
0-64133	5	.4	15
0-64134	4	.8	21
0-64135	6	.9	52
0-64136	3	1.3	66
0-64137	2	1.2	35
0-64138	5	1.3	70
0-64139	1	1.5	97
0-64140	3	1.3	69
0-64141	2	1.2	96
0-64142	3	1.5	81
0-64143	1	1.1	116

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Geochemical Analysis Certificate

6S-0138-RG2

Company: **TELKWA GOLD**
Project:
Attn: Will Thompson

Date: SEP-13-96

Copy 1. Will Thompson Telkwa BC
2. Fax to Min-En Smithers Attn W Thompson
3. Telkwa Gold Calgary Alta

We hereby certify the following Geochemical Analysis of 1 CORE samples submitted SEP-06-96 by WILL THOMPSON.

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
0-64202	1	.2	93

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Geochemical Analysis Certificate

6S-0143-RG1

Company: **TELKWA GOLD CORPORATION**

Date: SEP-18-96

Project:

Attn: Willard Thompson

We hereby certify the following Geochemical Analysis of 24 CORE samples submitted SEP-10-96 by Will Thompson.

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
64144	4	1.3	95
64145	2	1.5	68
64146	3	1.3	17
64147	1	1.8	133
64148	6	2.3	270
64149	2	1.3	45
64150	3	1.2	48
64151	3	1.2	45
64152	4	1.3	37
64153	4	1.1	50
64154	6	1.3	102
64155	8	1.3	139
64156	9	1.9	87
64157	6	1.2	47
64158	5	1.2	45
64159	11	1.3	74
64160	12	1.4	112
64161	11	1.4	56
64162	5	1.4	88
64163	8	1.3	45
64164	3	2.2	186
64165	6	1.7	45
64166	4	1.7	408
64167	5	1.6	16

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Geochemical Analysis Certificate

6S-0143-RG2

Company: **TELKWA GOLD CORPORATION**

Date: SEP-18-96

Project:

Attn: Willard Thompson

We hereby certify the following Geochemical Analysis of 20 CORE samples submitted SEP-10-96 by Will Thompson.

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
0-64168	12	2.0	37
0-64169	7	1.7	39
0-64170	4	1.8	129
0-64171	8	1.5	108
0-64172	10	1.5	164
0-64173	5	1.5	86
0-64174	4	1.4	44
0-64175	6	1.4	30
0-64176	5	1.7	29
0-64177	6	1.4	53
0-64178	4	2.1	114
0-64179	3	1.8	112
0-64180	2	1.8	143
0-64181	6	1.7	95
0-64182	4	1.7	131
0-64183	11	1.7	198
0-64184	6	1.7	243
0-64006	9	.8	264
0-64007	11	.5	67
0-64008	17	.7	31

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FAX (604) 327-3423

SMITHERS LAB:
3176 TATLOW ROAD
SMITHERS, B.C., CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Geochemical Analysis Certificate

6S-0141-RG1

Company: **TELKWA GOLD CORPORATION**
Date: SEP-20-96
Project:
Attn: Willard Thompson/Ken Thompson

We hereby certify the following Geochemical Analysis of 24 CORE samples submitted MMM-DD-YY by .

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
64185	5	1.8	128
64186	3	1.8	166
64189	4	1.9	136
64190	4	1.7	181
64191	2	1.7	179
64192	4	2.2	153
64193	2	1.9	95
64194	8	1.6	94
64195	7	1.5	99
64196	4	1.5	73
64197	4	1.3	81
64198	7	1.3	214
64199	5	1.4	140
64200	7	.2	32
64201	6	.2	30
64203	5	.4	42
64204	8	1.5	88
64205	5	1.7	75
64206	6	1.8	65
64207	5	1.6	68
64208	4	1.6	54
64209	5	1.2	51
64210	7	1.4	75
64211	4	1.3	88

*Certified by*____________________

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Geochemical Analysis Certificate

6S-0141-RG2

Company: **TELKWA GOLD CORPORATION**
Date: SEP-20-96
Project:
Attn: Willard Thompson/Ken Thompson

We hereby certify the following Geochemical Analysis of 15 CORE samples
submitted MMM-DD-YY by .

Sample Number	Au-fire PPB	Ag PPM	Cu PPM
64212	7	1.0	61
64213	2	1.1	63
64214	2	1.3	46
64215	4	1.4	36
64216	9	.9	109
64217	3	.6	108
64218	2	.4	92
64219	5	.6	115
64220	3	.6	133
64221	1	.2	82
64222	2	.3	89
64223	1	.2	172
64224	2	.2	113
64225	7	.9	318
64229	6	1.4	275

*Certified by*____________________

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Assay Certificate

6S-0141-RA1

Company: **TELKWA GOLD CORPORATION**

Date: SEP-20-96

Project:

Attn: Willard Thompson/Ken Thompson

We hereby certify the following Assay of 24 CORE samples submitted MMM-DD-YY by .

Sample Number	Au-fire g/tonne	Ag g/tonne	Cu %
64187	.01	1.2	.017
64188	.01	.8	.005
64226	.01	1.1	.052
64227	.01	1.1	.034
64228	.01	2.0	.010
64230	.01	1.8	.034
64231	.01	1.6	.044
64232	.01	1.7	.042
64233	.01	2.1	.043
64234	.01	1.4	.041
64235	.01	1.1	.054
64236	.01	.6	.023
64237	.01	.2	.012
64238	.01	.4	.011
64239	.01	.2	.011
64240	.01	.3	.013
64241	.01	.2	.009
64242	.01	.5	.021
64243	.02	.6	.013
64244	.01	.3	.037
64245	.02	.2	.010
64246	.03	.6	.008
64247	.01	.7	.014
64248	.01	.2	.011

*Certified by*____________________

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Assay Certificate

6S-0141-RA2

Company: **TELKWA GOLD CORPORATION**
Date: SEP-20-96
Project:
Attn: Willard Thompson/Ken Thompson

We hereby certify the following Assay of 24 CORE samples submitted MMM-DD-YY by .

Sample Number	Au-fire g/tonne	Ag g/tonne	Cu %
64249	.01	.3	.009
64250	.01	.4	.008
64251	.01	.4	.010
64252	.01	.2	.010
64253	.01	.5	.008
64254	.02	.3	.008
64255	.01	.2	.009
64256	.01	.3	.013
64257	.01	.3	.015
64258	.01	.3	.010
64259	.01	.4	.010
64260	.04	.3	.010
64261	.02	.2	.012
64262	.01	.5	.015
64263	.02	.3	.014
64264	.01	.3	.012
64265	.01	.2	.010
64266	.01	.4	.011
64267	.02	.3	.014
64268	.01	.3	.015
64269	.02	.3	.012
64270	.02	.5	.012
64271	.02	.2	.015
64272	.01	.2	.019

Certified by ____________________

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Assay Certificate

6S-0141-RA3

Company: **TELKWA GOLD CORPORATION** Date: SEP-20-96
Project:
Attn: Willard Thompson/Ken Thompson

We hereby certify the following Assay of 23 CORE samples submitted MMM-DD-YY by .

Sample Number	Au-fire g/tonne	Ag g/tonne	Cu %
64273	.01	.5	.016
64274	.01	.6	.012
64275	.01	.5	.013
64276	.01	.7	.012
64277	.01	.2	.009
64278	.01	.6	.008
64279	.01	.4	.010
64280	.01	.2	.006
64281	.01	.4	.008
64282	.01	.3	.009
64283	.01	.2	.021
64284	.01	.2	.021
64285	.03	.2	.012
64286	.01	.2	.011
64287	.02	.6	.007
64288	.01	.2	.006
64289	.01	.2	.011
64290	.01	.2	.018
64291	.01	.4	.011
64292	.01	.2	.010
64293	.06	.3	.013
64294	.03	.2	.012
64295	.05	.4	.067

Certified by ____________________

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Assay Certificate

6S-0148-RA1

Company: **TELKWA GOLD CORPORATION**
Project:
Attn: Willard Thompson

Date: SEP-18-96
Copy 1. Telkwa Gold Corporation Smithers BC
2. Telkwa Gold Corporation Calgary Alta

We hereby certify the following Assay of 24 CORE samples submitted SEP-12-96 by WILL THOMPSON.

Sample Number	Au-fire g/tonne	Ag g/tonne	Cu %
0-64296	.01	1.2	.021
0-64297	.01	1.0	.013
0-64298	.01	1.5	.003
0-64299	.01	.2	.005
0-64300	.01	.2	.007
0-64301	.01	1.1	.014
0-64302	.01	.8	.008
0-64303	.02	1.6	.012
0-64304	.01	.4	.019
0-64305	.01	.5	.022
0-64306	.01	1.2	.022
0-64307	.01	1.0	.022
0-64308	.01	.9	.024
0-64309	.01	1.0	.023
0-64310	.01	.6	.023
0-64311	.01	.2	.019
0-64312	.01	.4	.016
0-64313	.02	1.2	.013
0-64314	.01	.5	.032
0-64315	.01	1.0	.031
0-64316	.01	1.4	.122
0-64317	.01	.6	.019
0-64318	.01	.5	.018
0-64319	.01	1.1	.014

*Certified by*____________________

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FAX (604) 847-3005

Assay Certificate

6S-0148-RA2

Company: **TELKWA GOLD CORPORATION**
Project:
Attn: Willard Thompson

Date: SEP-18-96
Copy 1. Telkwa Gold Corporation Smithers BC
2. Telkwa Gold Corporation Calgary Alta

We hereby certify the following Assay of 22 CORE samples submitted SEP-12-96 by WILL THOMPSON.

Sample Number	Au-fire g/tonne	Ag g/tonne	Cu %
0-64320	.01	.6	.022
0-64321	.01	1.8	.028
0-64322	.01	1.7	.025
0-64323	.01	.5	.025
0-64324	.01	1.5	.044
0-64325	.01	1.2	.044
0-64326	.01	1.0	.027
0-64327	.02	.4	.029
0-64328	.01	.9	.031
0-64329	.02	.4	.032
0-64330	.02	.2	.030
0-64331	.01	.2	.026
0-64332	.01	.4	.022
0-64333	.01	.7	.024
0-64334	.01	1.2	.031
0-64335	.01	.8	.013
0-64336	.01	.6	.012
0-64337	.01	.7	.014
0-64338	.01	.6	.016
0-64339	.01	.4	.013
0-64340	.01	.8	.007

*Certified by*__________

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FAX (604) 847-3005

Assay Certificate

6S-0159-RA1

Company: **TELKWA GOLD**
Project:
Attn: Will Thompson / Ken Thompson

Date: SEP-24-96

Copy 1. Telkwa Gold Smithers BC
2. Telkwa Gold Calgary Alta

We hereby certify the following Assay of 24 CORE samples submitted SEP-17-96 by WILL THOMPSON.

Sample Number	Au-fire g/tonne	Ag g/tonne	Cu %
64342	.01	.9	.009
64343	.03	.6	.015
64344	.01	.6	.005
64345	.01	1.0	.003
64346	.01	.7	.021
64347	.02	.9	.007
64348	.01	.4	.008
64349	.01	.8	.008
64350	.02	.8	.024
64351	.01	1.1	.010
64352	.02	1.0	.007
64353	.01	.6	.006
64354	.01	.9	.008
64355	.01	.6	.012
64356	.01	.7	.011
64357	.03	.6	.050
64358	.01	.4	.036
64359	.01	.8	.011
64360	.05	.7	.007
64361	.01	.6	.009
64362	.01	.8	.012
64363	.01	.8	.009
64364	.01	1.1	.010
64365	.01	.9	.012

Certified by ____________________

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TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

6S-0159-RA2

Company: **TELKWA GOLD**
Project:
Attn: Will Thompson / Ken Thompson

Date: SEP-24-96
Copy 1. Telkwa Gold Smithers BC
2. Telkwa Gold Calgary Alta

We hereby certify the following Assay of 16 CORE samples submitted SEP-17-96 by WILL THOMPSON.

Sample Number	Au-fire g/tonne	Ag g/tonne	Cu %
64366	.01	.8	.011
64367	.02	.6	.006
64368	.01	.3	.001
64369	.01	.2	.002
64370	.01	.3	.003
64371	.01	.4	.009
64372	.01	.3	.003
64373	.01	.5	.006
64374	.01	.6	.010
64375	.01	.3	.043
64380	.01	2.0	.025
64381	.01	.9	.021
64382	.02	1.1	.019
64383	.01	1.2	.017
64384	.02	3.6	.024
64387	.01	2.0	.026

Certified by

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FAX (604) 847-3005

Geochemical Analysis Certificate

6S-0159-RG1

Company: **TELKWA GOLD**
Project:
Attn: Will Thompson / Ken Thompson

Date: SEP-24-96
Copy 1. Telkwa Gold Smithers BC
2. Telkwa Gold Calgary Alta

We hereby certify the following Geochemical Analysis of 10 CORE samples submitted SEP-17-96 by WILL THOMPSON.

Sample Number	AU FIRE PPB	AG PPM	CU PPM
64009	3	.4	116
64010	6	1.5	30
64011	5	1.9	34
64012	4	1.2	46
64376	8	2.3	278
64377	4	2.6	197
64378	3	2.0	294
64379	7	2.6	242
64385	2	2.8	163
64386	5	2.4	180

Certified by ____________________

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Geochemical Analysis Certificate

7V-0026-PG1

Company: **TELKWA GOLD CORP**
Project:
Attn: Will Tompson

Date: JAN-23-97

We hereby certify the following Geochemical Analysis of 21 COMPOSITES samples submitted JAN-14-97 by W.D.TOMPSON.

Sample Number	TE PPM	TL PPB
64058-64062	.4	20
64073-64077	.5	20
64091-64097	.8	20
64103-64107	1.2	20
64118-64127	.6	20
64167-64176	.8	20
64177-64184	.3	90
64190-64199	.2	20
64221-64229	.3	40
64230-64235	.3	50
64295-64299	.8	100
64300-64304	1.6	110
64305-64309	1.7	30
64310-64314	2.4	20
64315-64319	.9	50
64320-64324	2.8	40
64325-64329	.9	20
64330-64335	1.5	20
64351-64360	.6	20
64375-64380	.3	20
64381-64386	1.4	20

Certified by ____________________

MIN-EN LABORATORIES

COMP: TELKWA GOLD CORPORATION
PROJ:
ATTN: Will Thompson

MIN-EN LABS — ICP REPORT

8282 SHERBROOKE ST., VANCOUVER, B.C. V5X 4E8
TEL:(604)327-3436 FAX:(604)327-3423

FILE NO: 6S-0116-RJ1
DATE: 96/09/09
* * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	GA PPM	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SN PPM	SR PPM	TH PPM	TI %	U PPM	V PPM	W PPM	ZN PPM
64111	.8	.14	9	32	.1	2	7.34	.1	3	103	15	.31	1	.01	1	.11	47	8	.01	7	70	1	1	1	262	1	.03	1	5.5	5	5
64112	1.1	2.55	234	5	.1	1	3.00	.1	29	192	63	2.67	1	.01	5	3.47	788	13	.01	101	590	1	1	2	126	1	.12	1	47.8	2	63
64113	1.0	.02	5	30	.1	2	12.44	.1	1	52	4	.12	4	.01	1	.02	12	6	.01	4	50	5	2	1	424	1	.01	1	2.4	3	2
64114	1.0	.10	2	26	.1	2	6.09	.1	2	90	13	.31	2	.02	1	.05	34	6	.01	5	60	3	2	1	228	1	.02	1	5.6	5	3
64115	1.0	2.64	230	58	.1	1	1.36	.1	25	122	71	2.91	1	.01	6	3.35	927	13	.02	81	690	1	1	2	74	1	.09	1	47.5	1	77
64116	.1	.35	1	45	.1	1	2.42	.1	54	41	777	4.23	1	.10	1	.10	31	17	.04	44	1120	1	1	2	87	1	.01	1	4.5	1	1
64117	.4	4.40	236	24	.1	1	1.17	.1	28	126	88	5.30	1	.03	15	4.08	840	20	.02	85	880	1	1	4	52	1	.05	1	102.5	1	61
64118	.1	.27	1	33	.1	1	.99	.1	73	39	91	6.57	1	.06	1	.03	9	39	.06	45	500	1	1	3	19	1	.01	1	2.7	1	1
64119	.1	.94	1	34	.1	1	1.94	.1	89	67	74	4.62	1	.06	2	.45	45	18	.06	61	1170	1	2	2	34	1	.01	1	23.5	1	2

COMP: TELKWA GOLD CORPORATION
PROJ:
ATTN: Willard Thompson

MIN-EN LABS — ICP REPORT

8282 SHERBROOKE ST., VANCOUVER, B.C. V5X 4E8
TEL:(604)327-3436 FAX:(604)327-3423

FILE NO: 6S-0143-RJ1+2
DATE: 96/09/18
* * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	GA PPM	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SN PPM	SR PPM	TH PPM	TI %	U PPM	V PPM	W PPM	ZN PPM
0-64145	.1	1.34	1	20	.1	1	3.94	.1	12	22	72	5.24	1	.05	3	.78	79	12	.05	30	940	1	1	2	181	1	.01	1	32.4	1	17
0-64149	.1	.20	1	14	.1	1	4.00	.1	22	53	48	6.44	1	.02	1	.01	3	10	.05	33	790	1	1	3	136	1	.01	1	2.6	1	1
0-64150	.1	.17	1	19	.1	1	3.49	.1	23	55	52	7.73	1	.02	1	.01	3	11	.04	34	740	1	1	3	115	1	.01	1	1.8	1	1
0-64155	.1	.49	1	42	.1	1	3.94	.1	37	65	155	5.38	1	.06	1	.03	12	10	.09	38	950	1	2	2	180	1	.01	1	6.3	1	1
0-64160	.1	.50	1	25	.1	1	4.01	.1	22	81	127	6.90	1	.05	1	.01	7	13	.10	29	810	1	1	3	163	1	.01	1	5.6	1	1
0-64165	.1	1.21	1	38	.1	1	5.06	.1	21	42	45	5.54	1	.08	5	1.03	137	13	.05	34	690	1	1	2	207	1	.01	1	35.3	1	31
0-64170	.1	.44	1	47	.1	1	6.96	.1	15	50	136	4.34	1	.05	1	.23	13	16	.04	27	350	1	1	2	363	1	.01	1	11.1	1	2
0-64175	.1	.87	1	27	.1	1	4.92	.1	20	42	29	5.56	1	.08	3	.75	27	19	.07	29	780	1	1	3	201	1	.01	1	24.3	1	2
0-64180	.2	3.58	238	42	.1	1	3.63	.1	20	36	150	4.73	1	.09	18	3.59	869	17	.02	47	720	1	1	3	125	1	.02	1	66.0	1	75
0-64184	.6	1.36	77	42	.1	1	5.61	.1	34	52	249	3.74	1	.10	5	1.21	354	13	.02	43	800	1	1	2	194	1	.05	1	35.6	1	27

COMP: TELKWA GOLD CORPORATION
PROJ:
ATTN: Willard Thompson/Ken Thompson

MIN-EN LABS — ICP REPORT

8282 SHERBROOKE ST., VANCOUVER, B.C. V5X 4E8
TEL:(604)327-3436 FAX:(604)327-3423

FILE NO: 6S-0141-RJ1+2
DATE: 96/09/18
* * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	GA PPM	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SN PPM	SR PPM	TH PPM	TI %	U PPM	V PPM	W PPM	ZN PPM
64185	.1	3.11	151	33	.1	1	.26	.1	18	68	139	5.92	1	.04	11	2.61	1329	19	.03	57	830	1	1	4	55	1	.09	1	80.4	1	84
64190	.1	2.55	120	31	.1	1	.30	.1	20	65	188	4.99	1	.03	7	2.18	1091	16	.03	57	740	1	1	3	37	1	.07	1	63.9	1	84
64195	.2	2.43	105	74	.1	1	.15	.1	8	46	101	4.86	1	.04	7	2.01	648	20	.02	36	160	1	1	3	32	1	.10	1	90.7	1	111
64200	.1	.11	1	8	.1	1	.02	.1	2	10	35	2.19	1	.01	1	.01	3	8	.02	4	50	1	1	1	1	1	.01	1	4.1	1	1
64205	.2	2.85	119	81	.1	1	.12	.1	18	54	78	5.36	1	.05	8	2.51	656	17	.04	49	870	1	1	3	70	1	.12	1	86.6	1	63
64210	.3	2.18	92	44	.1	1	.19	.1	10	53	78	4.93	1	.05	5	1.81	362	15	.04	31	710	1	1	3	62	1	.13	1	87.2	1	48
64215	.1	2.38	125	37	.1	1	.27	.1	10	64	37	4.36	1	.04	6	1.93	408	15	.04	36	860	1	1	2	64	1	.09	1	116.7	1	60
64220	.1	.28	1	40	.1	1	.09	.1	14	19	147	5.84	1	.04	1	.01	1	12	.04	34	880	1	1	2	1	1	.01	1	4.9	1	1
64225	.1	1.33	18	56	.1	1	.09	.1	17	31	338	4.02	1	.08	2	.76	317	11	.03	42	720	1	3	2	29	1	.01	1	24.6	1	39

COMP: TELKWA GOLD CORPORATION
PROJ:
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8282 SHERBROOKE ST., VANCOUVER, B.C. V5X 4E8
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FILE NO: 6S-0141-RD1+2
DATE: 96/09/20
* * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	GA PPM	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SN PPM	SR PPM	TH PPM	TI %	U PPM	V PPM	W PPM	ZN PPM
64230	.1	2.70	1	46	.1	1	.34	.1	38	46	321	7.21	1	.06	6	2.13	827	23	.04	55	720	1	6	4	33	1	.04	1	85.1	1	152
64235	.1	1.33	1	59	.1	1	.10	.1	28	43	533	7.11	1	.04	3	1.12	217	17	.03	45	770	1	1	3	71	1	.01	1	31.4	1	59
64240	.1	.23	1	54	.1	1	.02	.1	11	100	108	3.78	1	.05	5	.01	20	8	.02	13	60	1	1	1	126	1	.01	1	4.0	2	3
64245	.1	.06	1	188	.1	1	.01	.1	14	36	92	4.02	1	.01	1	.01	4	7	.01	10	10	1	1	1	11	1	.01	1	1.0	1	21
64250	.1	.19	1	117	.1	1	.01	.1	14	49	71	4.80	1	.08	1	.01	4	9	.01	12	20	1	1	2	5	1	.01	1	.9	1	1
64255	.1	.16	1	208	.1	1	.01	.1	12	62	71	3.48	1	.06	1	.01	6	7	.01	10	70	1	1	1	11	1	.01	1	.7	1	1
64260	.1	.93	1	57	.1	1	.01	.1	11	39	94	3.50	1	.08	1	.51	58	10	.01	13	130	1	1	2	3	1	.01	1	10.5	1	51
64265	.1	.79	1	49	.1	1	.01	.1	12	44	91	3.96	1	.11	1	.37	42	10	.01	14	180	1	1	1	21	1	.01	1	9.2	1	33
64270	.1	.99	1	52	.1	1	.01	.1	13	43	119	4.23	1	.13	1	.51	89	12	.01	15	170	1	2	2	31	1	.01	1	11.3	1	52
64275	.1	1.34	1	84	.1	1	.01	.1	13	30	119	4.09	1	.07	3	.98	198	14	.01	16	160	1	1	2	12	1	.01	1	15.0	1	128
64280	.1	.29	1	176	.1	1	.01	.1	13	45	60	4.04	1	.14	1	.01	10	8	.02	11	150	1	1	1	31	1	.01	1	2.1	1	1
64285	.1	.27	1	11	.1	1	.01	.1	18	86	114	3.56	1	.06	1	.01	12	7	.03	14	70	1	1	1	209	1	.01	1	2.9	2	1
64290	.1	.27	31	31	.1	1	.01	.1	14	78	166	.73	1	.05	1	.01	11	5	.03	9	110	1	3	1	243	1	.01	1	3.8	4	3
64295	.1	.17	1	92	.1	1	.01	.1	63	85	621	6.48	1	.04	1	.01	10	13	.02	37	10	1	10	2	91	1	.01	1	3.1	1	1
64230	.1	2.70	1	46	.1	1	.34	.1	38	46	321	7.21	1	.06	6	2.13	827	23	.04	55	720	1	6	4	33	1	.04	1	85.1	1	152
64235	.1	1.33	1	59	.1	1	.10	.1	28	43	533	7.11	1	.04	3	1.12	217	17	.03	45	770	1	1	3	71	1	.01	1	31.4	1	59
64240	.1	.23	1	54	.1	1	.02	.1	11	100	108	3.78	1	.05	5	.01	20	8	.02	13	60	1	1	1	126	1	.01	1	4.0	2	3
64245	.1	.06	1	188	.1	1	.01	.1	14	36	92	4.02	1	.01	1	.01	4	7	.01	10	10	1	1	1	11	1	.01	1	1.0	1	21
64250	.1	.19	1	117	.1	1	.01	.1	14	49	71	4.80	1	.08	1	.01	4	9	.01	12	20	1	1	2	5	1	.01	1	.9	1	1
64255	.1	.16	1	208	.1	1	.01	.1	12	62	71	3.48	1	.06	1	.01	6	7	.01	10	70	1	1	1	11	1	.01	1	.7	1	1
64260	.1	.93	1	57	.1	1	.01	.1	11	39	94	3.50	1	.08	1	.51	58	10	.01	13	130	1	1	2	3	1	.01	1	10.5	1	51
64265	.1	.79	1	49	.1	1	.01	.1	12	44	91	3.96	1	.11	1	.37	42	10	.01	14	180	1	1	1	21	1	.01	1	9.2	1	33
64270	.1	.99	1	52	.1	1	.01	.1	13	43	119	4.23	1	.13	1	.51	89	12	.01	15	170	1	2	2	31	1	.01	1	11.3	1	52
64275	.1	1.34	1	84	.1	1	.01	.1	13	30	119	4.09	1	.07	3	.98	198	14	.01	16	160	1	1	2	12	1	.01	1	15.0	1	128
64280	.1	.29	1	176	.1	1	.01	.1	13	45	60	4.04	1	.14	1	.01	10	8	.02	11	150	1	1	1	31	1	.01	1	2.1	1	1
64285	.1	.27	1	11	.1	1	.01	.1	18	86	114	3.56	1	.06	1	.01	12	7	.03	14	70	1	1	1	209	1	.01	1	2.9	2	1
64290	.1	.27	31	31	.1	1	.01	.1	14	78	166	.73	1	.05	1	.01	11	5	.03	9	110	1	3	1	243	1	.01	1	3.8	4	3
64295	.1	.17	1	92	.1	1	.01	.1	63	85	621	6.48	1	.04	1	.01	10	13	.02	37	10	1	10	2	91	1	.01	1	3.1	1	1

COMP: MR.WILL THOMPSON
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MIN-EN LABS — ICP REPORT

8282 SHERBROOKE ST., VANCOUVER, B.C. V5X 4E8
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FILE NO: 7S-0001-RJ1
DATE: 97/01/08
* * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	GA PPM	K %	LI PPM
64388	.1	.40	8	113	.1	2	.05	.1	1	15	47	2.27	1	.21	1
64389	.1	.42	5	92	.1	2	.03	.1	2	23	41	3.32	1	.21	2
64390	.1	.38	1	62	.1	2	.03	.1	3	9	118	5.40	1	.18	1

SAMPLE NUMBER	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SN PPM	SR PPM	TH PPM	TI %	U PPM	V PPM	W PPM	ZN PPM	Au-fire PPB
64388	.03	11	5	.01	1	150	5	5	1	22	5	.01	1	5.3	1	2	12
64389	.02	18	11	.01	1	290	6	6	1	22	8	.01	1	2.8	1	3	6
64390	.01	5	4	.01	1	700	2	5	1	13	8	.01	1	6.1	1	4	7

THESE ARE ONE ROCK SAMPLES TAKEN AS GRAB SAMPLES FROM THE PASS CLAIM.

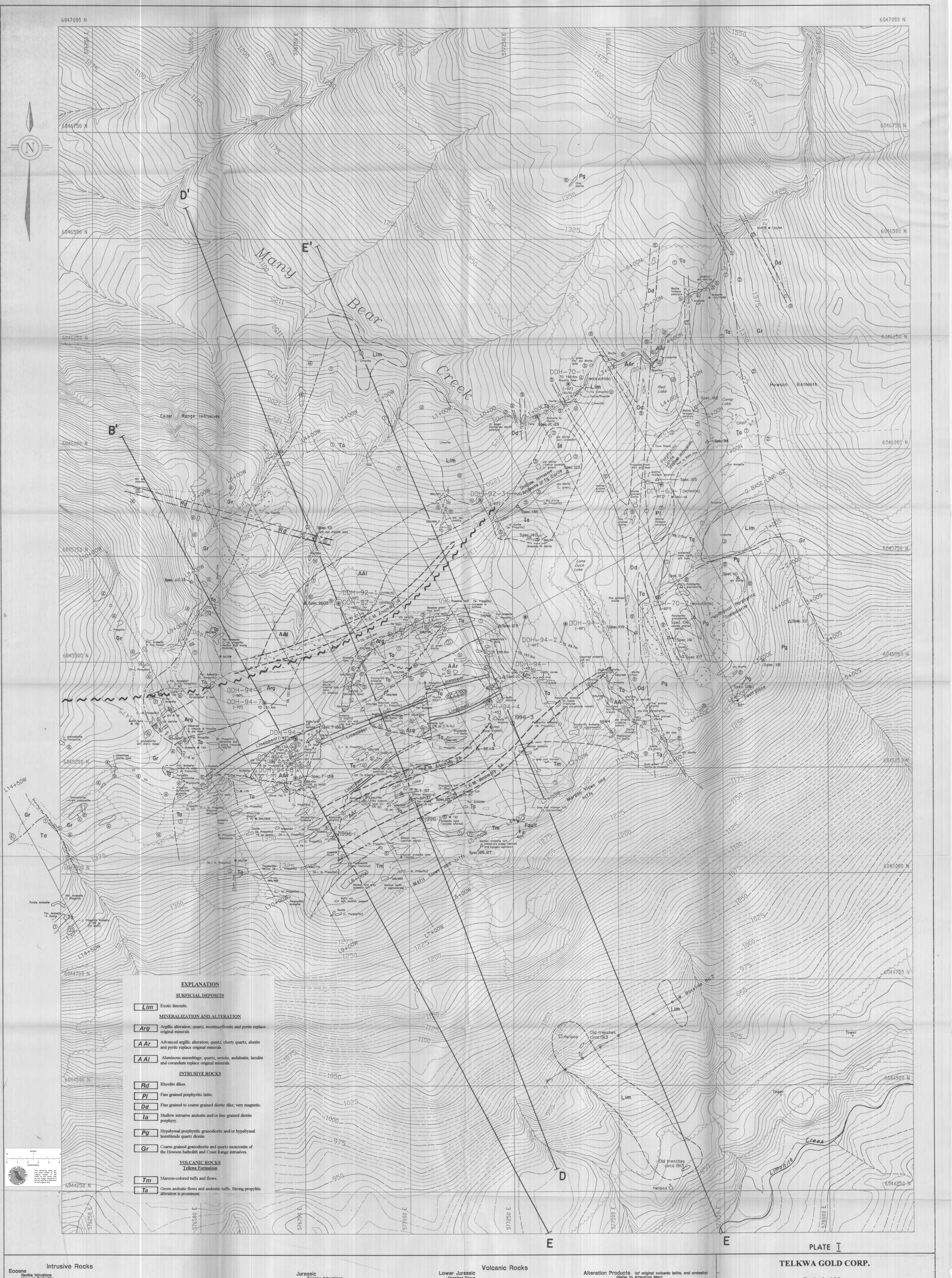

PLATE I

Intrusive Rocks

Eocene
Nanika Intrusions
Howson Batholith

9) Diorite Dykes
Fine to coarse grained "salt and pepper" textured dyke composed primarily of plagioclase and hornblende with minor chlorite. These are highly magnetic, strike persistent, meter to 20 meter wide dykes generally isolated along Many Bear Creek and near the contacts of the volcanics and intrusive granodiorite in the east section of the grid area. Horizontal jointing is found commonly at larger exposures. The dykes are consistently north to northwest striking, possibly intruding regional weaknesses or isolating northerly strikingrock-unit contacts.

8) Granodiorite Porphyry
Medium grained light grey biotite plagioclase porphyry. Relatively fresh and compact, commonly associated with jointing and distinct topographic highs. Varieties of quartz diorite surround the outer extremities of this intrusive. No sign of andesite or diorite dykes cutting the porphyry suggesting it may be youngest unit on map sheet(?).

7) Biotite Feldspar Porphyry
Grey siliceous fine grained matrix of K-feldspar and plagioclase with spotted appearance of biotite and plagioclase as phenocrysts. Local hornblende is evident. The rock has been identified as porphyritic latite from 1994 petrographic work by John Patne, Ph.D. It occurs as small dykes and stocks(?) along north south structural weaknesses as well as near rock-unit contacts. Horizontal jointing is common in some outcrops.

6) Andesite Dykes (Related to hydrothermal alteration?)
Dark green, fine to medium grained mafic dyke with some moderate to intense alteration to clay, chlorite and/or epidote. Local hornblende phenocrysts are apparent. Found as near vertical and lesser shallow dipping meter scale dykes. Intruded during late stage to post stage aluminous and advanced argillic alteration suggesting several different ages of andesitic dykes. Also occupies several regional and northerly trends on the property. Altered varieties of andesite cross cut and parallel east - west alteration packages while fresher varieties generally occupy north/south structures.

5) Quartz eye Porphyry to Quart Eye Rhyolite and Rhyolite Dykes (Related to hydrothermal alteration?)
Creamy white to beige, sometimes light green aphanitic to fine grained dyke with local but distinct mm scale quartz eyes generally found in the western exposures near the granodioritic/monzonite intrusive. Easterly exposures along Many Bear Creek at L-4+00E, 3+80N are without distinct quartz eyes. Sections are aplitic and sugary texturedand are seen locally with mm scale plagioclase phenocrysts similar to the bottom of DDH-92-3. The few exposures seen occupy a general east/west trend, similar to some of the highly altered andesite dykes of Unit 6.

Jurassic
Topley Intrusions

4) Granodiorite, with Monzonite and Quartz Monzonite
Light creamy white, medium grained fresh intrusive with porphyritic sections of plagioclase and hornblende. Propylitic alteration is prominent along fault contacts with the Telkwa volcanics in the western section of the property. Local quartz eyes are found. The unit commonly hosts local swarms of meter scale andesite and diorite dykes as well as lesser quartz porphyry dykes of Unit 5.

3) Light Green Quartz to Quartz bearing Diorite Porphyry
Distinct light green, medium to coarse grained intrusive, dominated by plagioclase phenocrysts, with minor hornblende, biotite and quartz.. Moderately magnetic, light to intense propylitic alteration and occurs commonly with fracture filling calcite. Found as small stocks or sills(?) just north of Lone Duck Lake and as 1 to 10 meter-scale dykes along Many Bear Creek. May represent sub-volcanic equivalent of overlying volcanic flows and tuffs(?).

2) Grey to Greenish Granodiorite/Quartz Diorite
Medium to coarse grained spotted grey/green intrusive with a variety of fresh to weathered textures of equigranular plagioclase and weakly chloritized hornblende. Epidote is a frequent alteration product along small healed fracture zones. The unit is found commonly hosting a variety of dyke swarms including andesite, basalt , quartz eye porphyry, diorite and lesser gabbro. This unit is presently found in fault contact with the Telkwa volcanics and underlies the eastern sections of the claim group.

Volcanic Rocks

Lower Jurassic
Hazelton Group
Telkwa Formation

1) Basalt, Andesite Rhyodacite and Latite
Generally a highly variable, dark green to spotted green mafic to intermediate rock type composed of phenocrysts of plagioclase and lesser hornblende, set in a very fine groundmass of plagioclase, chlorite, epidote and lesser hematite/ilmenite. Both massive, flow banded and tuffaceous sections are noticeable as well as amygdaloidal chlorite/quartz textures. Limited sections along the southern part of the 1994 grid are noticeably a purple to maroon colour suggesting a subaerial facies. There is weak and conflicting evidence of both conformable and unconformable contacts with the underlying green volcanics. Most exposures, depending on degree of alteration, are either relatively fresh or show one or all of the following: 1.hornblende being replaced by quartz-epidote-limonite, 2.)biotite replaced by sericite and, 3).plagioclase replaced by sericite-epidote. Hypabyssal varieties of porphyritic andesite, latite and dacite are very common throughout the property particularly in the north where low topography and steep valley canyons have cut the shallow(?) dipping strata. Regional propylitic alteration is very common but not pervasive.

METRES
0 50 100 150 200 250

Alteration Products (of original volcanic latite, and andesite)
(Refer to Alteration Map)

age unknown (possibly Eocene?)

a) Aluminous Mostly a large mass of grey white sandy to clay rich material, made up generally of unconsolidated or very loosely compacted matter. Seen as alternating series of cross cutting propylitic altered andesite dyes hosted within highly aluminous alteration zones consisting primarily of quartz, sericite, andalusite, pyrite, pyrophyllite?, corundum, lazulite, with lessor rutile, hematite, chlorite.

b) Advanced argillic, argillic and/or phyllic various mixtures and/or combinations of alteration products such as quartz, sericite, alunite with lessor pyrophyllite, epidote, chlorite, limonite, pyrite, barite, zunyite, hematite, ilmenite and rutile.

c) Quartz Breccia, Hydrothermal Breccia Total cherty quartz replacement of volcanic? protolith with a limonite healed brecciated texture. At times very hard, with distinct conchoidal fracture, other times loosely compacted brecciated quartz fragments dominated with banded limonite matrix. Minor rutile, barite, pyrite, sericite and clays.

d) Transported Limonite Gossan Deep red weakly consolidated limonite deposits related to the oxidation of large masses of pyrite and possibly other sulphides. Source is yet unknown but is suggested to be related to local and intense hydrothermal alteration. Geophysical surveys as well as drilling indicate zones of 40% disseminated pyrite at shallow depths near Lone Duck Lake.

TELKWA GOLD CORP.

Geological Map of Limonite Creek High Sulfidation Prospect
Omineca Mining Division, British Columbia

Original Mapping by James F. Cuttle, P.Geo., 1994
Revisions and Additions by Willard D. Tompson, P.Geo., 1996
Geophysical Data by Frontier Geoscience, 1992

Scale
0 50 100 200 300 400 m.